

EXHIBIT E

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

* * * * *

B.P.J., by her next friend and
mother, HEATHER JACKSON,
Plaintiffs
vs.
WEST VIRGINIA STATE BOARD OF
EDUCATION, HARRISON COUNTY BOARD OF
EDUCATION, WEST VIRGINIA SECONDARY
SCHOOL ACTIVITIES COMMISSION, W.
CLAYTON BURCH in his official
capacity as State Superintendent,
and DORA STUTLER in her official
capacity as Harrison County
Superintendent, PATRICK MORRISEY in*

*
*
* Case No.
* 2:21-CV-00316

VIDEOTAPED DEPOSITION OF

MARY D. FRY, PH.D.

March 29, 2022

Any reproduction of this transcript
is prohibited without authorization
by the certifying agency.

1 his official capacity as Attorney *
2 General, and THE STATE OF WEST *
3 VIRGINIA, *
4 Defendants *

5 * * * * *

6
7 VIDEOTAPED DEPOSITION OF
8 MARY D. FRY, PH.D.
9 March 29, 2022

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

VIDEOTAPED DEPOSITION
OF
MARY D. FRY, PH.D. taken on behalf of the Intervenor
herein, pursuant to the Rules of Civil Procedure, taken
before me, the undersigned, Nicole Montagano, a Court
Reporter and Notary Public in and for the Commonwealth
of Pennsylvania, taken via videoconference, on Tuesday,
March 29, 2022 at 10:03 a.m.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

A P P E A R A N C E S

KATHLEEN R. HARTNETT, ESQUIRE

JULIE VEROFF, ESQUIRE

ZOE HELSTROM, ESQUIRE

KATELYN KANG, ESQUIRE

ELIZABETH REINHARDT, ESQUIRE

VALERIA M. PELET DEL TORO, ESQUIRE

Cooley, LLP

3 Embarcadero Center

20th Floor

San Francisco, CA 94111-4004

COUNSELS FOR PLAINTIFF

SRUTI SWAMINATHAN, ESQUIRE

Lambda Legal

120 Wall Street

19th Floor

New York, NY 10005-3919

COUNSEL FOR PLAINTIFF

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

A P P E A R A N C E S (cont'd)

DAVID TRYON, ESQUIRE
State Capitol Complex
Building 1, Room E-26
Charleston, WV 25305

COUNSEL FOR STATE OF WEST VIRGINIA

ROBERTA F. GREEN, ESQUIRE
Shuman McCuskey Slicer, PLLC
1411 Virginia Street East
Suite 200
Charleston, WV 25301

COUNSEL FOR WEST VIRGINIA SECONDARY SCHOOL
ACTIVITIES COMMISSION

JEFFREY M. CROPP, ESQUIRE
Steptoe & Johnson
400 White Oaks Boulevard
Bridgeport, WV 26330

COUNSEL FOR HARRISON COUNTY BOARD OF EDUCATION and
HARRISON COUNTY SUPERINTENDENT DORA STUTLER

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

A P P E A R A N C E S (cont'd)

KELLY C. MORGAN, ESQUIRE

Bailey Wyant

500 Virginia Street East

Suite 600

Charleston, WV 25301

COUNSEL FOR WEST VIRGINIA BOARD OF EDUCATION and

SUPERINTENDANT W. CLAYTON BURCH

JOHNATHAN SCRUGGS, ESQUIRE

RACHEL CSUTOROS, ESQUIRE

Alliance Defending Freedom

15100 North 90th Street

Scottsdale, AZ 85260

COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

I N D E X

DISCUSSION AMONG PARTIES	10 - 14
<u>WITNESS:</u> MARY D. FRY, PH.D.	
EXAMINATION	
By Attorney Tryon	14 - 234
EXAMINATION	
By Attorney Scruggs	235 - 259
DISCUSSION AMONG PARTIES	259 - 260
CERTIFICATE	261

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

EXHIBIT PAGE

<u>NUMBER</u>	<u>IDENTIFICATION</u>	<u>PAGE IDENTIFIED</u>
1	Declaration	23
2	Expert Report of Dr. Fry	24
3	HB-3293	25
4	Article by Dr. Fry	58
5	Article	61
6	Fairness and Enjoyment in School Sponsored Youth Sports	103
7	Article	149
8	Article	159
9	Article on Lia Thomas	211
11	Article on Reka Gyorgy	---

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

OBJECTION PAGE

ATTORNEY

PAGE

Veroff 26, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38,
39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52,
53, 54, 57, 59, 60, 62, 66, 67, 73, 74, 85, 91, 92, 93,
94, 96, 97, 98, 100, 101, 105, 107, 108, 109, 112, 113,
114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124,
125, 131, 135, 137, 138, 139, 145, 154, 156, 157, 162,
163, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174,
175, 176, 177, 178, 179, 180, 181, 182, 183, 187, 188,
189, 190, 194, 195, 197, 198, 199, 200, 203, 204, 206,
207, 208, 209, 210, 212, 213, 214, 216, 217, 218, 220,
221, 222, 223, 224, 225, 226, 227, 228, 229, 231, 232,
234, 237, 239, 240, 241, 242, 243, 244, 245, 246, 248,
249, 251, 252, 253, 254, 255, 256, 257, 258, 259

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

S T I P U L A T I O N

(It is hereby stipulated and agreed by and between
counsel for the respective parties that reading,
signing, sealing, certification and filing are not not
waived.)

P R O C E E D I N G S

MARY D. FRY, PH.D.,
CALLED AS A WITNESS IN THE FOLLOWING PROCEEDING, AND
HAVING FIRST BEEN DULY SWORN, TESTIFIED AND SAID AS
FOLLOWS:

MS. BURKDOLL: My name is Dana Burkdoll,
CSR, Notary for the State of Kansas.

ATTORNEY TRYON: We might want to go off
the record.

VIDEOGRAPHER: Going off the record.
Current time reads 10:03 a.m.

OFF VIDEOTAPE

(WHEREUPON, AN OFF RECORD DISCUSSION WAS HELD.)

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

ON VIDEOTAPE

VIDEOGRAPHER: We are now back on the record my name is Jacob Stock. I'm a Certified Legal Video Specialist employed by Sargent's Court Reporting Services. The date today is March 29th, 2022. The current time reads 10:05 a.m. Eastern Standard Time. This deposition is being taken remotely by a Zoom conference. The caption of this case is in the United States District Court for the Southern District of West Virginia, Charleston Division. BPJ, et al. versus the West Virginia Board of Education, et al. Civil Action Number 2:21-CV-00316. The name of the witness is Mary Fry, who has already been sworn in. Will the attorneys present state their names and the parties they represent?

ATTORNEY TRYON: This is David Tryon representing the State of West Virginia and I'm with the Attorney General's Office.

ATTORNEY VEROFF: Julie Veroff with Cooley, LLP. I represent the Plaintiff. And I'll let my co-counsel introduce themselves.

ATTORNEY HARTNETT: Hi. This is Kathleen Hartnett from Cooley. I'm in the room with Julie,

1 representing Plaintiff.

2 ATTORNEY KANG: Hi. This is Katelyn
3 Kang representing Plaintiffs.

4 ATTORNEY REINHARDT: This is Elizabeth
5 Reinhardt with Cooley, also for Plaintiffs.

6 ATTORNEY HELSTROM: Zoe Helstrom, with
7 Cooley, also for Plaintiffs.

8 ATTORNEY SWAMINATHAN: This is Sruti
9 Swaminathan from Lambda Legal also for Plaintiff.

10 ATTORNEY SCRUGGS: Johnathan Scruggs with
11 Alliance for Freedom for the intervening Defendants.
12 And also with me on the Zoom is Rachel Csutoros, also
13 for the intervening Defendant.

14 ATTORNEY CROPP: This is Jeffery Cropp
15 from Steptoe & Johnson representing the Defendants
16 Harrison County Board of Education and Superintendent
17 Dora Stutler.

18 ATTORNEY GREEN: This is Roberta Green
19 here on behalf of West Virginia Secondary School
20 Activities Commission.

21 VIDEOGRAPHER: And if that is everyone we
22 can begin.

23 ATTORNEY TRYON: Is Kelly on the line?
24 Did I miss that?

1 ATTORNEY VEROFF: Yes, thank you so much.

2 ATTORNEY TRYON: Does anybody else have
3 any objection to doing it that way? Okay. Then let's
4 move forward.

5 ---

6 EXAMINATION

7 ---

8 BY ATTORNEY TRYON:

9 Q. Hello, Professor Fry. How are you?

10 A. Doing well. Thank you.

11 Q. Do you prefer calling you Professor Green ---
12 excuse me Professor Fry? Does that work?

13 A. Sure.

14 Q. Okay.

15 Can you state your full name for the record
16 please?

17 A. Mary Diane Fry.

18 Q. Are you represented by counsel this morning?

19 A. Yes.

20 Q. And who is your --- primarily representing you
21 today?

22 A. Julie, Julie Veroff.

23 Q. Great. And have you been deposed before?

24 A. I have not.

1 Q. Have you testified in court before?

2 A. One time.

3 Q. Tell me about that.

4 A. Years ago my husband and I returned from our
5 honeymoon and we found out we had been robbed. And a
6 neighbor had seen three guys crawling out of our bedroom
7 window, and so I appeared in court to share what was
8 missing when we returned.

9 Q. Well, I'm sorry. That doesn't sound like a
10 great way to end a honeymoon. So any other times you
11 testified at trial?

12 A. No.

13 Q. And when we're speaking, you know, since we're
14 in a deposition, this is a communication privilege
15 unlike any other, but one of the things that we need to
16 make to make it easier for the court reporter to
17 understand what we're doing. So when I ask you a
18 question please make sure you answer verbally as opposed
19 to just nodding your head.

20 Okay?

21 A. Okay.

22 Q. If you don't understand a question that I ask
23 you, tell me and I'll try and rephrase.

24 All right?

1 A. Sounds good.

2 Q. And if you answer I'll have to assume that you
3 understood the question. Do you understand that?

4 A. Yes.

5 Q. And as we stated off the record, if you need a
6 break at any time, let us know. We will break for you
7 and the only caveat on that is once I ask a question you
8 have to wait until you finish your answer before we can
9 take a break.

10 All right?

11 A. Okay. Thank you.

12 Q. Do you have any questions about this proceeding
13 before we get started?

14 A. No.

15 Q. Okay.

16 Well, just for the record, this deposition is
17 being conducted as on Cross Examination. And Professor
18 Fry, did you bring any documents to the deposition
19 today?

20 A. Yes.

21 Q. What did you bring?

22 A. I have before me my Declaration, the House Bill,
23 my expert report and my Vitae.

24 Q. And when you talk --- mention your Declaration,

1 is this the first one that was filed in the case? Is
2 that what you mean?

3 A. Yes.

4 Q. Is there anyone else in the room with you at
5 this point?

6 A. No.

7 Q. What documents did you review in preparation for
8 your deposition today?

9 A. I reviewed my statement and my Vitae and some of
10 the Court documents, the Complaint and a cursory review
11 of some of the other statements. I reviewed the
12 Plaintiff's statement and her mother's statement.

13 Q. Any other Court documents besides the Complaint
14 and the statement with the Plaintiff and the mother?

15 A. A cursory review of other expert witnesses and,
16 yeah, any of the case documents, a cursory review.

17 Q. Which expert reports did you look at?

18 A. I couldn't call them all by name but the expert
19 witnesses that are medical experts.

20 Q. The Plaintiff's experts or Defendants' or both?

21 A. Both.

22 Q. So there is a total of, now including yours,
23 eight expert reports. Have you seen all of those?

24 A. You know, I'm not positive. There was a report

1 from two on each side and then a response, and so I ---
2 and again I didn't read these in detail, but I did have
3 a look at them.

4 Q. Okay.

5 Was there anything in particular that you were
6 looking for when you looked through those expert
7 reports?

8 A. No, just trying to get a sense of the case. I
9 kept a focus on my purpose here today.

10 Q. And so are you aware of this case? Do you know
11 who BPJ is?

12 A. Yes.

13 Q. And who is BPJ?

14 A. She is a young athlete in West Virginia who is a
15 transathlete and wanted to play sports in her school.

16 Q. And you understand BPJ is the Plaintiff.

17 Is that right?

18 A. Yes.

19 Q. Do you know who Heather Jackson is?

20 A. Her mother.

21 Q. Have you ever spoken to either one of them?

22 A. I have not.

23 Q. So I presume by the same rationale you have not
24 met either one of them either.

1 Correct?

2 A. I have not.

3 Q. When did you first hear about BPJ?

4 A. About a year ago I was contacted by Plaintiff's
5 Counsel in late April.

6 Q. And of course, don't tell me anything that your
7 counsel --- any discussions you had after you were
8 retained by counsel, but prior to being retained by
9 counsel --- well, let me back up.

10 At one point you were retained by counsel to be
11 an expert in this case.

12 Right?

13 A. Right.

14 Q. When was that?

15 A. Late April, early May, I believe.

16 Q. And what were you first told about the case
17 before you were retained?

18 A. That this case involved a young athlete who was
19 headed to Middle School and really wanted to be able to
20 play sports.

21 Q. Were you told which sport?

22 A. I think so at the time.

23 Q. So at this point in time do you know which
24 sports BPJ wanted to participate in at the time that BPJ

1 filed the lawsuit?

2 A. You know, it's hard to recall. There's quite a
3 bit of water under the bridge. I know now that she
4 wanted to do cheerleading and run track, and I'm not
5 sure I could tell you the exact date I knew either one
6 of those.

7 Q. Okay.

8 Let me rephrase my question because I'm not
9 asking what the date was, I'm asking if you now know
10 what --- at this time what sport BPJ participated in?

11 A. Yes.

12 Q. And which one?

13 A. She participated in cheerleading and now track.

14 Q. And so it was cross-country is that the same
15 thing as track?

16 A. Sorry, cross-country. It's a different season,
17 cross-country.

18 Q. Is that part of track and field or is it
19 different?

20 A. It's a different season, yeah. I mean,
21 usually it's grouped together, track and cross-country,
22 but I should have said cross-country. That is what I
23 meant.

24 Q. Okay.

1 At the time that you were retained had you
2 already prepared any report similar to what was
3 ultimately filed in this case on your behalf?

4 A. Yes.

5 Q. So tell me about that.

6 A. Okay.

7 Q. So let me make sure we are communicating. So
8 before you were contacted by counsel for BPJ, had you
9 already prepared something that what was filed as your
10 Declaration?

11 A. Yes.

12 Q. Okay.

13 Tell me about that.

14 A. Okay.

15 In the spring of 2020 I was contacted to see if
16 I would be willing to be an expert witness first in the
17 Connecticut case, transathlete case and then in Idaho.
18 And those sort of overlapped in the spring of 2020 a
19 little bit, but I've been involved in providing expert
20 reports for both of those.

21 Q. Okay.

22 So you did serve as an expert witness in the
23 Connecticut case.

24 Is that right?

1 A. Yes.

2 Q. Was something that you prepared filed in the
3 Connecticut case?

4 A. Yes.

5 Q. Same thing in the Idaho case?

6 A. Yes.

7 Q. Have you served as an expert witness in any
8 other cases besides those two?

9 A. I'm serving as an expert witness in the Florida
10 case as well.

11 Q. But you, to date, have not testified in any of
12 those cases.

13 Right?

14 A. That's correct.

15 Q. And you haven't been deposed in those cases
16 either I take it.

17 Right?

18 A. That's right. I have not.

19 Q. Have you actually prepared an expert report for
20 Florida at this point?

21 A. Yes.

22 Q. Has that been submitted to court yet?

23 A. I believe so.

24 ATTORNEY TRYON: At this point your

1 initial report that was filed with the court, the
2 initial Declaration. Let's mark that as Exhibit-1 and I
3 will ask the court reporter to bring that up.

4 ---

5 (Whereupon, Exhibit 1, Declaration,
6 marked for identification.)

7 ---

8 BY ATTORNEY TRYON:

9 Q. And feel free to look at your hard copy as we
10 are discussing these exhibits, okay, Professor?

11 A. Okay.

12 ATTORNEY VEROFF: Sorry. I think this is
13 the expert report and I think you were asking for the
14 Declaration.

15 ATTORNEY TRYON: Yes, right.

16 VIDEOGRAPHER: My apologies.

17 ATTORNEY TRYON: It should have the Court
18 stamp on the left at the top as I recall.

19 VIDEOGRAPHER: I see that. My apologies.

20 BY ATTORNEY TRYON:

21 Q. So first of all, I want to establish that this
22 is the Declaration that you first prepared for this
23 case.

24 Is that right?

1 and ask if you recognize what they are and then maybe
2 during a break you can do that.

3 VIDEOGRAPHER: That works for me.

4 ATTORNEY TRYON: And for the record we
5 will be looking at the statute, which we will be marking
6 as Exhibit-3 to this deposition.

7 ---

8 (Whereupon, Exhibit 3, HB-3293, was
9 marked for identification.)

10 ---

11 BY ATTORNEY TRYON:

12 Q. So now let's go to Exhibit-2, which is your
13 current expert report. I'm going to try to manipulate
14 my page so I can see you, Professor, at the same time.
15 I can switch this over to another screen, but it's not
16 working. Let's try this. All right. So looking at
17 Number 4 --- let me back up, paragraph number three, you
18 say you have knowledge of the matters stated in this
19 expert report and Declaration. I have collected and
20 cite to relevant literature concerning the issues that
21 arise in this litigation. Do you see that?

22 A. Yes.

23 Q. So what are the issues that arise in this
24 litigation as you understand it?

1 ATTORNEY VEROFF: I'm sorry. I'll just
2 object to the extent that complete paragraph three
3 wasn't read.

4 ATTORNEY TRYON: Okay.

5 BY ATTORNEY TRYON:

6 Q. Okay.

7 Feel free to read the entire paragraph if you
8 want but I'm just asking about that specific clause.

9 A. The issues that are relevant are that there's a
10 categorical exclusion of transathletes. And that is of
11 concern because of the many benefits that athletes reap
12 from having the opportunity to participate in sports.

13 Q. Any other issues that arise in this litigation?

14 A. Nothing comes to mind at the moment.

15 Q. So that's what you refer to when you say issues
16 arise in this litigation, and you said the categorical
17 exclusion of transgender athletes because of benefits
18 athletes receive from sport. Is that about right? It's
19 not exactly what you said, but that is about right?

20 A. Yeah, because of the categorical exclusion of
21 transgender athletes in sports that prevent them from
22 having opportunities to reap all the benefits in sport.

23 Q. You have said already on the record and you also
24 say in paragraph four that in preparing this expert

1 report and Declaration I reviewed West Virginia HB-3293,
2 the bill at issue in this litigation.

3 Right?

4 A. Yes.

5 Q. So how --- did you read the entire thing?

6 A. The entire bill?

7 Q. That's my question.

8 A. Yes, yes.

9 Q. What did the legislature say the purpose is?

10 A. Well, to prevent transgender females from
11 participating in a sport in West Virginia.

12 Q. The bill does not use the word transgender at
13 all, does it?

14 ATTORNEY VEROFF: Sorry. Mr. Tryon, I'm
15 going to object. If you're going to ask the witness
16 about the bill, if you could please put it up on the
17 screen so she could have it in front of her.

18 ATTORNEY TRYON: We will do it in a
19 moment. I think she's looking at it anyway, so it's
20 been put up on the screen.

21 ATTORNEY VEROFF: Is that right,
22 Professor Fry? Do you have a hard copy of the bill in
23 front of you?

24 THE WITNESS: Yes.

1 So this has previously been marked but for this
2 deposition we will mark it as Exhibit-3.

3 BY ATTORNEY TRYON:

4 Q. So this is the House Bill that you --- the law
5 that you reviewed, Professor Fry?

6 A. Yes.

7 Q. Excuse me. And nowhere in here does it use the
8 word transgender, does it?

9 A. No.

10 ATTORNEY VEROFF: Objection.

11 BY ATTORNEY TRYON:

12 Q. Take a look at paragraph one --- excuse me,
13 page one, under 18-2-25(e), line 1A, it starts A,
14 legislature hereby finds there are inherent differences
15 between biological males and biological females and that
16 these differences are cause for celebration as
17 determined by the Supreme Court of the United States in
18 United States versus Virginia 1996, in parentheses. Do
19 you see that?

20 A. Yes.

21 Q. Do you agree with that statement?

22 ATTORNEY VEROFF: Objection.

23 BY ATTORNEY TRYON:

24 Q. Go ahead.

1 A. Yes.

2 Q. Number two in parentheses says, these inherent
3 differences are not a valid justification for sex-based
4 classifications that make overbroad generalizations or
5 perpetuate the legal, social and economic inferiority of
6 either sex. Rather these inherent differences are a
7 valid justification for sex-based classifications when
8 they realistically reflect the fact that the sexes are
9 not similarly situated in certain circumstances, as
10 recognized by the Supreme Court of the United States in
11 Michael V. Sonoma County Association of Intercollegiate
12 Athletics, and NIA in parentheses or National Junior
13 College Athletic Association. I goofed that. Sorry. I
14 skipped a page. So continuing it said in Michael M. v.
15 Sonoma County Superior Court 1981, in parentheses, and
16 Supreme Court of Appeals in West Virginia in Israel v.
17 Secondary Schools Commission in 1989 in parentheses.
18 Other than the citations of those cases do you agree
19 with that statement?

20 ATTORNEY VEROFF: Objection.

21 THE WITNESS: I believe that it's more
22 complex than just to have a binary understanding of
23 males and females.

24 BY ATTORNEY TRYON:

1 Q. So let me restrict my question to this part. It
2 says these inherent differences are a valid
3 justification for sex-based classifications when they
4 realistically reflect the fact that sexes are not
5 similarly situated in certain circumstances. That
6 clause, do you agree with or disagree with?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: Yeah, I would just say that
9 it's all --- more complex than just saying that we have
10 males and females.

11 BY ATTORNEY TRYON:

12 Q. Okay.

13 I'm sorry, what did you say last?

14 A. Yeah, that it's more complex than just
15 considering them --- everyone fits tightly into a male
16 or female category.

17 Q. And so you would disagree with that statement?

18 ATTORNEY VEROFF: Objection.

19 THE WITNESS: Yeah, I would agree with
20 the first sentence, that we shouldn't use these to
21 discriminate.

22 BY ATTORNEY TRYON:

23 Q. Does that specific clause, you don't agree with
24 that, is that a fair statement?

1 ATTORNEY VEROFF: Objection.

2 THE WITNESS: The first sentence of number
3 two?

4 BY ATTORNEY TRYON:

5 Q. I'm sorry. Let me make sure we're clear on the
6 record. The phrase that says these inherent differences
7 are a valid justification for sex-based classifications
8 when they realistically reflect the fact that sexes are
9 not similarly situated in certain circumstances, that
10 clause, as I understand your testimony, you do not agree
11 with in its entirety. Is that true?

12 ATTORNEY VEROFF: Sorry, Mr. Tryon.
13 Objection.

14 THE WITNESS: Right, that's true.

15 BY ATTORNEY TRYON:

16 Q. Okay.

17 Number three, it says in the context of sports
18 involving competitive stellar contact --- actually,
19 strike that.

20 Let's move down. I want to make sure I
21 understand. These are using terms that are defined
22 below, so I want to see if we have a mutual agreement on
23 the meaning of these terms. And on line 25, as shown on
24 the left-hand side, it defines, quote, biological sex,

1 closed quote, means an individual's physical form as a
2 male or female based solely on the individual's
3 reproductive biology and genetics at birth. Do you see
4 that?

5 A. Yes, I see that.

6 Q. Is that a fair definition of biological sex?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: I disagree. I think it is
9 more complex than that.

10 BY ATTORNEY TRYON:

11 Q. Okay.

12 How would you define biological sex?

13 ATTORNEY VEROFF: Objection.

14 THE WITNESS: Based on multiple factors
15 besides just the reproductive biology in genetics at
16 birth.

17 BY ATTORNEY TRYON:

18 Q. Okay.

19 And what would your definition be?

20 ATTORNEY VEROFF: Objection.

21 THE WITNESS: I'm not sure.

22 BY ATTORNEY TRYON:

23 Q. Okay.

24 Well, the reason I ask is because we are

1 probably using these terms throughout this deposition
2 today, so I'm trying to make sure we have a mutual
3 understanding of what biological sex means. So I don't
4 want to try and impose upon you a definition that you
5 are uncomfortable with.

6 A. Okay.

7 Q. So if you could give me something that you would
8 be comfortable with, I would appreciate it.

9 ATTORNEY VEROFF: Objection.

10 THE WITNESS: Yeah, I would feel more
11 comfortable --- yeah, I'm not sure, to be honest.

12 BY ATTORNEY TRYON:

13 Q. All right.

14 So I assume that the definition of female in
15 here you're also uncomfortable with. Is that a fair
16 statement?

17 A. Yes.

18 ATTORNEY VEROFF: Objection.

19 BY ATTORNEY TRYON:

20 Q. How about the definition of male, can we reach
21 an agreement that male means an individual whose
22 biological sex determined at birth is male?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: Yes, I would not agree with

1 that.

2 BY ATTORNEY TRYON:

3 Q. You would not agree with that. Does the word
4 male have a meaning to you?

5 ATTORNEY VEROFF: Objection.

6 THE WITNESS: Yes. I feel like it's
7 related to how people see themselves in terms of male or
8 female.

9 BY ATTORNEY TRYON:

10 Q. So it's only --- the term male only means how
11 somebody sees him or herself?

12 ATTORNEY VEROFF: Objection.

13 THE WITNESS: They view their identity as
14 male and female, I think that's the critical thing.

15 BY ATTORNEY TRYON:

16 Q. And does biology have any importance at all?

17 ATTORNEY VEROFF: Objection.

18 THE WITNESS: Yes, it does. It's just not
19 the only factor.

20 BY ATTORNEY TRYON:

21 Q. So how about this, how about if we will refer to
22 male today, male or boy, we mean someone whose birth ---
23 on whose Birth Certificate it designates them as male or
24 as male?

1 ATTORNEY VEROFF: Objection.

2 BY ATTORNEY TRYON:

3 Q. Can we use that as a definition today?

4 ATTORNEY VEROFF: Objection.

5 THE WITNESS: I think it's more
6 appropriate to use the term to refer to people who
7 identify as male.

8 BY ATTORNEY TRYON:

9 Q. So you don't think there is such a thing as a
10 biological male? Is that what you are telling me?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: I think term biological
13 male is a complex term, that a lot goes into that.

14 BY ATTORNEY TRYON:

15 Q. You're familiar with the term cismale, right?

16 A. Yes.

17 Q. What does that mean?

18 A. Well, first is somebody whose identity aligns
19 with their birth characteristics.

20 Q. Okay.

21 What birth characteristics are those?

22 ATTORNEY VEROFF: Objection.

23 THE WITNESS: I think the male, female
24 category works in general, but there is people who fall

1 in between and may not be from a biological perspective
2 nice and tightly categorized into either of those
3 categories. So when I say it is complex, it is is not
4 just the way somebody was born or one particular, you
5 know, physical characteristic or so.

6 BY ATTORNEY TRYON:

7 Q. Well, I'm just try to understand the term you
8 just gave me. You said that cisgender is someone that
9 identifies in the same --- identifies with the sex that
10 corresponds with their birth characteristics. And I'm
11 asking what you meant when you said birth
12 characteristics.

13 ATTORNEY VEROFF: Objection.

14 THE WITNESS: Yeah, I feel like there's
15 medical terms that go beyond my expertise. But in my
16 understanding, someone can be born and have
17 characteristics of cross gender. So using just a binary
18 system where we categorize and put everyone in either a
19 male or female category is limiting and not helpful.

20 BY ATTORNEY TRYON:

21 Q. So then what is a cisgender person?

22 ATTORNEY VEROFF: Objection.

23 THE WITNESS: Someone who may align
24 physically at birth with one of the genders. And also

1 when I say align, those match up with how they perceive
2 themselves along with their birth characteristics.

3 BY ATTORNEY TRYON:

4 Q. Again you use that term birth characteristics.
5 I need to know what you mean by that.

6 ATTORNEY VEROFF: Objection.

7 THE WITNESS: Again, using this in --- in
8 --- from my perspective, I would listen to the doctors
9 who study this and say that we can't just classify
10 people tightly into these categories. And some people
11 may share characteristics of either gender at birth and
12 so it may be more complicated.

13 BY ATTORNEY TRYON:

14 Q. So we still don't even have a definition of
15 cisgender from you.

16 ATTORNEY VEROFF: Objection.

17 BY ATTORNEY TRYON:

18 Q. So you don't know what birth characteristics
19 are? Is that what you are telling me?

20 ATTORNEY VEROFF: Objection, asked and
21 answered?

22 THE WITNESS: Yeah, I think some people
23 are born and they fit nicely into these categories of
24 male and female. I'm just acknowledging that not

1 everyone does. And if they do fit nicely into those,
2 nicely just meaning that they are --- they, you know,
3 are considered male at birth and they also perceive that
4 they are than --- or the other way is female, then that
5 would be a cisgender person.

6 ATTORNEY TRYON: Jake, how do I get to
7 the live feed?

8 VIDEOGRAPHER: You mean like the video
9 feed or like the real time?

10 ATTORNEY TRYON: Yes.

11 VIDEOGRAPHER: Give me one sec, I'll
12 repost the link.

13 ATTORNEY TRYON: Are you going to put
14 that in the chat room?

15 VIDEOGRAPHER: It should be visible now.

16 BY ATTORNEY TRYON:

17 Q. When you --- you used the term now considered
18 male at birth. Can you tell me what you mean by that?

19 ATTORNEY VEROFF: Objection.

20 BY ATTORNEY TRYON:

21 Q. I'm not trying to trick you. I'm just trying to
22 establish some definition so we can communicate properly
23 today.

24 A. Yeah.

1 ATTORNEY VEROFF: Objection.

2 THE WITNESS: Yeah, I think a medical
3 professional says that a baby has all the
4 characteristics of a male, right. I'm just simply
5 saying that everyone doesn't fit nice and tightly into
6 that male or female, that there's two cross overs that
7 the doctors seem to agree on.

8 BY ATTORNEY TRYON:

9 Q. And what the doctors seem to agree on is what
10 they put on the Birth Certificate, right, at least
11 initially? Fair statement?

12 ATTORNEY VEROFF: Objection.

13 THE WITNESS: Yeah. I'd say in general
14 doctors choose one or the other that's closest.

15 BY ATTORNEY TRYON:

16 Q. So at least for purposes of today, when I say
17 male or boy can we agree that I'm referring to someone
18 who on the Birth Certificate, the original Birth
19 Certificate, it is stated that that person is male?

20 A. I can agree to proceed that way.

21 Q. Okay.

22 And the same thing with respect to female or
23 girl.

24 Right?

1 ATTORNEY VEROFF: Objection.

2 THE WITNESS: Yes. Can we also agree
3 that if I -- that I can use the term transfemale to
4 refer to someone who may share characteristics across
5 gender and may identify as a female?

6 BY ATTORNEY TRYON:

7 Q. Let's be clear on that. Please tell me what
8 your definition of trans --- let's first cite what does
9 transgender mean?

10 ATTORNEY VEROFF: Objection.

11 THE WITNESS: Transgender refers to
12 someone who may have been classified as birth as one
13 gender but identifies as the other gender.

14 BY ATTORNEY TRYON:

15 Q. And then transgender girl, can you give me your
16 definition of that?

17 A. Yes, someone who may have been assigned the male
18 sex at birth and identifies as female.

19 Q. And then transgender boy?

20 A. Someone who may have been assigned female ---
21 assigned a female gender at birth but perceives ---
22 identifies with a male sex, male gender.

23 Q. Now, when I asked you about transgender you said
24 someone classified at birth. And then when I asked you

1 about transgender girl you said assigned. Is there a
2 difference between classified and assigned in your mind?

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: No, there wasn't a
5 distinction there.

6 BY ATTORNEY TRYON:

7 Q. Okay.

8 And could that sex of a child be assigned
9 before birth?

10 ATTORNEY VEROFF: Objection.

11 THE WITNESS: Yeah, possibly.

12 BY ATTORNEY TRYON:

13 Q. Going back to the bill itself, on line 12, on
14 page two, in the context of sports involving competitive
15 skill or contact biological males and biological females
16 are not, in fact, similarly situated. Do you agree with
17 that statement?

18 ATTORNEY VEROFF: Objection.

19 THE WITNESS: I'm not sure what that
20 statement means by the fact similarly situated.

21 BY ATTORNEY TRYON:

22 Q. Okay.

23 Let's go to the next sentence. Biological
24 males would displace females to a substantial extent if

1 permitted to compete on teams designated for biological
2 females and then it cites a case. Do you agree with
3 that statement?

4 ATTORNEY VEROFF: Objection.

5 THE WITNESS: I believe there can be a
6 fair playing ground for people who are born male and who
7 receive treatment, follow the rules and play the sport
8 for them to be able to participate as females.

9 BY ATTORNEY TRYON:

10 Q. So I take it you do not fully agree with that
11 statement.

12 Is that a fair statement?

13 A. Yeah.

14 ATTORNEY VEROFF: Objection.

15 THE WITNESS: I do not.

16 BY ATTORNEY TRYON:

17 Q. Item Number 5, line 21 says, classification of
18 teams according to biological sex is necessary to
19 promote equal athletic opportunities for the female sex.
20 Do you agree with that statement?

21 ATTORNEY VEROFF: Objection.

22 THE WITNESS: Not if it means excluding
23 transgender athletes.

24 BY ATTORNEY TRYON:

1 Q. Okay.

2 I need to apologize at this point. On the
3 floor where I'm at they are doing construction, so
4 periodically you may hear pounding or other noise, and
5 I'm sorry about that.

6 Let me ask you about the definition of another
7 word that appears periodically, the word arbitrary. And
8 I looked that up in a dictionary, an online dictionary,
9 Cambridge.org, and the definition it gave me was based
10 on chance rather than being planned or based on reason.
11 Is that a fair definition of arbitrary?

12 ATTORNEY VEROFF: Objection.

13 THE WITNESS: I'm not sure.

14 BY ATTORNEY TRYON:

15 Q. Okay.

16 What is your definition of arbitrary?

17 ATTORNEY VEROFF: Objection.

18 THE WITNESS: I'm not sure.

19 BY ATTORNEY TRYON:

20 Q. You have a Bachelor's Degree.

21 Right?

22 A. I do.

23 Q. And a Master's Degree.

24 Right?

1 A. Yes.

2 Q. So I recall you also have a Ph.D.

3 Is that right?

4 A. That is right.

5 Q. And you can't define for me what arbitrary
6 means?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: No, not at the moment.

9 BY ATTORNEY TRYON:

10 Q. You used the word arbitrary in this report, yet
11 you don't know what it means?

12 ATTORNEY VEROFF: Objection.

13 THE WITNESS: Yeah. Do you want to go to
14 where I used it?

15 BY ATTORNEY TRYON:

16 Q. No. I want to know if you, in fact, don't know
17 what arbitrary means?

18 ATTORNEY VEROFF: Objection. I think the
19 witness has asked to see where term is used in her
20 report. And it would be helpful to show it to her for
21 context.

22 ATTORNEY TRYON: Thank you, Counsel. I
23 would like the witness to tell me how she doesn't know
24 --- since she has a Ph.D., she can't tell me what

1 arbitrary means. And then you won't even agree with the
2 definition that I found in the Cambridge.org Dictionary.

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: Can you repeat that
5 definition again?

6 BY ATTORNEY TRYON:

7 Q. Based on chance rather than being planned or
8 based on reason.

9 A. Okay.

10 I'm going to go back and accept that.

11 Q. Okay.

12 In paragraph seven of your report --- we can go
13 back to the report now. This is Exhibit-2. In
14 paragraph seven that is on the screen or you can look at
15 your hard copy, you mention that you spent five years
16 teaching physical education and coaching tennis at
17 schools and summer camps. Tell me a little bit about
18 your coaching tennis.

19 A. Yes, I was the head coach of both the boys and
20 the girls team, high school. And the --- we had a
21 varsity and a junior varsity team. They competed in the
22 fall season. That was a team competition. And then the
23 individual in spring, so it is a year-round sport in
24 Texas.

1 Q. So why did they divide it between varsity and
2 junior varsity?

3 A. Because some of the kids are --- because it
4 gives the more advanced athletes a chance to compete at
5 the varsity level and can be very inclusive and give a
6 lot of kids an opportunity to play also as well with a
7 junior varsity.

8 Q. And you had no problem with that, right?

9 ATTORNEY VEROFF: Objection.

10 THE WITNESS: That's right.

11 BY ATTORNEY TRYON:

12 Q. And then you said they divided it into boys and
13 girls teams. Why did they do that?

14 ATTORNEY VEROFF: Objection.

15 THE WITNESS: Because, in general, that
16 classification works, but there are exceptions to it.

17 BY ATTORNEY TRYON:

18 Q. And when you said boys, what did you mean by
19 boys?

20 A. I mean those who may have been classified as a
21 male in their lives and also identify that way.

22 Q. So the team, the tennis team was based on those
23 who were born, classified as males and also identified
24 that way?

1 A. Again, I can't speak for every athlete.

2 Q. And then when you said there was a girls team,
3 what did that mean? What did you have to be to be on
4 the girls team?

5 A. Yeah. And in general, they are females and see
6 that classification as appropriate and participate as
7 females.

8 Q. And why is that classification appropriate for
9 tennis?

10 ATTORNEY VEROFF: Objection.

11 THE WITNESS: I think it's in general
12 appropriate to have --- to let males and females compete
13 separately.

14 BY ATTORNEY TRYON:

15 Q. Is that because in general males are better at
16 tennis?

17 ATTORNEY VEROFF: Objection.

18 THE WITNESS: I wouldn't agree with that.

19 BY ATTORNEY TRYON:

20 Q. Then why is it appropriate to let them compete
21 separately?

22 ATTORNEY VEROFF: Objection.

23 THE WITNESS: Yeah, I think males would,
24 in general, due to, you know, their physical

1 characteristics would have a --- could have an
2 advantage.

3 BY ATTORNEY TRYON:

4 Q. What kind of advantage?

5 ATTORNEY VEROFF: Objection.

6 THE WITNESS: Yeah, greater --- greater
7 testosterone levels, which can lead to --- which can
8 impact muscle mass and size.

9 BY ATTORNEY TRYON:

10 Q. As the coach, did you actually observe that
11 there was a difference, performance difference between
12 boys and girls teams?

13 A. I would ---.

14 Q. I'm sorry. Let me rephrase that. As the coach,
15 did you actually observe that there was a performance
16 difference between boys and girls?

17 A. Yes.

18 ATTORNEY VEROFF: Objection.

19 THE WITNESS: I think if you compare the
20 mean level of ability across the two, then there is a
21 moderate difference, but there was --- there was big
22 differences within each gender. I had some very
23 talented males and some males that were not very
24 talented. And the same with females. Ability levels

1 really varied. And I had females across my years
2 coaching high school that were stronger than males. So
3 it is not a --- you have to be careful to say that every
4 male out performs every female because that has not been
5 my experience.

6 BY ATTORNEY TRYON:

7 Q. Understood. On the average, though, is it safe
8 to say that the boys out perform the females?

9 ATTORNEY VEROFF: Objection.

10 THE WITNESS: Right, if we just look at a
11 mean across the gender, yes.

12 BY ATTORNEY TRYON:

13 Q. Okay.

14 You used the word mean instead of average. Can
15 you explain?

16 A. Yes, on average.

17 Q. Okay.

18 I just want to make sure we are communicating
19 correctly.

20 A. Sure.

21 Q. Have you ever done --- looked at the standard
22 deviation, the bell curve for each of those groups?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: I'm familiar with the bell

1 curve. Do you mean ---?

2 BY ATTORNEY TRYON:

3 Q. Okay.

4 Have you looked at the bell curve for
5 performance between those two groups of tennis players,
6 boys versus girls?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: Okay.

9 I have been --- I haven't collected data
10 that I could share from when I coached high school.
11 What I could say is that, if we took any skill, let's
12 say their ability to serve accurately or hit a crisp
13 volley or hit a solid backhand across the court, that
14 their --- those bell curves are very close to each
15 other, but overall for just looking at the two groups
16 the boys could have a slight advantage. But those two
17 bell curves, if we are looking at the bottom of those,
18 you're going to say there is tremendous variability with
19 the males and females. And so it is easy to get kind of
20 focused on this small mean difference across gender when
21 there is huge differences across, you know, each gender
22 as well.

23 BY ATTORNEY TRYON:

24 Q. Understood. As far as the first standard

1 deviation, do you know if the first standard deviation
2 would overlap between two groups?

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: I think so in high school
5 tennis, right.

6 BY ATTORNEY TRYON:

7 Q. Okay.

8 Have you actually --- that's from just your
9 generalized experience, but have you actually done a
10 data compilation to determine that?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: No.

13 BY ATTORNEY TRYON:

14 Q. Do you know of such a thing, any studies that do
15 that?

16 A. I couldn't identify specifically studies, but
17 when I see these things like if I --- if I pick up the
18 Kansas City paper or after the marathon I see males and
19 females interspersed all the way through with their
20 times, right. So it's not a thing where every male that
21 ran the marathon out performed every female that ran the
22 marathon. So I think it's pretty consistent that those
23 differences are smaller, too, if we are not talking
24 about the elite of elite athletes.

1 Q. When you were coaching, how long did you coach?

2 A. I coached four years full time and then my
3 graduate program at Greensboro I was --- I had an
4 assistantship at a Middle School to teach --- to assist
5 teachers with teaching physical education.

6 Q. In paragraph eight of your report it says that
7 you graduated with a Master of Science in sports
8 psychology/pedagogy from the University of North
9 Carolina in Greensboro, North Carolina, in 1990. During
10 that did you take any classes in sports biomechanics?

11 A. I believe I took one.

12 Q. What is sports biomechanics?

13 A. Sports biomechanics looks at the study of
14 movement and how to optimize skills and movement
15 patterns.

16 Q. And is it fair to say that the biomechanics of
17 males and females are different?

18 ATTORNEY VEROFF: Objection.

19 THE WITNESS: With regard to everything
20 across the board, like walking?

21 BY ATTORNEY TRYON:

22 Q. In athletics --- well, we'll talk about in
23 walking. Is it different in walking?

24 ATTORNEY VEROFF: Objection.

1 THE WITNESS: I would say there is more
2 similarity across the genders, more variability with age
3 than across genders on most movements.

4 BY ATTORNEY TRYON:

5 Q. Okay.

6 So you don't think there is a difference
7 between males and females in the context of
8 biomechanics?

9 ATTORNEY VEROFF: Objection.

10 THE WITNESS: Yeah, I think I just need
11 something more specific, right, if males in general can
12 generate more power or something in a particular
13 movement, that may be the case. It is not my area of
14 expertise.

15 BY ATTORNEY TRYON:

16 Q. Okay. Fair enough. Are you a psychologist?

17 A. I am not.

18 Q. Are you a psychiatrist?

19 A. No.

20 Q. Have you had any clinical experience seeing any
21 patients?

22 A. Not clinical experience, no.

23 Q. Other types of experience seeing patients?

24 A. No.

1 Q. And so I a presume you never treated any
2 patients?

3 A. That's correct.

4 Q. Have you ever worked as a counselor or social
5 worker?

6 A. No.

7 Q. Have you ever counseled with kids on either a
8 formal basis or informal basis on mental health issues?

9 A. I'm on the educational side of sports psychology
10 and so I might provide educational information, right,
11 about how to develop strong mental skills, right, that
12 are going to help you enjoy your sport better and
13 perform better, right. It's all on the educational
14 side, so not on a diagnosis side or treatment of mental
15 health. That would be beyond my credentials and I would
16 refer athletes to someone else.

17 Q. Okay.

18 Have you ever counseled with kids on gender
19 dysphoria issues?

20 A. I have not.

21 Q. Have you counseled with kids or young adults on
22 transgender issues?

23 A. I have not. To say that would be beyond my
24 expertise and training.

1 Q. Fair enough.

2 ATTORNEY TRYON: Well, we've been going a
3 little over an hour. I'm happy to keep on going. But
4 if you need a break, let me know.

5 ATTORNEY VEROFF: I think it would be
6 good to take a short break.

7 VIDEOGRAPHER: Going off the record. The
8 current time reads 11:15 Eastern Standard Time.

9 OFF VIDEOTAPE

10 ---

11 (WHEREUPON, A SHORT BREAK WAS TAKEN.)

12 ---

13 ON VIDEOTAPE

14 VIDEOGRAPHER: We are back on the record.
15 The current time reads 11:27 Eastern Standard Time.

16 BY ATTORNEY TRYON:

17 Q. In paragraph nine of your report you refer to a
18 Coacher's Guide of Maximizing Youth Sport Experience.
19 And did you write that whole book?

20 A. With colleagues, we did.

21 Q. Does that book address transgender athletes at
22 all?

23 A. It addresses how to create an environment that
24 can be inclusive and help all athletes have a great

1 experience. It's not specifically written --- you know,
2 it's not about about transgender athletes overall. What
3 I would say they're included in the sense that it is
4 beneficial to be inclusive in sport.

5 Q. Is the term transgender, does it appear in the
6 book at all?

7 A. Beyond -- I'm not sure.

8 Q. When was that book written?

9 A. It was released in 2020.

10 Q. When was the first time that you became aware of
11 the issue of transgender girls participating in girls
12 sports?

13 ATTORNEY VEROFF: Objection.

14 THE WITNESS: I'm not sure. Years ago. I
15 take conferences regularly, or sports psychology
16 conference, and there has been sessions for a long time.

17 ATTORNEY TRYON: Let me ask you to take a
18 look at some documents. Jake, if you can pull up the
19 document Cortisole and Stress Response during the Game
20 and Practice in Female Collegiate Soccer Players.

21 VIDEOGRAPHER: Do you want that marked?

22 ATTORNEY TRYON: Yes, this would be
23 Number 4.

24 ---

1 (Whereupon, Exhibit 4, Article by Dr.
2 Fry, was marked for identification.)

3 ---

4 ATTORNEY TRYON: And just for the court
5 reporter, my name is spelled T-R-Y-O-N.

6 BY ATTORNEY TRYON:

7 Q. Okay.

8 This is a document, an article that you wrote,
9 correct, Professor Fry?

10 A. This was a Master's thesis from one of our
11 students and I served on her committee.

12 Q. I see. Who is Andrew Fry?

13 A. He's my husband.

14 Q. Okay.

15 Why did this document only focus on female
16 soccer players?

17 A. Typically, in a Master's thesis you kind of can
18 keep things smaller and tighter, and it's not like a
19 doctoral dissertation I think would be one of the key
20 reasons. There's probably been less research with
21 females and cortisol because it's a little more
22 complicated with menstrual cycles and all that, too.
23 And I think this athlete --- I'm sorry, this student was
24 very interested in any female student to the literature.

1 Q. Is there a difference in cortisol and stress
2 responses between male and female soccer players?

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: Yeah, you know, this is ---
5 I would need to review this. And again, it's beyond my
6 expertise in looking at gender differences in cortisol.

7 BY ATTORNEY TRYON:

8 Q. So I'm a little puzzled. You said that you're
9 on the committee to review the students' work. Did I
10 get that about right?

11 A. I helped with this project, but this was her
12 thesis research, and she also had some I think
13 psychological measures. This has been a while. It was
14 published in 2007, but she was --- I'm not even sure I
15 could tell you what year she graduated or if this was
16 right over, but you know, quite a bit of time has
17 passed. I would have to go back and review this and it
18 is not my primary area of expertise, but I was an author
19 on this paper.

20 Q. So when you say you're an author, does that mean
21 you wrote portions of it or just supervised it?

22 A. You know, it varies and I would have to go back
23 to this one. Honestly, in reviewing it, I haven't
24 looked at this in a long time.

1 Q. Do you know how the student identified if
2 someone was a female?

3 A. I think she used a female collegiate soccer team
4 and so those were female athletes on the team.

5 Q. Do you know if any of those female athletes were
6 transfemales?

7 A. No, I don't.

8 Q. Would that have made a difference for the study
9 if some were transfemales and others were what I would
10 call biological females?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: I don't know. And I think
13 it would depend on where the transathletes were.

14 BY ATTORNEY TRYON:

15 Q. Where they were? What do you mean?

16 A. I'm sorry, where they --- I'm sorry, Dana just
17 came in with cords and I got distracted for a second.
18 With where they were in the transitioning process.

19 ATTORNEY TRYON: Okay.

20 If you could bring up the next document,
21 Examination of the Psychometric Properties of Perceived
22 Motivational Climate in Sports Questionnaire.

23 VIDEOGRAPHER: I'm sorry. Can you repeat
24 that title?

1 psychometrics of the measure.

2 Q. Why was this one limited to female athletes?

3 A. It's a good question. Why does any researcher
4 includes females, males and/or both? Maria had access
5 to, as I remember, a massive tournament, volleyball
6 tournament, and could get the group onboard and be able
7 to access a lot of teams because research is hard to do.
8 You really need to be able to access a number of teams
9 and she was able to do that with this study.

10 Q. So you don't know why it would be separated to
11 be only for female athletes?

12 A. I think she was only interested in volleyball
13 and in particular females.

14 Q. Is there a difference in volleyball between
15 female and male athletes?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: A difference in what sense?

18 BY ATTORNEY TRYON:

19 Q. In psychometric properties, the perceived
20 motivational climate?

21 A. Okay.

22 So while she didn't look at that in the study
23 because she only had females, so we just have to look at
24 the broader literature, right. And the theory

1 predictions hold up in that athletes can perceive the
2 climate as very task involving or ego involving, right.
3 And in some samples athletes, you know, males or females
4 may see it one way or another more, but the predictions
5 just align consistently that if you perceive the task
6 involving climate at least to good things. Like people
7 have more fun and try harder, they're more committed to
8 their sports, they have better relationships with
9 others, those kind of things.

10 Q. All right.

11 ATTORNEY TRYON: I'm finished with that
12 exhibit then. Let me then ask you some other questions.

13 BY ATTORNEY TRYON:

14 Q. Is your expertise limited to sports psychology?

15 A. Sports psychology is a broad term, you know, but
16 yes, I would say that is my expertise. I don't know if
17 you would consider youth sport as a part of that.

18 Q. I'm sorry. I missed what you said.

19 A. The youth sport.

20 Q. Oh, youth support?

21 A. Yes, in particular within sports psychology my
22 focus has been on youth.

23 Q. Okay.

24 A. Not exclusively.

1 Q. So just to be clear, you are not an exercise
2 physiologist, right?

3 A. I am not.

4 Q. And you are not a medical doctor.

5 Correct?

6 A. That's correct.

7 Q. And you don't have expertise in the science of
8 performance advantage, do you?

9 A. No.

10 Q. And you have no expertise in sports safety. Is
11 that true?

12 A. Yes, true.

13 Q. And do you have any expertise in concussion
14 management?

15 A. No.

16 Q. Do you have any expertise in ACL injuries?

17 A. No.

18 Q. Have you done any research studies or papers
19 regarding transgender females in sports?

20 A. No.

21 Q. Have you taught any classes on that?

22 A. Not like a complete course, but it's a topic
23 that we can cover in our undergraduate score psychology
24 class.

1 Q. And so is that a class that you teach?

2 A. Yes.

3 Q. And what exactly have you covered with regard to
4 transgender females in that class?

5 A. So late this semester I'm teaching the class and
6 later in April we have a trans --- a transfemale who is
7 a retired athlete and coach coming in for that day and
8 we will probably take a partial class before that just
9 to have some discussions and lay some groundwork. It is
10 an educational session where we just --- we have
11 students who may be well informed and passionate about
12 transathletes in sport and we have had other students
13 who have had very little exposure. So it's not a big
14 --- it's not a big chunk of the class, right, it's a
15 class or two that we touch on it.

16 Q. Aside from any research, have you attended any
17 seminars or classes on transgender females in sports?

18 A. Yes. Typically at our national conference, the
19 Association of Applied Sports Psychology, you know,
20 that's a jampacked schedule, and probably most
21 conferences I'll sit in on a session. Sometimes they
22 --- they will do a webinar, things like that. So over
23 the years, yes, I have participated in those.

24 Q. Have you reviewed any literature on transgender

1 participation in sports to prepare your opinion in this
2 case?

3 A. Like over the last two years I've read some. I
4 couldn't point or identify, hey, this is exactly the
5 literature I've read. Just someone who's reading often
6 in my --- you know, within sports psychology.

7 Q. Your bibliography doesn't include any papers
8 studying transgender athletes, does it?

9 A. No.

10 Q. And have you done any studies or papers
11 regarding the harm to motivation on females when
12 biological boys or trans/transgender girls are allowed
13 to compete on girls teams?

14 ATTORNEY VEROFF: Objection.

15 THE WITNESS: I have.

16 BY ATTORNEY TRYON:

17 Q. Do you mean have not?

18 A. I'm sorry, have not.

19 Q. Have you taught any classes on that topic?

20 ATTORNEY VEROFF: Objection.

21 THE WITNESS: I have not.

22 BY ATTORNEY TRYON:

23 Q. Have you attended any seminars or classes on
24 that topic?

1 ATTORNEY VEROFF: Objection.

2 THE WITNESS: I have not.

3 BY ATTORNEY TRYON:

4 Q. Have you prepared any papers regarding
5 differences for motivation between males and females?

6 ATTORNEY VEROFF: Objection.

7 THE WITNESS: Yes.

8 BY ATTORNEY TRYON:

9 Q. Okay.

10 Well, what are those?

11 A. Okay.

12 I think in, oh, gosh --- in --- sometimes in
13 papers we, you know, we see if there were gender
14 differences in terms of motivation. When there are
15 differences they're slight and we are back to that bell
16 curve mean thing that there might be a slight difference
17 but they don't impact the hypotheses in the sense that
18 --- in the sense that someone has a high task
19 orientation and/or perceives a task involving climate or
20 caring climate, whether you are male or female those
21 predictions hold up in terms of the outcomes.

22 Q. Are there papers in your bibliography that would
23 show that to be the case that it's the same for boys and
24 girls. Feel free to take a look at it. You have got it

1 there.

2 VIDEOGRAPHER: I would note that we
3 gained another participant. If they would identify
4 themselves for the record.

5 ATTORNEY PELET: Good morning. My name
6 is Valeria Pelet del Toro for Cooley, LP, for Plaintiff
7 BPJ.

8 THE WITNESS: Thank you for that time.
9 The Hogue, Fry and Fry 2017, I have to review that
10 paper. I can't remember if there were any gender
11 differences. These were Middle School kids who
12 were ---.

13 BY ATTORNEY TRYON:

14 Q. Let me stop you for just a second. Can you tell
15 me what page that's on?

16 A. Yes, page 14, the second from the last
17 reference.

18 Q. And which one is it again?

19 A. The Hogue Fry and Fry, 2017.

20 Q. Page 14 you said?

21 A. Yes, page 14, the second reference from the
22 bottom of the page.

23 Q. I'm seeing Walling, M.D.

24 A. Okay. Sorry.

1 Q. Maybe the pagination is different on your copy.

2 A. I'm sorry. Are you looking at the expert report
3 and Declaration?

4 Q. Yes, I am.

5 A. Okay.

6 It should be the same. If you go in
7 alphabetical order, Hogue with an H, H-O-G-U-E.

8 Q. Okay.

9 Here is the issue. I see. Hogue, et cetera.

10 A. Yes.

11 Q. There's two by Hogue. Which year? They're both
12 2013.

13 A. The 2017.

14 Q. What is the title?

15 A. The title is the Differential Impact of
16 Motivational Climate on Adolescents Psychological and
17 Physiological Stress Responses.

18 ATTORNEY TRYON: It is on page three.
19 Can you bring that up, Jake? It is under 14.

20 VIDEOGRAPHER: I was trying to look for
21 it too.

22 ATTORNEY VEROFF: I think there is two
23 page 14s. So there is a bibliography that directly
24 follows the expert report and then there is the

1 citations that are encompassed in Exhibit A, the first
2 page 14.

3 ATTORNEY TRYON: Thank you, Julie, for
4 helping us out with that. I see it now. I'm sorry for
5 that confusion.

6 BY ATTORNEY TRYON:

7 Q. You were going to explain that paper.

8 A. I'm sorry. Did you ask me to explain the paper?

9 Q. Yes. You were starting to talk about that, so I
10 would appreciate if you could talk about that?

11 A. So in this study Middle School kids are
12 recruited to participate in an intervention. They come
13 in and they learn an activity. And they're assigned ---
14 randomly assigned to either caring task involving
15 climate or an ego involving climate. And as they
16 participate across the interventions, their cortisol is
17 measured. Cortisol is a stress hormone and it can
18 indicate that people are experiencing higher stress.
19 And so in this study we found that athletes in the
20 caring task environment climate, their cortisol levels
21 actually decreased, right, suggesting that they were not
22 stressed. In addition they had more fun, they indicated
23 they tried harder, they made more progress learning the
24 activity, they experienced, you know, less shame, less

1 embarrassment, less anxiety. That is what I'm recalling
2 from memory, okay. There are probably a couple of other
3 things.

4 And if they participated in an ego involving
5 climate you got to flip all of those. They didn't have
6 as much fun, didn't indicate that they wanted to
7 continue with the activity and their cortisol levels
8 were significantly higher than those in the other group.
9 And the results were consistent for males and females.
10 What I would have to go back and check is were there any
11 --- going back to these slight mean differences, were
12 there any differences between the males and females in
13 the other variables. And that I couldn't tell you
14 without reviewing it. But in general, the purpose of
15 the study was to see how this environment affects kids
16 and the results were similar for males and females.

17 Q. And what age group was that?

18 A. This was Middle School, so six, seven and eight
19 graders. I think it leaned heavier on the six grade,
20 seven grade participants, but the mean age was probably
21 12.

22 Q. Any other papers in your bibliography talking
23 about whether or not there is a difference between males
24 and females and how they are motivated, if there is any

1 difference between them that is?

2 A. Yeah. I think with any of these studies,
3 honestly, I just have to go back and see if there were
4 any minor little differences between gender, but across
5 gender the results are consistent.

6 Q. Okay. All right.

7 Let me ask you, have you prepared any papers
8 regarding motivations for biological boys identifying as
9 girls?

10 A. I have not.

11 Q. Have you prepared any papers regarding
12 transgender girls?

13 A. I have not.

14 Q. Have you studied that issue?

15 A. No.

16 Q. Would that be something worth studying?

17 A. It could --- I'm sorry. Could you repeat that?

18 Q. Motivation regarding transgender girls?

19 A. Yes, it could be valuable.

20 Q. As far as you know, has anyone studied that?

21 A. Yeah, I --- you know, I hear people saying, you
22 know, that there is just going to be more and more
23 research coming out. I think there is isolated papers
24 out there probably that people have had a look at or ---

1 but I couldn't name them right now for you.

2 Q. Have you prepared any papers regarding coaching
3 transgender girls versus biological girls?

4 A. I have not.

5 ATTORNEY VEROFF: Objection.

6 BY ATTORNEY TRYON:

7 Q. Are you aware of any studies that do address
8 that?

9 ATTORNEY VEROFF: Objection.

10 THE WITNESS: No.

11 BY ATTORNEY TRYON:

12 Q. Have you prepared any papers regarding the
13 opportunity for collegiate athletic scholarships
14 motivates student athletes?

15 A. Have I prepared any papers?

16 Q. That is my question.

17 A. No.

18 Q. Would you agree that the opportunity for
19 collegiate athletic scholarships does, in fact, motivate
20 the student athletes?

21 A. Some student athletes.

22 Q. Now, you qualify that as some. Any idea what
23 that percentage might be?

24 A. No.

1 Q. Are you familiar with Title 9?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: Yes, to some degree.

4 BY ATTORNEY TRYON:

5 Q. Tell me what your understanding of Title 9 is in
6 the context of girls sports.

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: More opportunities are
9 provided to girls to the same degree as boys and that
10 fairness is given across other aspects of resources and
11 so on, facilities and things like that.

12 BY ATTORNEY TRYON:

13 Q. Have you ever written any papers on Title 9?

14 A. No.

15 Q. Have you written any papers on college
16 scholarships for girls?

17 A. On college scholarships for girls?

18 Q. Yes.

19 A. No.

20 Q. So you wouldn't be an expert on that, would you?

21 A. No.

22 Q. Have you submitted any comments to the
23 Department of Education on proposed rules or regulations
24 under Title 9?

1 A. No.

2 Q. Let me ask you a question a little bit different
3 than the one earlier. Can the opportunity for
4 scholarships for girls collegiate sports be a motivator
5 for girls to compete in girls sports?

6 A. It can be for some athletes.

7 Q. So in paragraph 11 of your expert report, which
8 is Exhibit-2, it says on the national level I've served
9 with the Association of Applied Sports --- Sport
10 Psychology, AASP, as a member of the Program Review
11 Committee. That is correct, isn't it?

12 A. Yes.

13 Q. It's my understanding that the purpose of that
14 organization is primarily to help train coaches.

15 Is that fair?

16 A. No, that would be not accurate.

17 Q. Tell me the purpose of it.

18 A. Okay.

19 It is an organization of professionals that work
20 in the area of sport and exercise psychology and to say
21 there's probably two aims, that these professionals are
22 trying to help people, a wide variety of people across
23 the lifespan reap off the benefits from participation in
24 physical activity and also help people perform up to

1 their potential or help them perform better. It is a
2 mix of the organization. There are people who are
3 faculty members and people that are involved in the
4 team, are involved in programs but there's also people
5 that are trained on the clinical side or that are more
6 focused on sort of counseling aspects of sports
7 psychology.

8 Q. Are you actually a member of the organization?

9 A. Yes, I am.

10 Q. Now, on the website it said that there is 2900
11 members in 50 countries. Is that about right to your
12 knowledge?

13 A. That sounds right.

14 Q. So I divided that out. That would be 58 per
15 country. That doesn't sound very big per country. So
16 let me ask you, do you know how many of those are
17 members are in the United States?

18 A. I don't know. I would guess it's heavily
19 weighted in the U.S. I would say over half. I think
20 there's a lot of countries that might have one person or
21 so. So even though 50 countries are represented, you
22 know, some of them are small and may have a really small
23 participation, right.

24 Q. Okay. Fair enough.

1 So you mention in this paragraph the
2 certification exam. So there is a certification exam.

3 Is that right?

4 A. Yes. It's pretty new. There has been a
5 certification. The fact that it is exam based is a new
6 direction over the last few years.

7 Q. What is the purpose or meaning of that
8 certification?

9 A. It's called CMPC, Certified Medical Performance
10 Consultant, and it is good for the field because the
11 people who have that credential, it designates sort of,
12 you know, acceptable level of competence to go out and
13 to work with athletes and coaches. So there is a number
14 of courses people have to have. They have to have hours
15 of training working directly with athletes. And then
16 when they complete all those requirements they take ---
17 they take an exam.

18 Q. Have you taken the exam?

19 A. I'm --- I'm about to in the coming months. A
20 little back story on this is that the certification
21 originally came out as I was wrapping up my doctoral
22 training, and I would have needed to stay another year
23 to get the other requirements that I was missing and my
24 doctoral advisor at the time said, you know, yeah, I'd

1 just go and graduate and get rolling in your career.
2 And she wasn't sure if this would take off or how big a
3 deal it would be, and so over the years it has been sort
4 of slow to take off. I have, for example, people come
5 and say do you have this AASP Certification until the
6 last year or two. So I think the public is becoming,
7 you know, more aware of it.

8 I was asked to write the chapter in the
9 Essentials Text, which is really the text for people to
10 prepare for the exam. And so I was asked to write the
11 motivation chapter, a key chapter on motivation
12 theories. And so there's this double blind system on
13 writing one of the chapters that I needed to wait longer
14 to actually take the exam. But currently I'm an
15 approved mentor to train students who are seeking the
16 certification.

17 Q. But you don't have the certification at this
18 point.

19 Correct?

20 A. Right. Just as a mentor. I have --- I received
21 all the thumbs up on every --- on --- you know, you
22 submit a packet of materials showing you have all the
23 credentials and all. So I've done that. I just need
24 now to sit for the exam. And I haven't done that yet.

1 I will probably do it once the semester is over.

2 Q. Do you consider yourself an athlete?

3 A. I'm smiling. I do.

4 Q. Okay.

5 A. I work closely with the Women's Inner Sport
6 Network in Kansas City and they say that should be the
7 mantra. Every female should say I'm an athlete. I'm
8 not currently competing.

9 Q. Okay.

10 What sports have you participated in?

11 A. Tennis and softball were my primary sports.

12 Q. And when did you compete in or participate in
13 those?

14 A. Softball was kind of a Middle School thing and I
15 transitioned to tennis as I hit high school and competed
16 through high school and college and then probably
17 through my 20s still competing in tournaments around the
18 state.

19 Q. So after college were you still competing in
20 some fashion?

21 A. I was, yeah. Just one of the nice things about
22 teaching and you have that summer break. And my friends
23 enjoyed playing so we would play in tournaments around
24 the state.

1 Q. Did you want to win?

2 A. I did.

3 Q. And so were you --- let's go back to the terms
4 you already mentioned, like ego oriented and task
5 oriented, right?

6 A. Uh-huh (yes), yes.

7 Q. And so tell me just in layman's terms what those
8 mean.

9 A. Okay.

10 They were developed in a theory by a guy named
11 John Nicholls and he said --- what he was really --- the
12 question he was trying to address is what should we be
13 doing if we are trying to help every athlete reach their
14 own potential. And so his theory it has three facets to
15 it. One is the goal orientation and those refer to your
16 personal definition of success. And so some people ---
17 he identified two, task orientation and ego. And people
18 who have a high task orientation, they really feel most
19 successful when they can walk away knowing they gave
20 their best effort and they're focused on their
21 improvement over time. But that is where genuine
22 feelings of success come.

23 In contrast, some people have a strong ego
24 orientation and they're more focused on how they compare

1 to everyone or are they winning. And they may say,
2 yeah, good for me, I tried hard, who cares. What I care
3 about is how did I compare to everyone. Did I
4 demonstrate confidence? Did I look better than others,
5 did I win?

6 Q. And can somebody have both an ego orientation
7 and a task orientation?

8 A. Yes. They can be high in both, high in one and
9 low in another.

10 Q. And when you were playing tennis, were you ---
11 which one were you? Ego oriented or task oriented?

12 A. I think I've always had a high task orientation.
13 I just loved sport and the chance to complete, and I
14 would say I had a moderate ego orientation.

15 Q. Is one better than the other?

16 A. It depends what your aim is. If we want
17 athletes to have fun and to keep playing and to try hard
18 to have good relationships with others and to be good
19 sports, then we should try to promote task orientation
20 because ego orientation is not related to those things
21 pretty consistently.

22 Q. And under your theory then should we try to
23 suppress ego orientation?

24 A. No. I think the second part of the theory is

1 what kind of environment we create for our athletes, and
2 so the research is very strong in this area suggesting
3 many benefits when we can create a task and a caring
4 climate for athletes. So the problem with the climate
5 for a coach is that you really need to pick what am I
6 going to do because you can't do both or it becomes a
7 wash or a neutral environment. So those features of
8 each of the climates, they're really in direct contrast
9 with one another.

10 Q. When you say you are an athlete, what does that
11 mean to be an athlete?

12 A. You know, for me it means someone who just loves
13 having the opportunity to do their best and to try and
14 improve and to walk away on one --- you know, today I'm
15 going to go out there, I'm going to give my best and
16 tomorrow I'm going to get up and go do it again whatever
17 happened, right, because there is just so much fun and
18 joy that comes from having that opportunity.

19 Q. So just as I recall you said you do like to win,
20 right?

21 A. I do.

22 Q. And you can like to win and want to win whether
23 you are personally ego oriented or task oriented, right?

24 A. Absolutely. I mean, who plays sports and

1 doesn't want to win. I mean, that's just sort of a
2 given. What does winning mean for us, right? Is it a
3 chance for me to kind of put my chest out and say I'm
4 better than you, I beat you, or is it kind of a
5 celebration of me being able to say, boy, I've worked
6 hard and I can see I'm improving, right.

7 Q. Right. But if you are in an environment where
8 you basically are prevented from winning, that would be
9 very discouraging.

10 Right?

11 A. I'm not aware of any of those environments where
12 you are prevented from winning.

13 Q. Well, what if the coach doesn't let you play?

14 A. Does that mean like you're not a starter or ---
15 is that what you're referring to?

16 Q. Well, if you are just a bench warmer, would that
17 be discouraging to some people?

18 A. You know, this comes back to the climate. If a
19 coach is saying you're an important part of this team
20 which is one of the features of a task and caring
21 climate, right, you're valuable, you push everybody,
22 your opportunities are going to be coming. And what
23 it's really about is let's do all we can to help you
24 keep developing, right. If we are just like, hey,

1 please stay out of the way, go sit at the end of the
2 bench, go down to the end of the court because I'm
3 working with these few star athletes I've got here, then
4 yeah, it would be discouraging.

5 Q. Would you agree that rules are important in
6 sports?

7 A. Yes.

8 Q. So you mentioned you have played tennis and
9 softball. And what other sports are you familiar with?

10 A. Played a little bit of volleyball going through
11 --- yeah, you know, I grew up in Texas and tennis is
12 just a year-round sport, right.

13 Q. Right.

14 A. So that is a lot of my experience. My son is a
15 baseball player, so I've watched an awful lot of
16 baseball as well.

17 Q. Are you familiar with track and cross-country
18 even though you haven't done it?

19 A. Yeah, yes.

20 Q. Are you familiar with football?

21 A. Yes.

22 Q. So how about basketball?

23 A. Yes.

24 Q. Who is going to go on in the final four?

1 A. Absolutely. A little excitement here in town.

2 Q. Yes. So do sports have to be athletic to be
3 sports?

4 ATTORNEY VEROFF: Objection.

5 THE WITNESS: Do they have to be
6 athletic?

7 BY ATTORNEY TRYON:

8 Q. That is my question.

9 A. Okay.

10 I think it just depends on how you define
11 athletic.

12 Q. Well that's what I'm wondering. So for example,
13 are video games sports?

14 A. You know, some universities are considering
15 those. They have sports teams and they are considering
16 that part of the athletics. It's not my particular area
17 of interest.

18 Q. Okay.

19 So some sports are solo and some are with
20 teams.

21 Is that a fair statement?

22 A. Yes and no. Again, I would say it is how you
23 define it, right. If you are going to say a track team
24 with the best individual, I would say there is relays

1 and it depends how the coach approaches it. Are we just
2 a lot of individuals doing our thing out here, are we a
3 team working together?

4 Q. Well, when you --- so that may be in high school
5 there is teams. But outside of high school or college
6 there are sports you participate in that, for example, a
7 marathon, you could be on a marathon and simply you're
8 participating as an individual, right?

9 A. Uh-huh (yes), I agree.

10 Q. And but --- so some athletic events can be done
11 without being on a team. Are there others that you can
12 think of besides marathons?

13 A. Sure. As people graduate and they can run
14 races, yeah, they can participate in weightlifting.

15 Q. And a lot of these things ---?

16 A. They could have ---.

17 Q. Sorry to interrupt you. Go ahead.

18 A. I'm sorry. They could swim. I'm just throwing
19 out another one.

20 Q. Yeah. So swimming is both --- you do it as a
21 sole --- as an individual but also as part of a team in
22 high school and college, right?

23 A. Right.

24 Q. And both cases you, as an individual, want to

1 win in these sports but also you're trying to help your
2 team win. Is that a fair statement?

3 A. Yes, at its best.

4 Q. And there is sometimes when you feel like
5 running, it can be something you just like to run. You
6 don't have to be on a team or you can compete, you just
7 run on your own, right?

8 A. That's true.

9 Q. I see little kids, why walk when you can run.
10 So that's something that you can do alone or you can do
11 with your family, right?

12 A. Uh-huh (yes).

13 Q. Is that a yes?

14 A. Yes, sorry.

15 Q. Thanks. And it's something you can do either
16 competitively or not competitively, right?

17 A. Yes,

18 Q. Now when you're on a team, for example, a track
19 team, you're competing against other people on your
20 team.

21 Is that right?

22 A. Again, I would just say --- I would just check
23 --- that is not how I would phrase it if I were a coach,
24 that we're competing against each other. I would say we

1 are a team and we are working together to bring out the
2 best in each one of us, but the goal is every athlete
3 reach their potential.

4 Q. But every one of those kids on a track team
5 still wants to be the best on the track team as a
6 general rule, right?

7 A. I don't know that that is necessarily true, but
8 I think they want to compete and they want to do well.
9 I would agree with that.

10 Q. I probably overstated that, but many of them ---
11 at least some of them want to be the best on the team,
12 the fastest on the team, right?

13 A. Yes.

14 Q. So those are the people that are comparing
15 themselves to others and just want to be --- so they
16 would be ego centered, ego oriented.

17 Is that right? But not necessarily?

18 A. Yeah, not necessarily.

19 Q. Okay.

20 A. Do you want me to comment on it?

21 Q. Sure.

22 A. Okay.

23 If I could just use an example. Like a track
24 athlete, Al Oerter was an athlete in the '50s and '60s,

1 he won four gold medals consecutively across four
2 Olympics, it's crazy, throwing the discus. And he said
3 --- a reporter asked him how did you beat the world, how
4 were you so great, how were you better than everybody
5 else these four Olympics, and he said --- his response
6 was like that's nonsense. It is never about being
7 better than somebody else. It's about being the best
8 that you can be, right. And so what if is just good
9 enough. What if I beat you, good, but maybe I can be so
10 much better than that. So for my sights to be set on
11 just being better than you it is limiting, right. And
12 if you are so much better than me and so much less
13 talented, why don't I just focus every day on being the
14 best that I can be, right. So Al Oreter, you think four
15 time Olympic gold medalist, he's got to be high on ego
16 orientation. He's somebody who's really high in task
17 and would have been lower. But we could look at other
18 athletes that would be the flip and definitely. So when
19 you say athletes who want to win that doesn't
20 distinguish the task and ego aspect of it.

21 Q. So task and ego orientation doesn't affect
22 somebody's desire to win. Desire to win is separate
23 from the ego versus task orientation, that's what you're
24 saying, right?

1 A. I think it comes down more to what does winning
2 mean.

3 Q. All sports have rules, we've established that,
4 right?

5 A. Uh-huh (yes).

6 Q. Is that a yes?

7 A. Yes.

8 Q. The purposes of the rules is, one, tells you how
9 to play the game, right?

10 A. Yes.

11 Q. Another is for safety. You have rules for
12 safety, is that right?

13 A. Yes.

14 Q. And you have rules to make things fair, right?

15 A. Yes.

16 Q. What other reasons do we have rules in sports?
17 Does that cover it?

18 A. Nothing else comes to mind right now.

19 Q. Who generally makes rules for sports?

20 A. The leagues and sports organizations per se.

21 Q. Would it be fair to say that the participants
22 rely on the rules?

23 A. Rely on the rules?

24 Q. Yes.

1 A. Fair to say that participants when they join a
2 league or, you know, their understanding that there are
3 rules that they need to abide by.

4 Q. And they expect that others have to abide by
5 those same rules; right?

6 A. Yes.

7 Q. And it is important to have consistent rules,
8 rules that don't change periodically, right?

9 A. I think rules change all the time in sports.

10 Q. Why do they change?

11 A. I think they change because they are recognizing
12 those things that you mentioned that maybe something
13 would be safer or something would be more fair or more
14 inclusive.

15 Q. And sometimes those changes are made in
16 anticipation of problems, not waiting for problems to
17 happen.

18 Is that fair?

19 ATTORNEY VEROFF: Objection.

20 THE WITNESS: Yeah, I'm not sure.

21 BY ATTORNEY TRYON:

22 Q. Okay.

23 What about safety, rules for safety, do
24 sometimes safety rules anticipate problems and sometimes

1 they react to problems that have already occurred?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: Yes.

4 BY ATTORNEY TRYON:

5 Q. Is that a yes?

6 A. Yes.

7 Q. And then how about fairness, we have rules
8 designed for fairness and those are sometimes set in
9 motion because of something that has happened, right?

10 A. Uh-huh (yes).

11 Q. Yes?

12 A. Yes.

13 Q. And other times it's in anticipation of problems
14 that we see might come down the road but we want to set
15 rules for fairness, right?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: Yes.

18 BY ATTORNEY TRYON:

19 Q. And in all sports there is scoring, right?

20 A. Yes.

21 Q. That is part of the rules, right?

22 A. Uh-huh (yes), yes.

23 Q. And those scores decide who wins, right?

24 A. Yes.

1 Q. Would you say scoring is a motivator?

2 A. For some athletes.

3 Q. When an athlete perceives something as being
4 unfair, that's a de-motivator, would you agree?

5 ATTORNEY VEROFF: Objection.

6 THE WITNESS: In some cases.

7 BY ATTORNEY TRYON:

8 Q. So sports also have rankings, individual
9 rankings and team rankings, right?

10 A. That's right.

11 Q. And for some athletes those rankings are
12 motivators, right?

13 A. Yes, for some.

14 Q. And sports, you give out trophies for winners,
15 right?

16 A. I'm sorry. You broke up.

17 Q. In sports we give out --- at least in some cases
18 we give out trophies to winners, right?

19 A. In some cases.

20 Q. So let me see if I understand. Are you
21 advocating that sports should eliminate scoring?

22 ATTORNEY VEROFF: Objection.

23 THE WITNESS: No.

24 BY ATTORNEY TRYON:

1 Q. Are you advocating that they should eliminate
2 rankings?

3 A. I don't think it would hurt at lower levels. I
4 don't think we need to have have a focus on that when
5 you're five or six years old, on rankings, and we ought
6 to be focused just on learning the game and having fun,
7 but in general I'm not opposed to us having ---
8 identifying winners and ranking teams and so on.

9 Q. And sports teams, the coaches decide who plays
10 in different positions in different games.

11 Is that right?

12 A. That's right.

13 Q. And should how good the student athlete is have
14 anything to do with when, where and how to play
15 according to the coach?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: Should the athlete's talent
18 have something to do with how much playing time they
19 get?

20 BY ATTORNEY TRYON:

21 Q. That would be a fair way to characterize my
22 question, yes. What is your answer?

23 A. I would agree with that particularly as we move
24 up in levels. I really like the rules that some youth

1 sport leagues have that we have eight-year-olds and
2 we're not just going to say, hey, Julie, you're on the
3 bench because you're not as good so you don't get any
4 playing time. I like the rules that say everybody gets
5 in there a few innings and gets some playing time or
6 gets to bat, or whatever the sport might be. So I think
7 it really varies on what sport we are talking about.

8 Q. Let's look back at your report, Exhibit-2. Look
9 at paragraph 35. Do you see that?

10 A. Yes, I do.

11 Q. The first sentence says, thus the benefits
12 associated with youth and young adult sport are not
13 limited to whether athletes are winning competitions,
14 where they are ranked in their sport or what level of
15 publicity they are getting.

16 Do you see that?

17 A. Yes.

18 Q. So you would agree with me that one of the
19 benefits is the opportunity to win competitions.

20 Right?

21 A. I would probably word it one of the benefits is
22 the opportunity to compete.

23 Q. Well, here you say winning. You say it is not
24 limited to whether athletes are winning, which suggests

1 that winning competitions is one of the benefits.

2 Correct?

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: Yeah. I think what I mean
5 by that is if only --- if you have to win to have a
6 great experience in sports, then half of our teams are
7 not going to have a good experience, right. So what I'm
8 suggesting here is that and as the data backs this up
9 that if you are in a good climate, then you can go out
10 there and have fun and try hard and maybe your team
11 didn't end up with a winning record, but you can still
12 reap the benefits. And so it is not the case that only
13 winning teams reap these benefits that come along with
14 sports.

15 BY ATTORNEY TRYON:

16 Q. So you are saying winning is not a benefit?

17 ATTORNEY VEROFF: Objection.

18 THE WITNESS: I'm going to say winning
19 can be a benefit. It's not a primary one in my mind in
20 sport, but yes, winning can help us see our improvement
21 and, you know, winning has its place for sure.

22 BY ATTORNEY TRYON:

23 Q. And you see athletes when they win, they are
24 pretty excited, aren't they?

1 A. Many of them are.

2 Q. Well, have you ever seen anybody disappointed
3 about winning?

4 A. Maybe not disappointed, but if --- let's just
5 say you are really skilled in tennis and you come and
6 you know, you leave me behind, you beat me 6061, there
7 might not be a lot of joy for you in beating me, right,
8 but for some athletes it might be, hey, it's another win
9 for me and I'm super excited about that. So that is
10 what I mean.

11 Q. And where they're ranked in their sport, that is
12 one of the benefits.

13 Right?

14 ATTORNEY VEROFF: Objection.

15 THE WITNESS: Yeah, I think we may have a
16 different view on benefits. With benefits I'm just
17 thinking what's going to help us long term. And it
18 reminds me of this Olympic gold medalist who said her
19 kid was going through kind of a junk drawer and found
20 her gold medal, right. So winning --- she's a gold
21 medalist, didn't mean as much as all the experience and
22 just reflecting on the ability to give your best effort
23 and to build these relationships and to push yourself so
24 hard. Those seem like benefits more than, you know, the

1 trophy or something winning. I'm not disputing that
2 winning, yeah, can be fun and it is definitely part of
3 sport.

4 BY ATTORNEY TRYON:

5 Q. Yeah. And so all those things you just
6 mentioned certainly are benefits to sports. I'm not
7 trying to suggest that's not the case. I just want to
8 understand when you say in this paragraph, thus benefits
9 associated with youth and young adult sports are not
10 limited to whether athletes are winning competitions,
11 where they are ranked in their sport or what level of
12 publicity they are getting, it's not limited to that,
13 but it does include those three things, right?

14 ATTORNEY VEROFF: Objection.

15 THE WITNESS: I'm going to give you that
16 those are benefits. I'm just going to put them down
17 lower on what we value.

18 BY ATTORNEY TRYON:

19 Q. Okay.

20 A. Or more important benefits.

21 Q. Is the opportunity to get a college scholarship
22 also a benefit in youth sports?

23 A. For a very small proportion of children in youth
24 --- in our youth sport world are able to secure college

1 scholarships and go on, and so our youth sport world
2 shouldn't be centered around that I believe.

3 Q. But for those that want to and can get college
4 scholarships, that is a big benefit for them, right?

5 A. Yes, that's very cool.

6 Q. And it can be worth tens of thousands of
7 dollars, right?

8 A. Yes, it can.

9 Q. And even just being recruited to play on a
10 college team, that's a big benefit for high schoolers,
11 right?

12 A. Yes, for some.

13 Q. Well, right, for some. And in order to get
14 there you need to be able to --- have the opportunity to
15 --- well, strike that.

16 And for obviously a smaller minority still the
17 opportunity to ultimately go on and play professional
18 sports, that is another benefit, right?

19 A. Yeah, it's a benefit for such a small proportion
20 that, again, I would just say that's not how we should
21 set up our sports world, for those few.

22 Q. I understand that, but nonetheless there are
23 many who never get to that place, but that's what they
24 strive for and that's one of the reasons why they are in

1 sports, right?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: I think there could be
4 people like that for sure.

5 BY ATTORNEY TRYON:

6 Q. And same thing with scholarships, there are a
7 lot of kids that want to get scholarships, they may not
8 get them, but they're in sports because they want to get
9 that scholarship and they think they'll be able to.
10 Fair statement?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: Yeah, I'm not sure what the
13 percentages are. There are probably a lot more who
14 would like to have a college scholarship who don't
15 receive them because of the small proportion who do,
16 right. But definitely. That's called extrinsic
17 motivation. If I'm just playing a sport because that's
18 the --- that's what I'm going for is a scholarship,
19 yeah, there could definitely be athletes focused along
20 those lines.

21 BY ATTORNEY TRYON:

22 Q. And would you agree that colleges generally
23 select scholarship athletes from the pool of people that
24 are actually playing high school athletics? That is a

1 correct statement, right?

2 A. I would say the majority have played high school
3 athletics, yes.

4 Q. And those that are seeking that scholarship are
5 athletes who use their high school performance to
6 compete for college scholarships, right?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: Yes, probably many do.

9 BY ATTORNEY TRYON:

10 Q. And the market for athletic scholarships is, in
11 fact, competitive, right?

12 A. Many schools it is. Definitely not all schools,
13 though.

14 Q. Okay.

15 What would it be otherwise?

16 A. I think some of the --- some smaller schools
17 just will --- we have a local college that will give
18 students like \$8,000 or \$10,000 a year towards their
19 tuition fees if they participate on a sport team. And
20 of course, you know, there has to be some level of skill
21 there, but I wouldn't --- it is a good place for people
22 who want to continue to play a sport but may not have
23 the highest skill levels and definitely aren't being
24 recruited at the division --- for the most part, a

1 Division I level or something like that.

2 Q. But they still compete for that scholarship,
3 fair enough?

4 A. Yes.

5 ATTORNEY VEROFF: We've been going for a
6 little over an hour. I just wanted to check in see,
7 David, if you have a sense of when you are wrapping up
8 this module. Maybe it would be a good time to take a
9 break.

10 ATTORNEY TRYON: Yes, give me another
11 five minutes and we can break if anybody wants to.

12 ATTORNEY VEROFF: Great.

13 ATTORNEY TRYON: Well, we can break right
14 now. I'll leave it up to the witness. I'm not going to
15 force it upon the witness or Plaintiff's Counsel. Would
16 you like a short break?

17 THE WITNESS: That would be great. Thank
18 you.

19 ATTORNEY TRYON: Let's go back how about
20 20 till. Does that work?

21 VIDEOGRAPHER: Going off the record. The
22 current time reads 12:32:00 p.m. Eastern Standard Time.

23 OFF VIDEOTAPE

24

1 (WHEREUPON, A SHORT BREAK WAS TAKEN.)

2 ---

3 ON VIDEOTAPE

4 VIDEOGRAPHER: We are back on the record.
5 The current time reads 12:41 Eastern Standard Time.

6 BY ATTORNEY TRYON:

7 Q. So let me then ask you, Professor Fry, have you
8 heard of the International View for Sociology of Sport?

9 A. That journal?

10 Q. Yes.

11 A. Yes, I've heard of it.

12 Q. Okay.

13 Are you familiar with Warren Whisenant?

14 A. No.

15 Q. Okay.

16 How about Jeremy S. Jordan?

17 A. No.

18 Q. Okay. Fair enough. Let me show you Exhibit ---
19 if we could mark this, I guess we're at Exhibit 6,
20 Fairness and Enjoyment in School Sponsored Youth Sports.
21 If you could bring that up, Jacob.

22 ---

23 (Whereupon, Exhibit 6, Fairness and
24 Enjoyment in School Sponsored Youth

1 Sports, was marked for identification.)

2 ---

3 ATTORNEY TRYON: Jacob, if you could just
4 put --- I think we've done this before. Put this in a
5 PDF in the chat box, can you do that?

6 VIDEOGRAPHER: Yes, I just have to do
7 that while it is not being shared and then I can share
8 it again.

9 ATTORNEY TRYON: Okay.
10 Well I think we can just share it for now
11 and then we can put it in there. If not, then if we
12 need to, we can do it.

13 VIDEOGRAPHER: Okay.

14 I mean, I already have it dragged in.

15 ATTORNEY TRYON: Great. It doesn't take
16 long at all. Great.

17 BY ATTORNEY TRYON:

18 Q. So have you ever seen this article before?

19 A. I haven't. Can you enlarge it a little bit?
20 And what year was this at the top?

21 Q. It looks like 2008.

22 A. Thank you.

23 ATTORNEY VEROFF: If you give the witness
24 a minute if she wants to scroll and get a sense of what

1 this is.

2 BY ATTORNEY TRYON:

3 Q. Well, before I ask you any questions about this
4 let me just ask you some questions overall. Would you
5 agree that fairness in sports is an important value?

6 A. Yes.

7 ATTORNEY VEROFF: Objection.

8 BY ATTORNEY TRYON:

9 Q. And have you done any research on the issue of
10 fairness and sports?

11 A. No. I'm just hesitating because we have
12 included measures of sportspersonship, being a good
13 sport. So if you include that then, yes. But in
14 general, just fairness, I would say no.

15 Q. Okay.

16 Have you read any papers that specifically
17 focus on fairness in sports?

18 A. You know, probably, but I couldn't name them.

19 Q. Okay.

20 Let's go down to --- I really only have one
21 question here, which we'll look at and then if you want
22 to review more of the article you are certainly welcome
23 to do that. But if you go to what is labeled as page 97
24 at the top.

1 A. Could I just read the abstract first? Do you
2 mind?

3 Q. Yes.

4 VIDEOGRAPHER: If you need that made
5 bigger, let me know.

6 THE WITNESS: Maybe one more notch up.
7 Thank you.

8 VIDEOGRAPHER: You're welcome.

9 THE WITNESS: Okay.

10 BY ATTORNEY TRYON:

11 Q. If you turn to 97, and the third full paragraph
12 on that page it says an organizational climate embracing
13 fairness is a critical factor influencing student
14 athletes' attitude towards the sport they participate in
15 and their desire to continue participation. Do you
16 agree with that statement?

17 ATTORNEY VEROFF: I will just remind the
18 witness if she would find it helpful to read more
19 context around that statement before you answer, you're
20 welcome to do so.

21 THE WITNESS: Yes, I think it would be
22 helpful to look at how they measure fairness and, you
23 know, the methods used in the study, but in general I
24 can imagine that, yeah, that this is true.

1 BY ATTORNEY TRYON:

2 Q. Okay.

3 You don't --- just as a general statement you
4 don't disagree with it?

5 A. Right.

6 Q. So I'm not going to ask you about any of their
7 results or anything else, I just wanted to get your
8 reaction on that statement. And you are not offering
9 any expert opinion on fairness in sports.

10 Right?

11 A. That's right.

12 Q. Are you offering an expert opinion on whether or
13 not HB-3293 is fair?

14 A. I'm --- I believe that the sport organizations
15 at every level really value being inclusive and it would
16 be harmful to exclude athletes where they wouldn't have
17 an opportunity to reap the benefits of sport.

18 Q. And there are a lot of things that go into
19 fairness, right?

20 ATTORNEY VEROFF: Objection.

21 THE WITNESS: Yes.

22 BY ATTORNEY TRYON:

23 Q. And it requires balancing of interests of
24 various people and groups and values; right?

1 ATTORNEY VEROFF: Objection.

2 THE WITNESS: Yes.

3 BY ATTORNEY TRYON:

4 Q. You have not attempted to do that balancing in
5 connection with HB-3293, have you?

6 ATTORNEY VEROFF: Objection.

7 THE WITNESS: Yeah, I think my expertise
8 is to weigh in on all the benefits that athletes would
9 not have an opportunity to reap if they weren't able to
10 participate. But I think there are people who know a
11 whole lot more more with any sport about how to keep
12 making the rules fair for everyone.

13 BY ATTORNEY TRYON:

14 Q. Okay.

15 But just to be clear you have not attempted to
16 do that balancing with HB-3293?

17 ATTORNEY VEROFF: Objection.

18 THE WITNESS: I'm not sure I understand
19 the question.

20 BY ATTORNEY TRYON:

21 Q. Okay.

22 Let me try again. We established that fairness
23 depends on balancing a lot of interests and views of
24 different groups, different people, right?

1 A. Yes.

2 ATTORNEY VEROFF: Objection.

3 BY ATTORNEY TRYON:

4 Q. And that balancing, you have not attempted to do
5 with respect to 32 --- HB-3293.

6 Correct?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: I think it would be unfair
9 to categorically exclude a group of athletes from having
10 the opportunity to participate. So I'm not sure if that
11 --- if you interpret that as balancing or not balancing.

12 BY ATTORNEY TRYON:

13 Q. Have you balanced the interests --- have you
14 looked at the interests of other people in that decision
15 that went into 32, HB-3293?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: Yes, I think this House
18 Bill is not fair to transfemale athletes.

19 BY ATTORNEY TRYON:

20 Q. Okay.

21 We will move onto that in little bit then.
22 What is your qualifications to determine fairness?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: I think I was called to be

1 an expert witness in this case to speak to the many
2 benefits that come from participating in sports. And so
3 from my experience as an athlete and a coach and a
4 scholar in this area I think I have, you know, insight
5 and can speak to the many benefits and how we should do
6 all we can to prevent --- or all we can to not exclude
7 athletes from having the opportunity to participate.

8 BY ATTORNEY TRYON:

9 Q. You said you are a tennis player, right?

10 A. Yes.

11 Q. When is the last time you played tennis?

12 A. I --- there's a wall right outside my office,
13 and so I hit on a backboard. I haven't played a match
14 in a little while. I'm not sure the last time was.

15 Q. And when you played --- the most recent time you
16 played competitively, was that in a league or how does
17 that work?

18 A. I haven't played leagues in a while. It was
19 just for fun. I'd play with a couple of my friends,
20 when we go to conferences, we bring our racquets and we
21 get together and play. I've moved into, you know, other
22 exercise forms now and I swim and hike and so on.

23 Q. And so when you were playing tennis, team, is
24 that what it was, on a team?

1 A. Uh-huh (yes), yes.

2 Q. What team was that?

3 A. I played USTA leagues. Those are for adults.
4 And after college, you know, there is just like a
5 circuit in Texas that you can sign up for tournaments
6 all around the State and play and go for ranking.

7 Q. But in college you played, right?

8 A. Yes.

9 Q. And was that on a girls team or a mixed team or
10 what? I don't know much about tennis so I'm just trying
11 to understand that.

12 A. Okay.

13 There was a men's and women's team. We had a
14 head coach for both and assistant. Maybe in the last
15 year there were separate head coaches, but we worked out
16 together. We traveled to tournaments together. When
17 you add up the score you got to --- you got to --- the
18 women had a score and the men had a score, so it wasn't
19 a total team win like that.

20 Q. Okay.

21 So if you're on the women's team and you go up
22 against some other team and they just said we're going
23 to have boys, we're going to have men participate in the
24 women's team against you, you wouldn't have thought that

1 was fair, right?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: Well, I'm assuming you mean
4 transfemales playing and ---?

5 BY ATTORNEY TRYON:

6 Q. I do not mean that. I meant exactly what I
7 said. If you go to compete against another team and
8 that team says we have two men, biological men, and they
9 are going to compete against you, you would have said
10 that is not fair, right?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: I would have said --- sorry.

13 ATTORNEY VEROFF: That is all right.

14 THE WITNESS: I think I would have said
15 what are the rules, right. And if the rules are that
16 somebody could play, then I would say bring them on,
17 right. And if the rules are that they can't play, then
18 I'd say, yeah, we probably shouldn't do it that way
19 until the rules change, right.

20 BY ATTORNEY TRYON:

21 Q. So whatever the rules are by definition are
22 fair, right?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: No, I didn't say that. I'm

1 sorry, Julie.

2 ATTORNEY VEROFF: No, that's quite all
3 right.

4 THE WITNESS: I didn't say the rules are
5 always fair, but I think we have to start somewhere and
6 we have to acknowledge them and respect them.

7 BY ATTORNEY TRYON:

8 Q. Well, if they said we are going to have these
9 men compete against you and they just changed the rules
10 on you, wouldn't you object to the rules being changed?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: Yeah. You know, in the
13 context of what is taking place that seems not like a
14 very realistic example in my mind. So I'm not sure I'm
15 thinking about it.

16 BY ATTORNEY TRYON:

17 Q. So you don't want to answer my question?

18 ATTORNEY VEROFF: Objection.

19 THE WITNESS: Yeah, I think it's --- I
20 think what we are talking about is just more
21 complicated, right, and it is not just --- if we are
22 talking about transfemale athletes, I think we are
23 talking about a different ball game than you are.

24 BY ATTORNEY TRYON:

1 Q. Yeah. Well, I was not talking about them, at
2 least not yet. I'm just asking if suddenly men are
3 allowed to compete against women in tennis, whether or
4 not they identify as female, do you think that would be
5 fair to the women?

6 ATTORNEY VEROFF: Objection.

7 THE WITNESS: Again, I would just go back
8 to the rules. But just in general, that if I decide
9 today, hey, I will go --- we have a really weak men's
10 tennis team, so today I think I'll go play on the males
11 tennis team, yeah, I don't think that would be right,
12 right, that I could switchover to win. Right. The
13 point is can people be their genuine, authenticate self
14 and play with a gender identity that they have.

15 BY ATTORNEY TRYON:

16 Q. So I mean you're answering your own question
17 your own way, but so that's fine, but you have also said
18 that you think HB-3293, which sets a rule, you think
19 that rule is unfair, right?

20 A. Yes, I do.

21 ATTORNEY VEROFF: Objection.

22 BY ATTORNEY TRYON:

23 Q. But the legislature balanced a lot of different
24 interests in making that rule, right?

1 ATTORNEY VEROFF: Objection.

2 THE WITNESS: I don't know. I don't know
3 that that is true.

4 BY ATTORNEY TRYON:

5 Q. You don't know one way or the other what
6 interests they balanced, right?

7 A. I don't know what their ---.

8 ATTORNEY VEROFF: Objection.

9 THE WITNESS: --- I don't know what their
10 knowledge base is or their real involvement. I don't
11 know if they've taken a close look. It looks like in
12 this situation, that PBJ (sic), that people close to it
13 are saying, hey, let's let this child play, right, and,
14 you know, the world is not going to end and kids can
15 have good experiences and we can --- we can go. So
16 yeah, I can't speak to what the legislators have --- the
17 background they've done or their mindset.

18 BY ATTORNEY TRYON:

19 Q. Do you think that the legislation, this
20 legislation should be tailored to each individual?

21 ATTORNEY VEROFF: Objection.

22 THE WITNESS: No, no. I think the sport
23 organizations at every level, from the Olympic Committee
24 to the NCAA, all of them are saying we really value

1 being inclusive and let's do all we can to, you know,
2 balance these things and make things fair but also being
3 inclusive and not totally excluding a group of athletes.

4 BY ATTORNEY TRYON:

5 Q. So what would be the rule that you would set up
6 for high school for transgender people --- let me
7 rephrase that. What would be the rule that you would
8 set up in high school sports for a male who expresses
9 that he is now identifying as female should be allowed
10 to participate in girls sports?

11 ATTORNEY VEROFF: Objection. Go ahead.

12 THE WITNESS: Yeah, I think we should
13 rely on the experts and the medical doctors and the
14 exercise physiologists who really study this and can
15 say, hey, across these sports this is --- seems to
16 create a fair playing ground. I think, you know, it
17 sounds like our local weatherman, we have incoming data,
18 right, but this is relatively new in the sport world and
19 I think all of these researchers are gathering more data
20 all the time that is going to help inform these
21 decisions moving forward on how we create it. So you
22 know, I'm not an expert to say, hey, what would those
23 exact guidelines be, but just to have a blanket
24 exclusion of all we set the stakes to do a lot of harm,

1 and BPJ would be a recipient of that harm in my opinion.

2 BY ATTORNEY TRYON:

3 Q. So we should rely on experts about safety for
4 one thing, right?

5 ATTORNEY VEROFF: Objection.

6 THE WITNESS: Yes.

7 BY ATTORNEY TRYON:

8 Q. And we should also rely upon experts in
9 performance, right?

10 ATTORNEY VEROFF: Objection.

11 THE WITNESS: Yes.

12 BY ATTORNEY TRYON:

13 Q. So you keep focusing on BPJ, so if we are going
14 to focus on each individual, we have to have in each
15 sport an example of someone who is a male identifying as
16 a female has to be individually evaluated to determine
17 whether that person should be allowed to participate in
18 whatever sport that person wants to be in?

19 ATTORNEY VEROFF: Objection.

20 THE WITNESS: No, I didn't say that. And
21 it may be just we could have general guidelines at the
22 high school level. I'm just saying I'm not --- that is
23 not my expertise as on the performance and exercise
24 physiology of it all to think what would be fair. I

1 think as we branch up and get to more elite levels, then
2 that seems to be the direction that NCAA is going, that,
3 hey, let's pull in these national governing bodies
4 across the sport because they know the sport the best
5 and are in the best position to maybe offer those
6 guidelines.

7 BY ATTORNEY TRYON:

8 Q. Do you have an opinion about other --- well, we
9 will get to that later. Let's go back to your report
10 and if we could go to after paragraph 17. Well, that
11 doesn't seem right. There we go. Okay. The title of
12 this section on top of page five it says Focusing Solely
13 on Performance Outcomes Undermines the Benefits of Sport
14 for Youth and Young Adult Athletes. Do you see that?

15 A. Yes.

16 Q. Are you aware of any middle schools, elementary
17 schools or high schools that focus primarily on
18 outcomes?

19 ATTORNEY VEROFF: Objection.

20 THE WITNESS: No.

21 BY ATTORNEY TRYON:

22 Q. Are you aware of any surveys or studies of
23 middle schools or high schools that find out if there
24 are any schools that focus solely on performance

1 outcomes?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: I would just say that it
4 depends what we mean by solely focus on performance
5 outcomes. I think there are coaches out there that
6 absolutely that is their primary thing and they care
7 less about the hollistic, you know, wellness and just
8 the overall experience of their kids and they are just
9 trying to put the team together that is going to give
10 them the best chance to win.

11 BY ATTORNEY TRYON:

12 Q. What coaches are you aware of in high school
13 that do that?

14 A. Just in my experience across years. I see --- I
15 see coaches that are very focused on winning that use a
16 lot of punishment for mistakes and that seems to be what
17 drives them.

18 Q. And so you believe there are coaches out there
19 that focus solely on performance outcomes for youth and
20 young adult athletes?

21 A. Yes, it just seems like a weird way to talk
22 about it, that I'm not sure when --- I mean to put a
23 percentage, if you're asking that, so are there coaches
24 that 100 percent they're just focused on winning and

1 winning only, I'm not sure. I think there are probably
2 coaches out there that are.

3 Q. Sorry. Go ahead.

4 A. Yeah, probably most, you know, it's not a
5 100 percent, but when we say primary that that's what's
6 really driving the boat for them. I think there are
7 coaches out there.

8 Q. Well, you didn't say primary. You said solely.
9 Those are your words, right?

10 A. Right.

11 ATTORNEY VEROFF: Objection.

12 BY ATTORNEY TRYON:

13 Q. Do you now want to modify that in your opinion?

14 ATTORNEY VEROFF: I'm sorry, objection.

15 THE WITNESS: Sorry. I'm just going back
16 to this wording that you're talking about. Are you
17 saying ---?

18 BY ATTORNEY TRYON:

19 Q. At the heading. Right about paragraph 18.

20 A. Sorry. I was looking underneath. Yeah, I mean
21 it in the sense that that seems to be what all the
22 discussion is about, that all were focused on just this
23 isn't fair in terms of performance, and I'm saying that
24 is missing a bigger picture of what youth sport can be.

1 Q. What discussion is that? You said that
2 discussions all about it. What discussions are you
3 talking about?

4 ATTORNEY VEROFF: Objection.

5 THE WITNESS: The idea that it's not fair
6 for transathletes to participate, right. And the only
7 reason that we have any concern about this is from the
8 performance issue. So in this case, I'm just saying if
9 we think about BPJ and her being excluded from having
10 the opportunity to play a sport, there's a lot at stake
11 there as well as the other side is saying, hey, is this
12 fair in terms of performance for athletes, right. That
13 is what I meant by this.

14 BY ATTORNEY TRYON:

15 Q. So who is --- but you're not aware of any
16 schools or colleges that have a policy of focusing
17 solely on performance outcomes, right?

18 A. Right.

19 Q. But you think the statute, HB-3293 solely
20 focuses on performance outcomes?

21 ATTORNEY VEROFF: Objection.

22 THE WITNESS: I'm not sure what leads me
23 to say that, but I think the statute excludes a group of
24 athletes and that that would be unfortunate that they

1 wouldn't have a chance to just reap these benefits that
2 can come from being a sports team.

3 BY ATTORNEY TRYON:

4 Q. So you are not saying that you believe that
5 HB-3293 focuses solely on performance outcomes, right?

6 A. Okay. I'm not saying that. I think performance
7 outcomes is --- seems to be a piece in it.

8 Q. Is that an appropriate piece to consider?

9 ATTORNEY VEROFF: Objection.

10 BY ATTORNEY TRYON:

11 Q. Let me rephrase that. Is performance outcomes
12 something that's an appropriate thing for a legislature
13 or a school to focus on?

14 ATTORNEY VEROFF: Objection.

15 THE WITNESS: Yes.

16 BY ATTORNEY TRYON:

17 Q. Now, in paragraph 18 itself, you say, the second
18 sentence, a myopic focus on winning in youth and young
19 adult athletes ignore the other important benefits that
20 school athletics offers young athletes such as teamwork
21 and camaraderie which all advance when all athletes have
22 the opportunity to play the sports they love and reap
23 the benefits of such participation. Do you see that?

24 A. Yes.

1 Q. When you say a myopic focus, you're not
2 excluding an appropriate level of focus on winning.
3 Right?

4 ATTORNEY VEROFF: Objection.

5 THE WITNESS: That's right.

6 BY ATTORNEY TRYON:

7 Q. Is there a reasonable variance of opinions in
8 the sporting world --- sports world on what exactly the
9 proper focus on winning ought to be versus the other
10 benefits?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: Yes, I think there is an
13 agreement within our field of sport exercise psychology
14 that at the youth sport level the focus should be on
15 giving as many kids as possible a chance to participate
16 in youth support, right. And then as athletes move up
17 the levels, that there is more emphasis and importance
18 placed on winning.

19 BY ATTORNEY TRYON:

20 Q. What do you mean by that, as athletes move up
21 the levels?

22 A. That typically there's a greater focus in high
23 school than middle school, greater focus in middle
24 school than elementary school, not that they have

1 organized sports within their schools, but just compare
2 that to Little League, that as you move up to college,
3 the emphasis on winning may increase and so on.

4 Q. Thank you. Would you agree with me that there
5 is nothing in HB-3293 that says there should be a sole
6 or myopic focus on winning in any of the sports it
7 covers?

8 ATTORNEY VEROFF: Objection.

9 THE WITNESS: Yes, I would agree.

10 BY ATTORNEY TRYON:

11 Q. And the law doesn't say anything anywhere that
12 there are not other benefits to sports other than
13 winning. Right?

14 ATTORNEY VEROFF: Objection.

15 THE WITNESS: Right.

16 ATTORNEY VEROFF: I think if we are going
17 to have any questions about what the law says we should
18 put it back up on the screen.

19 ATTORNEY TRYON: I don't have any more
20 questions on that.

21 ATTORNEY VEROFF: Thank you.

22 BY ATTORNEY TRYON:

23 Q. Let's look at paragraph 21 in your report. You
24 say there are many benefits to young people from

1 participating in athletic activities discussed further
2 herein. Do you see that?

3 A. Yes.

4 Q. Is it possible that some young people are
5 actually harmed by participation in athletic activities?

6 ATTORNEY VEROFF: Objection.

7 THE WITNESS: Yes, I think so.

8 BY ATTORNEY TRYON:

9 Q. What are some of those possible harms?

10 A. Some of those harms might be they have abusive
11 coaches that push them too hard physically, that you
12 know, don't treat them in a developmentally appropriate
13 way, that there --- coaches allow like bullying to go
14 on, that kids are made to feel shame if they don't
15 perform well. Those kind of things.

16 Q. Outside the coaching, you mentioned bullying.
17 So in sports that happens, right, some athletes bully
18 other athletes, right?

19 A. It happens sometimes.

20 Q. And that can have long-term lasting negative
21 impacts, right?

22 A. Yes.

23 Q. Are you aware that sometimes those who are
24 athletes also belittle those who are not?

1 A. Yes, I'm aware of that.

2 Q. Let's move onto paragraph number 23. In
3 paragraph 23 you talked about achievement goal
4 perspective theory, right?

5 A. Yes.

6 Q. Does this theory apply to outside sports, say
7 for example, to academics?

8 A. Yes, John Nicholls actually started there in
9 classroom research.

10 Q. So goal perspective theory is about goals,
11 right?

12 A. Yes.

13 Q. And how to set goals and how to reach goals?

14 A. Not exactly. I would use sort of another area
15 of goal setting, but goal perspective theory is more
16 about what is our --- how do we define success and how
17 are we kind of valuing what is important in life. Some
18 people think of goal perspective is how we set goals,
19 right, that they need to be specific measurable. That
20 is sort of another part of the literature. And instead,
21 Nicholls is just thinking how to understand people's
22 perspective on what they are trying to get out of
23 things, right. And if you have this task goal
24 perspectives that you are moving through life thinking

1 how can I just give it my best and be the best that I
2 can be. And if you are moving through life with an ego
3 perspective, you are thinking, hey, how can I
4 demonstrate my competent --- my competence and show
5 other people I'm better.

6 Q. And that happens in all aspects of life, right,
7 not just in academics?

8 A. Yes, it's a pretty relevant theory.

9 Q. You probably see it in faculty lounges and
10 college boards and you will certainly see it lots of
11 places in academia, right?

12 A. Right, academia from I'm guessing law firms and
13 probably everywhere we go in the world.

14 Q. You bet. Absolutely you see it in law firms and
15 pretty much every place, I agree with you.

16 Let me look at paragraph 24 with you. You say
17 first is the developmental component of achievement goal
18 perspective theory. Young children are incapable of
19 accurately comparing their ability to others,
20 overestimate their ability and are naturally focused on
21 their effort as a marker of success. So I'm not saying
22 that's wrong, but I don't see a source for that. Do you
23 have a source for that statement?

24 A. I do. Nicholls 1989 and my dissertation. I

1 apologize for missing that.

2 Q. Your dissertation?

3 A. Yes, I did a --- this was my line of work.
4 Early in my career I did a series of three studies kind
5 of tapping into those, how children gain an
6 understanding of the concepts of effort, luck and
7 ability.

8 Q. They gain an understanding of concepts of
9 effort, of luck and ability. Is that what you said?

10 A. Yes.

11 Q. What does that mean, luck and ability?

12 A. So when kids are really little those --- they
13 don't clearly distinguish these. So they just think,
14 hey, whoever tries hardest, they are going to do the
15 best, right, and they don't recognize ability in the
16 same way that we do as we mature over time and that we
17 understand, hey, gosh, you could run circles around me
18 today, you were a much better, faster or stronger runner
19 than I am, for example, right. And that doesn't mean
20 that I can't try harder to improve but our ability
21 levels are really different today.

22 So in these studies we set up scenarios and we
23 show kids, and so there's kind of a contrast. Somebody
24 didn't try hard at all actually outperformed somebody

1 who seems to be focused and concentrating, and we say,
2 you know, what do we think is happening here. And so
3 these concepts are just really blurred and kids are
4 saying yeah, you know, this person is definitely trying
5 harder. I don't know why they didn't perform very well.
6 This person looks like they are not trying hard. But if
7 they both do it again and they try hard then I think
8 they will get the same score. So just this wide variety
9 of scenarios. Kids don't distinguish like luck and
10 ability. So you know, if you're around little kids, you
11 know, they like games like Chutes and Ladders or
12 Candyland. Those are a hundred percent luck games,
13 right. There's no ---.

14 Q. Now I understand. I thought you said lock,
15 L-O-C-K. You are saying luck, L-U-C-K?

16 A. Right, right.

17 Q. Thank you. I didn't mean to have you go on with
18 that long explanation when I just misunderstood your one
19 word. But thank you for that explanation. That helps
20 me understand what you're saying here.

21 So my --- then I'm just interested in what is it
22 that at some point little kids somehow realize that they
23 have overestimated their ability, is that something that
24 just naturally happens or is it something that other

1 people have to point out for them for them to realize
2 it, whether it be teachers or coaches or just the kids
3 around them?

4 A. Okay.

5 So just a quick example. Nicholls would put a
6 list of faces, you know, like generic smiley faces 1 to
7 30 and you go in with a class of five-year-olds and you
8 interview them one at a time. And you say, okay, this
9 is everybody in your class and they are listed by how
10 good a reader they are, right. And so this person is
11 the very best in your class, right, this person is just
12 the worst reader, this person is the middle. Which one
13 is you? And the mean for kids in kindergarten is like
14 three, which tells us they're all saying well, that's me
15 up there, high, right, I'm the best reader in the class.
16 But as you move through those elementary school years,
17 the mean shifts to like 15 by the time they're say in
18 sixth grade, because when you ask six graders, all
19 right, here's everybody in your class, where do you fit
20 in, they are much more accurate. And when they ask the
21 teachers, there's no correlation, right, with younger
22 kids, because they are all over the place. But by the
23 time you get to the upper elementary grades it
24 correlates highly with what the teachers are saying in

1 terms of the kids' reading ability. And Nicholls said
2 this is so key because it makes Middle School a very key
3 developmental period as kids are gaining this
4 understanding all of a sudden now there is a reason to
5 try your hardest or withdraw effort because you don't
6 want to look silly. You know that other people might be
7 more skilled than you. And that's why he was so
8 passionate about this theory. Even though we are
9 capable of looking at the world that way, we all can
10 choose to just stay focused on our effort and ability
11 and being the best that we can be.

12 Q. So there are people that --- sorry.

13 A. That is the other piece of the climate, how do
14 we train teachers and coaches to create that
15 environment. That tells people keep that task
16 involvement going.

17 Q. And there are people that continue to
18 overestimate their abilities throughout life, right?

19 A. Yes.

20 Q. And that is exacerbated if those people are
21 never corrected to let them know in some way that their
22 abilities are not what they think they are, right?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: Yeah, I'd say our bigger

1 issue within education is not that kids are
2 overestimating but they're --- you know, don't have as
3 high self-esteem or confidence and those type of things.
4 But are there people out there that could be
5 overestimating? Absolutely.

6 BY ATTORNEY TRYON:

7 Q. So Nicholls did the study of academic. Did he
8 do any study athletically?

9 A. That's where I picked it up and looked in the
10 physical domain and made scenario specific to physical
11 activity and conducted these three studies that looked
12 at effort and luck and ability with kids aged 5 to 12
13 and sort of replicated his work, and we found that kids
14 move through these same levels of understanding in the
15 physical domain where things are a little bit more
16 obvious for us to see, right. If we're sitting here
17 working on math problems we not be able --- it might not
18 be as evident that, hey, somebody is moving through
19 these and they are stronger, right. But in the physical
20 domain, when we see each other and move and we can see
21 each other's skill levels, in some of these things move
22 a tiny bit faster but it was the same sort of stages of
23 development, if you will.

24 Q. Is your dissertation cited in your bibliography?

1 A. No, it is not.

2 Q. Is it in your list of publications?

3 A. It's in my Vitae.

4 Q. You have a lot of publications. Can you direct
5 me to it?

6 A. You're going to go back a ways. Okay. So the
7 dissertation study is on 1997, it's on page six. Fry
8 and Duda.

9 Q. I see Fry and Duda, 1997.

10 A. Yes, those are my dissertation studies. And I
11 followed it up with two studies at the top of that page,
12 Fry 2000. There are two different studies.

13 Q. Okay.

14 Let me move on to paragraph 25 of your report.
15 I just goofed on my --- there we go. I lost all the
16 pictures, so I couldn't see you anymore. Just one of
17 the hazards of technology. Okay. So I'm looking at
18 paragraph 25 and you talk about task. Here you talk
19 about goal --- primary goal orientations are task and
20 ego orientation, right?

21 A. Yes.

22 Q. So you're not saying --- I think you've said
23 this before, but I just want to make sure I understand.
24 You're not saying that ego orientation is bad from an

1 individual basis, are you? It just kind of sounds like
2 it's a pejorative. You don't mean it that way, do you?

3 A. I think it depends on what your aim is and if
4 you have --- if you want athletes to have fun and try
5 hard and have good relationships and, you know, feel
6 good about themselves, have confidence, have empathy for
7 others, things like that, then it's not something we
8 would want to promote is the orientation because across
9 a wide body of literature those just don't lead to what
10 we call adaptive outcomes, right.

11 On the other hand, many elite athletes are high
12 in task and ego orientation, right. And the big deal
13 here is that people really need that high task
14 orientation to sustain motivation over time with the ups
15 and downs and overcoming injuries, with all of that, but
16 ego orientation isn't necessarily a bad thing in this
17 case. But it probably isn't great if you don't have
18 that high task orientation to go with it.

19 Q. So let's move on to paragraph 26. Okay. So in
20 the last sentence, I think it is the next to last
21 sentence. Okay. The sentence that starts when the
22 environment created by coaches and others is a caring
23 environment, do you see that part?

24 A. Yes.

1 Q. It continues, athletes are more likely to
2 perceive the overall climate as task-involving. A
3 caring environment is one where athletes feel safe,
4 welcome, comfortable and valued and are treated with
5 kindness and respect by all in the sports setting. You
6 wrote that, right?

7 A. Yes.

8 Q. And that means a caring environment for all
9 athletes, right?

10 A. Yes.

11 Q. And a caring environment also requires rules?

12 A. Yes.

13 Q. A caring environment still includes the coach
14 --- let me rephrase that. A caring environment still
15 includes the coach and officials and requires them to
16 make calls that make --- that some athletes don't like
17 and may even get upset, right?

18 ATTORNEY VEROFF: Objection.

19 THE WITNESS: Right.

20 BY ATTORNEY TRYON:

21 Q. So how do you square that with a caring
22 environment when the rules are going to make some
23 athletes unhappy?

24 A. So this is about coaches kind of saying, yes, I

1 want to be intentional and I want to do everything I can
2 to create this environment that is going to help bring
3 out the best in my athletes, right, and I don't have
4 total control over what my athletes perceive. I'm just
5 going to do what I can to promote these features that
6 are in the last sentence. I'm also going to get
7 athletes, trying to get them to buy in so that they see
8 how valuable this is if we create this caring
9 task-involving climate. It doesn't in any way mean, you
10 know, we're not going to get a bad call or things aren't
11 going to happen, things don't go our way, somebody
12 starts before I do. Right. All kinds of things. Those
13 are just part of sports, right, but this refers to the
14 coaches buying into this truckload of research that we
15 have that shows how we can help all athletes have a good
16 experience.

17 Q. You're not advocating for laws requiring a task
18 oriented environment, are you?

19 A. No. That would be tempting. No. We're just
20 saying if our goal is to help athletes reach their
21 potential, then we have a lot of scholarship to guide
22 --- to guide what we do. We know a lot about how to
23 make that happen.

24 Q. Do you think coaches are unfair if they don't

1 adopt a task oriented approach?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: I think they do a lot of
4 harm, right, and they set athletes up to experience all
5 these negative aspects, right, and they don't have fun
6 and they don't try as hard. They don't have as good a
7 relationship, they experience shame. And all of that
8 stuff just means that a lot of kids aren't going to
9 stick with it and we are going to lose a lot. And that
10 just has long-term implications for people living
11 physically active lives, right. When you have bad
12 experiences, you know, a lot of people are running back
13 out there to keep participating.

14 BY ATTORNEY TRYON:

15 Q. Well, officials make calls all the time that
16 upset athletes. Athletes think they're unfair or
17 they're wrong. You're a tennis player. You remember
18 John McEnroe?

19 A. I do.

20 Q. He yelled all the time. All the time is an
21 exaggeration. He frequently claimed the calls the
22 officials made were unfair, right?

23 A. Yes.

24 Q. Do you think that the umpires should have

1 changed their calls to satisfy him in order to provide a
2 more caring environment for him?

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: I think they should have
5 taken him out of a few tournaments and I feel like that
6 would have nipped it in the bud. But with respect to a
7 caring and task-involving climate, what you're trying to
8 say is we are trying to treat everyone with kindness and
9 respect and we're going to understand that officials are
10 out there trying to do the best they can, and they're
11 going to make mistakes just like all of us make
12 mistakes. And so the goal would be for us to be
13 respectful. And if we feel like bad calls are made we
14 would deal with it in a respectful way, right, but we
15 don't deal with it like Will Smith did, right, like when
16 he --- we're trying to learn to control our emotions,
17 right, and wow, it just makes sport a powerful arena
18 when athletes can learn those terms.

19 BY ATTORNEY TRYON:

20 Q. Right. I understand that. And I'm just asking,
21 so you got rules, you got calls by higher powers and you
22 got to live by those rules. And if you think they're
23 unfair then you should ask them to have them changed,
24 right?

1 A. Yes.

2 Q. But it is still a caring environment and just
3 because you think it is unfair to you in particular
4 doesn't make it uncaring.

5 Is that a fair statement?

6 ATTORNEY VEROFF: Objection.

7 THE WITNESS: You know, the way research
8 is done is you're asking every athlete on the team to
9 fill out a survey, right. So it doesn't mean that there
10 is a 100 percent agreement, right. I may feel like the
11 coach isn't fair, hasn't given me a fair shot, right,
12 and somebody else may not feel that way. But in
13 general, there's sort of a consensus on most teams, you
14 know, that people are seeing it more similarly.

15 BY ATTORNEY TRYON:

16 Q. Yes, I guess I'm just asking specifically about
17 rules. Rules by their very nature, they are not caring,
18 they don't care about individuals. They are just set
19 there and you need to follow them, right?

20 ATTORNEY VEROFF: Objection.

21 THE WITNESS: Yeah. Hopefully they have
22 been established in a caring way, thinking about what is
23 best for athletes, but there is just so many things
24 across sports that are not necessarily fair, right, and

1 so we just kind of have to keep the focus on the rules.
2 I had an athlete tell me that his teammate has been
3 diagnosed with MS and that doesn't seem very fair,
4 right, that a young person has to go through that, but
5 I'm glad that they are part of a caring and
6 task-involving team where they want this athlete to
7 continue to be part of the team, right. And in more of
8 an ego involving team, we might just say, hey, sorry,
9 you are really going to impair our ability to win.
10 That's our focus, that's why we are here, so you know,
11 have a good life, right. And I mean, what's happening
12 is they are just working with this athlete to still be a
13 vital part of the team.

14 BY ATTORNEY TRYON:

15 Q. Do you think you need to be an athlete to have a
16 fulfilling life?

17 A. No.

18 Q. I'm glad to hear you say that because I'm not
19 much of an athlete.

20 ATTORNEY TRYON: Well, if people want to
21 break for lunch now, I'm okay with that. I can take a
22 break now or we can keep on going. Whatever Dr. Fry ---
23 Professor Fry, whatever your preference is and other
24 counsel?

1 BY ATTORNEY TRYON:

2 Q. Okay.

3 Let's go back to paragraph 30 of your report.
4 It says athletes high in task orientation also report
5 greater confidence and perceived ability and task
6 orientation has been correlated with both self and team
7 efficacy and greater perceived confidence ---
8 competence, excuse me. You are saying greater
9 confidence and perceived ability. Perceived ability is
10 different than reality, isn't it?

11 A. Yes.

12 Q. Are you saying that is a good thing?

13 A. In the psychology world it is pretty well
14 accepted that perceptions are very important. So yeah,
15 you are right in identifying that this is athletes'
16 perceptions of their ability. And so athletes who have
17 a high task orientation in turn, you know, seem to have
18 more confidence and believe that they have higher
19 ability.

20 Q. And then in paragraph 31 you say, by contrast,
21 ego orientation, i.e. the non-pejorative descriptive
22 term for defining success based on ability and
23 performance outcomes is not correlated with perceived
24 ability in general confidence of athletes high in ego

1 orientation was more of based on their perception of
2 ability and having a strong physical presence. But in
3 that first sentence it indicates --- it suggests that
4 ego orientation is based on actual reality --- excuse,
5 actual ability rather than perceived ability. Do I
6 understand that indication correctly?

7 A. Where do you see that it is on actual ability?

8 Q. Okay.

9 Let me start that over. So in the sentence it
10 says, by contrast, ego orientation i.e. the
11 non-pejorative descriptive term for defining success
12 based on ability and performance outcomes is not
13 correlated with perceived ability in general. Does that
14 mean it's correlated with actual ability rather than
15 perceived ability?

16 A. Okay. I understand. No. No, what it means is
17 that if you're --- if you're somebody who's high in task
18 orientation, then you're feeling successful when you
19 give your best effort, when you see improvement, right.
20 Those are things we have more control over. And so when
21 you're focused that way you tend to have higher
22 perceptions of ability, right, because that is your
23 focus. If you are high in ego orientation, right, and
24 so I'm feeling successful if I out perform others, if I

1 win, if I demonstrate competence, right, to a greater
2 degree than other people, right, so if that doesn't
3 happen but that is how I judge success, then chances are
4 my perceptions of ability are going to be lower.

5 If I'm the star on the team and I judge success
6 based on how I compare to others, then I probably get a
7 lot of kudos and get reenforced for that. So that's why
8 we will guess there is no correlation there in the way
9 there is task, right. And that is why Nicholls was most
10 concerned about people high in ego orientation who had
11 lower perceptions of ability, because it makes us
12 vulnerable. That's why I'm so focused and care about
13 I'm not --- you know I'm not as good. Does that make
14 sense?

15 Q. I'm processing it. I still want to understand
16 it a little better. In paragraph 30, athletes high in
17 task orientation also report greater confidence in
18 perceived ability. Am I right that perceived ability is
19 not actual ability?

20 A. Right, it's not. Items would just tap into I
21 would be responding to a question like I'm really good
22 at basketball or something, I'm very skilled in
23 basketball or I'm not very skilled and I would be
24 answering it on a quantitative scale, so it would be my

1 perception of it.

2 Q. Isn't it important that athletes understand
3 their actual ability rather than just their perceived
4 ability?

5 ATTORNEY VEROFF: Objection.

6 THE WITNESS: I think it's important for
7 coaches to share with athletes where they are and what
8 they can do to keep improving. I'm not sure it's super
9 beneficial that we need to go around and tell athletes,
10 hey, you're not very good, this person is better than
11 you, right, those are just kind of distractions, but
12 helping people see where they are and what they can do
13 to improve, yeah, would seem valuable.

14 BY ATTORNEY TRYON:

15 Q. In order for an athlete to improve doesn't the
16 athlete need to understand where he or she is rather
17 than just where he or she perceives him or herself to
18 be?

19 A. Yes, we get into kind of --- are we talking like
20 morbid ability, right, or --- and so in that sense do I
21 need to tell --- I've got five athletes here. Do I need
22 to make sure they all know where they rank between one
23 and five, right, in my mind who's the best? Or do I
24 just need to take each athlete aside, right, and make

1 sure that they understand here's some areas you could
2 really improve on, and I care less about even having a
3 conversation about who's the best right now, right, that
4 this person is better than this person, right, it's
5 moot. And that's where Nicholls was coming from. What
6 if we as coaches did more just to focus people on,
7 right, on what they could do to keep improving?

8 Q. And athletics it is certainly obvious, though,
9 what your athletic ability is at least as far things
10 involving racing times, for example, you get your times
11 so you know what your ability is as compared to yourself
12 or as compared to other people, right?

13 A. Right. I think there is just a lot in sport
14 that's giving us feedback of how we compare to others.
15 And also when we see these times it's --- that's
16 information that we can track how we're improving,
17 right, and how we are doing.

18 Q. So why do we share with people --- well, strike
19 that. I will move on.

20 Okay. Paragraph 32, please. Let me know when
21 you see that.

22 A. I see it. Thanks.

23 Q. Athletes high in ego orientation report lower
24 companionship and greater conflict with teammates. For

1 that phrase --- you can go ahead and read the whole
2 sentence if you want, but I want to ask you a question
3 about that phrase or that clause.

4 A. Okay.

5 Q. So for that clause you cite Balaguer in that
6 study, right?

7 A. Yes, Balaguer (corrects pronunciation).

8 Q. Thank you for helping me pronounce that,
9 Balaguer. And is there anything else on which you base
10 that first clause?

11 A. Yes, there are other references. This paragraph
12 in general is just referring to we have better
13 relationships, right, when people are high in task
14 orientation. They're really valuing that aspect of
15 helping each other improve. And in an ego orientation,
16 when, I'm just kind of zoned in on me and me wanting to
17 show that I'm better than my teammates, right, it just
18 sets things up to not having as good a relationship.
19 This doesn't mean that every athlete out there that is
20 high in orientation, it just means there's a tendency
21 that this correlates --- that you're much more likely to
22 see this when people have a high ego orientation.

23 Q. So I'm just --- my question is a little more
24 precise. Thank you for that explanation. But the first

1 clause there you cite only to Balaguer. I'm asking if
2 there are other sources for that contention that
3 athletes high in ego orientation report lower
4 companionship and greater conflict with teammates. And
5 if there are other things, what are those other studies?

6 A. Like Smith and Small found that in youth sport
7 athletes, you know, didn't like their coach as much,
8 didn't think their coach knew as much about the sport,
9 didn't like their teammates as much when they had like
10 high ego orientation.

11 Q. Is there a reason why you didn't cite Smith and
12 Small for that proposition?

13 A. Yes. Yeah, I think it crosses documents. We
14 could have added another, you know, 150 references
15 probably. Tried to keep it more manageable, which it's
16 just consistent, that if that is something that you care
17 about, the quality of relationships, then it doesn't
18 come out often as --- you know, it comes out with the
19 task orientation, not an ego.

20 Q. Well, the reason I'm asking this is I read that
21 Balaguer report, and I did not see anything in there
22 that supported this proposition of this first clause of
23 this sentence. Are you confident that it's in there?

24 A. It would be good for me to review.

1 Q. If I showed you the article would you be able to
2 locate it without too much difficulty?

3 A. I'm not sure. I'd probably just have to review
4 it. But having ---.

5 ATTORNEY TRYON: Well, let's bring it up,
6 and maybe I've just missed it. And so that would be ---
7 the name of it is Motivational Climate and Goal
8 Orientations as Predictors of Perceptions of Improvement
9 Satisfaction in Coach Ratings Among Tennis Players.
10 Educators. So Jake, if you could find that and pull
11 that up.

12 VIDEOGRAPHER: Do you want it marked?

13 ATTORNEY TRYON: Yes. I think we are on
14 8 now, right?

15 VIDEOGRAPHER: I think it's 7, unless I
16 missed something.

17 ATTORNEY TRYON: Well, I will take your
18 word for that.

19 ---

20 (Whereupon, Exhibit 7, Article, was
21 marked for identification.)

22 ---

23 ATTORNEY TRYON: You know what, I should
24 ask you, Jake, go ahead and put that in the chat room so

1 that Professor Fry can download it and look at it real
2 quick.

3 VIDEOGRAPHER: Already did.

4 ATTORNEY TRYON: Great.

5 BY ATTORNEY TRYON:

6 Q. So Professor Fry, you can either look at this
7 with me or it might be best if you just double check in
8 the chat room and then it should download it and you
9 should be able to bring it up and look through there at
10 your --- I don't want to say leisure but how you would
11 prefer to do it.

12 A. Okay. I may have to get help here because it's
13 not appearing on my end.

14 Q. Do you see it in the chat room?

15 A. Yeah, I can click on it, but then it takes me to
16 some case view net thing and it says I need a code and
17 password. I'm using their system, so I'm guessing it's
18 related to that.

19 VIDEOGRAPHER: Not the link. There
20 should be a PDF document you can just click open.

21 THE WITNESS: Okay.

22 VIDEOGRAPHER: I don't know how it is on
23 an iPad, so I will admit I'm at a loss.

24 THE WITNESS: Okay.

1 BY ATTORNEY TRYON:

2 Q. Are you able to look at it now?

3 VIDEOGRAPHER: The document called 007 at
4 the beginning?

5 THE WITNESS: When I click on the chat
6 I'm just seeing one link listed.

7 BY ATTORNEY TRYON:

8 Q. Underneath the link there should be a PDF.

9 A. Okay. It's not showing up for me.

10 Q. Okay.

11 VIDEOGRAPHER: Alternatively, Counsel, I
12 can give remote control of the document to her so that
13 she can scroll on it herself.

14 ATTORNEY TRYON: Let's do that.

15 VIDEOGRAPHER: Okay.

16 THE WITNESS: Thank you.

17 VIDEOGRAPHER: You should have control if
18 you just try to click on the screen and you just scroll
19 it and move it. Perfect.

20 THE WITNESS: Okay.

21 So how do I move the document?

22 VIDEOGRAPHER: So if you would move the
23 cursor like over here and drag it.

24 THE WITNESS: Sorry. Can you say that

1 again?

2 VIDEOGRAPHER: You can control the mouse
3 cursor right now, so you would have to move it over here
4 and just drag it down or click on this down arrow down
5 here?

6 THE WITNESS: So I don't really have a
7 mouse, right, with this. It's just using my finger on
8 the screen.

9 VIDEOGRAPHER: Right. If it works like
10 normal iPad things, then you would --- to click
11 something you would double tap it and then hold, which
12 sounds convoluted.

13 ATTORNEY TRYON: Well, if you have any
14 difficulties with it, why don't we let Jake take control
15 and scroll down with it?

16 THE WITNESS: Okay.

17 I think Dana is outside, if you want me
18 to get her to help real quick to save time.

19 ATTORNEY TRYON: I'll tell you what,
20 let's do this. This is not a critical point for me. I
21 just wanted to try and understand this. So let's come
22 back to this later. All right?

23 THE WITNESS: Okay.

24 ATTORNEY TRYON: We have time.

1 BY ATTORNEY TRYON:

2 Q. In paragraph 32, you talked several times about
3 the climate, right?

4 A. Yes.

5 Q. And in the sentence it says despite the ego
6 involving climates emphasis on the performance outcomes
7 results across studies suggest the benefits of task
8 involving climate may have a direct impact on athletic
9 performance and ultimately improve performance outcomes.
10 So that sentence is talking about the climate, not the
11 individual's orientation, right?

12 A. That's correct.

13 Q. And you say it may have a direct impact. So by
14 may that is not suggesting that it's probable, it is
15 just saying that it might. Is that a fair statement?

16 A. Yes.

17 Q. Then let me move down to paragraph 33.

18 A. Can I just say on that point ---?

19 Q. Yes.

20 A. I think this is an area within our body of
21 research that there is less support for, but the studies
22 that are in place would suggest that perceptions of a
23 task involving climate would lead to greater
24 performance. So there is some evidence for that, but I

1 would agree it's not strong and that is why the wording
2 is softer there, right, but there is no evidence
3 suggesting that perceptions in an ego involving climate
4 would lead to better performance. And so on the one
5 hand people just might be thinking, wow, that's a
6 no-brainer, right, if all you care about performance go
7 with that ego involving climate, but for all these other
8 reasons we would argue it makes sense, right. If people
9 are having more fun and having better relationships and
10 trying hard and so on, that it might lead to better
11 performance.

12 Q. In paragraph 33 you talk about young athletes
13 with a high ego orientation participating in a variety
14 of sports have reported higher traits and state
15 cognitive and somatic anxiety as well as greater
16 concentration dysfunction, maladaptive perfectionism and
17 concern over making mistakes. Now, my question is,
18 isn't that true for basically any endeavor, that there's
19 going to be --- you're going to have anxiety in trying
20 to succeed?

21 ATTORNEY VEROFF: Objection.

22 THE WITNESS: You know, definitely anxiety
23 and stress is part of sport. With these climates though
24 what we're seeing consistently is that athletes report

1 that when they perform their best they were less
2 bothered by stress and anxiety. In fact, the kind of
3 epitome of being --- what we call being in flow, right,
4 you just --- you feel high confidence, you're
5 concentrating well, you're not worried about
6 distractions, you're not stressed, right. And so
7 consistently people would report a higher ego
8 orientation, they just --- no matter how it's measured
9 all this kind of bad stuff that we'd rather take out,
10 right, and not have people worried about, young athletes
11 worried about, they just experience it more. So the
12 cognitive anxiety is what's going on up here, right,
13 worry and doubt, and the somatic anxiety is I can't get
14 a grip on my heart rate, my muscles feel tense, I have
15 butterflies and those kinds of things. So we see that
16 more with athletes high in ego orientation.

17 Q. Well, when you were going through college and
18 getting your Ph.D., you were striving to do your very
19 best and you were striving to succeed and get As to get
20 your Ph.D. All of those things are something that
21 requires you to succeed and to convince other people how
22 good you are, right?

23 A. To succeed and make the world better.

24 Q. Right, but to get a Ph.D. that's a tough --- is

1 that an easy thing to do?

2 A. No, it is not.

3 Q. And it is based on what other people think of
4 you and your work, right?

5 A. Yeah. I mean, there's requirements to complete
6 a Ph.D. for sure that involve other people.

7 Q. And they're judging your work, right?

8 A. Right.

9 Q. And that creates, I presume, for most people it
10 creates a lot of anxiety. Did it for you?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: You know, at times it was
13 stressful, but I enjoyed every minute of it. And so
14 some of this comes back to anxiety is pretty typical and
15 we're going to experience that, but what I'm feeling
16 about it is helping people develop strong coping skills
17 so that they can deal with that stress and anxiety. And
18 that is, you know, another study that we recently
19 published that people who perceived a caring task
20 involving climate reported greater coping skills, right.

21 BY ATTORNEY TRYON:

22 Q. And to develop those coping skills you need to
23 sometimes follow the rules of others like those on the
24 Ph.D. committee, if that's the right terminology, rather

1 than saying, hey, committee you're wrong, I'm right, you
2 have to do what I say, right?

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: I'm not sure that's related
5 to coping skills, but what you said is true, it does
6 take place when you're working on a Ph.D.

7 BY ATTORNEY TRYON:

8 Q. And pretty much every part of life you can't
9 just say I don't like your rules, do it my way and get
10 your way, you have to cope with the world as it is, not
11 as you want it to be all the time, right?

12 A. Right.

13 ATTORNEY VEROFF: Objection.

14 BY ATTORNEY TRYON:

15 Q. And that's a hard thing, right?

16 A. It is.

17 Q. But it builds character, doesn't it?

18 A. It sure can.

19 Q. So let me move on then. I think I understand
20 what you're saying in this paragraph. Looking at
21 paragraph 35, okay, let me see if we addressed some of
22 these things. Have you studied depression and mental
23 health with athletes?

24 A. No, it's not my area. Yes, I've read some, but

1 no, it's not an area that I studied in depth.

2 Q. So you haven't written on it?

3 A. We might have a study where we include some
4 parameters of psychological well-being, like studies
5 with kids, looking at how the climate relates to a
6 caring climate relating to reporting greater hope and
7 happiness and less depression and sadness, but studying
8 like depression is not a primary area for me.

9 Q. Have you looked at the issue for athletes
10 between injuries and mental health or depression?

11 A. No, no.

12 Q. Are you aware that there are studies and papers
13 on that issue?

14 A. Yes.

15 Q. Okay.

16 Let me ask you to take a look at --- well,
17 before we go, have you heard of the American College of
18 Sports Medicine?

19 A. I have.

20 Q. And are they well regarded?

21 A. Yes.

22 Q. Have you heard of Andrew Wolanin?

23 A. I have not.

24 ATTORNEY TRYON: Okay.

1 Well, let's bring up this exhibit, which
2 will be then Exhibit --- I think this will be --- well,
3 I will just ask, Jake, help me out with numbers. The
4 title is Depression and Athletes, Prevalence and Risk
5 Factors.

6 VIDEOGRAPHER: I believe we're on Number
7 8 now.

8 ATTORNEY TRYON: Okay. Perfect.

9 VIDEOGRAPHER: Just give me one moment.
10 ---

11 (Whereupon, Exhibit 8, Article, was
12 marked for identification.)

13 ---

14 BY ATTORNEY TRYON:

15 Q. Have you seen this document that I now marked as
16 Exhibit-8 before?

17 A. No, I haven't. Jake, can you show the top again
18 please?

19 VIDEOGRAPHER: That is as far up as it
20 goes.

21 THE WITNESS: Okay.

22 BY ATTORNEY TRYON:

23 Q. Are you familiar with any of the three authors?

24 A. No.

1 Q. So I am going to ask you about several parts in
2 here, so it might be helpful to have --- try one more
3 time to see if you can --- give you access to it, to
4 give you control over the screen so you can scroll down.
5 And you should be able to treat it just like anything
6 else on your iPad, with your fingers or however you do
7 it.

8 A. So when I click on control it has like a
9 keyboard and then it has a question mark.

10 ATTORNEY TRYON: Jake, any input?

11 VIDEOGRAPHER: It sounds like it's just
12 bringing up the iPad keyboard and there should be
13 something that looks like a keyboard and that minimizes
14 the keyboard itself so you can just get back to the
15 screen.

16 ATTORNEY VEROFF: I'm sorry, Dr. Fry.

17 THE WITNESS: No, go ahead.

18 ATTORNEY VEROFF: I was just going to
19 ask, Dave, is there any way to get in touch with Dana.
20 Maybe we could send her the PDF and have her print them
21 so that the witness could have hard copies. That might
22 make this all work a little bit easier for any --- for
23 this or any other studies that you would want her to
24 look at.

1 VIDEOGRAPHER: Okay.

2 ATTORNEY TRYON: Okay, right there is
3 great.

4 BY ATTORNEY TRYON:

5 Q. Okay.

6 Do you see that, Doctor Fry?

7 A. Yes.

8 Q. So the title you have here is Excluding Groups
9 from Participating in High school Athletics would
10 Deprive Them and Their Teammates of a Wide Range of
11 Educational Benefits. Did you write that?

12 A. Yes.

13 Q. Okay.

14 Then I would like to compare that to the title
15 that you have in your latest report, if you could bring
16 that up, and that is on page ten. So here you change
17 groups from to excluding transgender students. Why did
18 you make that change?

19 A. I think just because it's specific to this case.

20 Q. Well, the specifics of this case were the same
21 before as they are now, so do you have any better
22 explanation?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: You know, I edit everything

1 I write, and so if I see something that may clarify more
2 or change a word, you know, that makes it better, then I
3 would do that. I think that's what happened here.

4 BY ATTORNEY TRYON:

5 Q. Are you aware of any groups being excluded from
6 participating in youth or adult athletics?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: You know, I think a lot of
9 times kids with disabilities are kept out. I think kids
10 who have limited financial resources sometimes are
11 limited. I think groups are --- so it may not be a rule
12 that you cannot play, but you know, there are other
13 groups who miss out on the opportunities to play.

14 BY ATTORNEY TRYON:

15 Q. Other than that, can you think of any groups
16 that are excluded by any rule or requirements from any
17 athletic activities?

18 ATTORNEY VEROFF: Objection.

19 THE WITNESS: Not that's coming to mind
20 that are, you know, like obvious or stated in the rules,
21 but I think there's personal different ethnic, minority
22 groups, for example, that might have less exposure to
23 sport, things like that.

24 BY ATTORNEY TRYON:

1 Q. Let me ask you about Special Olympics. Is the
2 entrance into Special Olympics --- do you know anything
3 about --- let me back up. You're aware of what Special
4 Olympics is, right?

5 A. Yes, I'm aware of it.

6 Q. And do you know if there are specific
7 requirements in order to be able to participate in
8 Special Olympics?

9 A. I know there are. I couldn't tell you what they
10 are across the different categories and all.

11 Q. Can able bodied athletes and able minded
12 athletes participate in Special Olympics?

13 A. Special Olympics was created to give athletes
14 --- okay. Dana said she hadn't received those. Just to
15 double check, that it is Dana@midwestreporters.net.
16 It's not .com.

17 VIDEOGRAPHER: I will double check it.

18 THE WITNESS: Thank you.

19 ATTORNEY TRYON: Sorry to interrupt your
20 flow.

21 BY ATTORNEY TRYON:

22 Q. So my question was can able-bodied athletes and
23 able-minded athletes participate in Special Olympics,
24 and you started to say Special Olympics was created.

1 A. Right. The answer is no, they can't
2 participate.

3 Q. So that is an exclusion, right?

4 A. Yes.

5 Q. And it's a categorical exclusion, right?

6 A. Yes.

7 Q. Do you think it's a fair exclusion?

8 ATTORNEY VEROFF: Objection.

9 THE WITNESS: Sorry. Yes, in this case.

10 BY ATTORNEY TRYON:

11 Q. And why?

12 A. Because those able-bodied athletes have another
13 area where they can compete.

14 Q. And so Special Olympics is especially designated
15 for certain athletes who are not able to compete against
16 able-bodied and able-minded athletes, right?

17 A. Uh-huh (yes), yes.

18 Q. So it's essentially a protected category, right?

19 ATTORNEY VEROFF: Objection.

20 THE WITNESS: Yes. I don't know if it is
21 protection so much, as just provide an opportunity.

22 BY ATTORNEY TRYON:

23 Q. And that exclusion is of --- with respect to
24 Special Olympics, you wouldn't call that arbitrary,

1 would you?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: No.

4 BY ATTORNEY TRYON:

5 Q. Now, if we go down in paragraph 37, the second
6 sentence says, if transgender students are arbitrarily
7 excluded from youth sports they are, in turn, deprived
8 of those positive experiences and outcomes and their
9 teammates are deprived of a genuinely optimal sports
10 experience.

11 Do you see that?

12 A. I do.

13 Q. If that exclusion is based on safety concerns or
14 performance concerns then it would not be arbitrary.

15 Correct?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: If there were strong
18 evidence for those.

19 BY ATTORNEY TRYON:

20 Q. And just --- I think we covered this, but I just
21 want to make sure I'm correct, you are not an expert on
22 safety issues, right?

23 A. That's right.

24 Q. And you are also not an expert on performance

1 issues, right?

2 A. That's right.

3 Q. What would you call strong evidence?

4 ATTORNEY VEROFF: Objection.

5 THE WITNESS: I call it data that the
6 experts come to agree that --- you know, how they can
7 guide the rules for sport, right, and balance inclusion
8 and fairness.

9 BY ATTORNEY TRYON:

10 Q. Would you agree with me that not all experts
11 agree on everything, even with their own field, right?

12 A. That's right.

13 Q. Is there a minimum number of experts that would
14 have to agree before it's strong evidence or is that
15 sort of a --- I don't know how to say it. What do you
16 think?

17 ATTORNEY VEROFF: Objection.

18 THE WITNESS: I think with respect to
19 this case, that organizations can, you know, weigh in on
20 the evidence there to see --- I mean, there is just a
21 lot of injury within sport that happens, right, it's
22 just part of sport. So I think they would have to
23 really consider the evidence to see if there are safety
24 concerns for having transathletes participate.

1 BY ATTORNEY TRYON:

2 Q. Do you think in high school that every sport
3 should have a different rule of when transgender girls
4 can participate in those specific girls sports?

5 ATTORNEY VEROFF: Objection.

6 THE WITNESS: You know, I just come back
7 to my expertise and why I've been asked to be on this
8 case is just to address the benefits that athletes
9 receive from participating in sport. So I wouldn't
10 perceive that they are at the high school level. There
11 is different rules for every sport, but I don't know
12 where we will be down the road, right, as we just figure
13 all this out and strive to include all athletes.

14 BY ATTORNEY TRYON:

15 Q. So you don't know what the rules should be?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: Right, I'm not the best
18 person to make those decisions. I think we need people
19 who are studying these issues, and that is beyond my
20 expertise.

21 BY ATTORNEY TRYON:

22 Q. Fair enough. I don't want you to go beyond your
23 expertise. Well, let me ask you just some related
24 questions. And you may say the same thing on this, but

1 I'm going to ask you and we will see if you have any
2 thoughts. You may have already answered this, but let
3 me ask you these. On what teams should student athletes
4 participate on if they are transgender? If they are a
5 transgender girl, should they participate on boys or
6 girls teams?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: I think it depends what the
9 rules are, but, you know, over the last decade across
10 organizations, organizations have found a way to allow
11 transgender females to participate.

12 BY ATTORNEY TRYON:

13 Q. And those rules have changed over time, right?

14 A. They do.

15 Q. NCAA just changed its rules, right?

16 ATTORNEY VEROFF: Objection.

17 BY ATTORNEY TRYON:

18 Q. Did you answer?

19 A. You know, I'm not sure of the latest. I thought
20 they were going to leave --- yeah, they're going to be
21 looking at other options and getting feedback from the
22 governing bodies is my understanding.

23 Q. Are you aware of what the Rugby Association
24 says?

1 ATTORNEY VEROFF: Objection.

2 THE WITNESS: No.

3 BY ATTORNEY TRYON:

4 Q. Are you aware of USA Swimming, what their rules
5 are?

6 ATTORNEY VEROFF: Objection.

7 THE WITNESS: I couldn't tell you all the
8 details, but I know USA Swimming really is trying to
9 find a way to be inclusive, and so I know at the youth
10 levels that transgender youth are able to participate,
11 right, and that they have allowed some rule changes for
12 what swimsuit kids wear and things like that.

13 BY ATTORNEY TRYON:

14 Q. But those transgender girls have to --- or
15 transgender women have to meet certain requirements
16 before they can participate on a female team.

17 Right?

18 ATTORNEY VEROFF: Objection.

19 THE WITNESS: Yes.

20 BY ATTORNEY TRYON:

21 Q. Are you aware of the specifics?

22 A. No. I've read some of this, but I'm not sure
23 I've retained it and it's not something that I spent a
24 long time on across sports.

1 Q. Okay.

2 Let me ask you then if you have ever heard of
3 the term nonbinary?

4 A. I have heard of that term.

5 Q. Is this a fair definition, that it is people who
6 do not describe themselves or their genders as fitting
7 in the category of man or woman? Does that sound like a
8 fair definition?

9 ATTORNEY VEROFF: Objection.

10 THE WITNESS: Yes.

11 BY ATTORNEY TRYON:

12 Q. Should a biological male who identifies as
13 nonbinary who is an athlete participate in high school
14 on the boys or girls team?

15 ATTORNEY VEROFF: Objection.

16 THE WITNESS: I think it depends on what
17 the rules are. And I think the goal of the sport
18 organizations seems to be how can we look at these
19 issues and just still try to be as inclusive as
20 possible.

21 BY ATTORNEY TRYON:

22 Q. What are the rules on that in high school?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: Right, it seems to vary

1 across states.

2 BY ATTORNEY TRYON:

3 Q. Do you know of any rule --- do you know of any
4 rule that specifically addresses nonbinary athletes?

5 ATTORNEY VEROFF: Objection.

6 THE WITNESS: No.

7 BY ATTORNEY TRYON:

8 Q. Have you heard the term bigender?

9 ATTORNEY VEROFF: Objection.

10 THE WITNESS: Yes.

11 BY ATTORNEY TRYON:

12 Q. The definition that I have read is a person who
13 identifies as bigender has two genders. Is that your
14 understanding as well?

15 ATTORNEY VEROFF: Objection.

16 THE WITNESS: Yes.

17 BY ATTORNEY TRYON:

18 Q. And in high school the biological male
19 identifies as bigender and wants to participate on a
20 girls sports team, should that be allowed?

21 ATTORNEY VEROFF: Objection.

22 THE WITNESS: I think greater context is
23 needed. There's a --- you know, understand what's going
24 on with that particular athlete. And again, I just want

1 to --- this is a little bit beyond my expertise and I'm
2 here to just reenforce that there is a lot of benefits
3 for all athletes to be able to participate.

4 BY ATTORNEY TRYON:

5 Q. What if a biological male wants to be on a girls
6 team, even though he does not identify as a girl, should
7 he be allowed to do so?

8 ATTORNEY VEROFF: Objection.

9 THE WITNESS: No.

10 BY ATTORNEY TRYON:

11 Q. And why not?

12 A. Because he's wanting to play on a --- on a
13 female team and he doesn't --- hasn't transitioned and
14 isn't identifying as a female.

15 Q. If a biological male wants to participate on a
16 girls team and identifies as a female but has not
17 transitioned in any way, should he be allowed to
18 participate on the girls team?

19 ATTORNEY VEROFF: Objection.

20 THE WITNESS: In --- in general I would
21 say no, but we're missing the context. What if this was
22 --- yeah, I think we want that person to transition.

23 BY ATTORNEY TRYON:

24 Q. Okay.

1 What transitioning would be necessary?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: I think that's out for
4 debate, discussion, and to figure out at these different
5 levels of sports what that criteria is going to be.

6 BY ATTORNEY TRYON:

7 Q. So in high school is it simply changing your
8 name to a female name, would that --- for a male to
9 change to a female name, would that be adequate to then
10 be allowed to play on the girls team?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: No, I'd say in general that
13 wouldn't be the case.

14 BY ATTORNEY TRYON:

15 Q. Okay.

16 If that person, in addition to changing his
17 name to a female name and says I want to be addressed
18 using female pronouns, is that adequate?

19 ATTORNEY VEROFF: Objection.

20 THE WITNESS: I think that we've got this
21 kind of continuum it sounds like, right, to what degree
22 people are transitioning to know transitioning. And to
23 just have a blanket statement that no one --- that no
24 transathlete can ever participate in sport ever across

1 the universe is harmful for many athletes, right. And
2 so these specifics of where we are going to go with what
3 the criteria is for athletes, right, I think there's a
4 lot of people studying these issues and weighing in and
5 I'm not one of those individuals who's really studying
6 this stuff in detail at that level, but I do know ---.

7 BY ATTORNEY TRYON:

8 Q. Sorry. Go ahead.

9 A. I do know that inclusion in sport has many
10 benefits and that it would be a shame to not hold a
11 category of athletes out to participate.

12 Q. So there would be nothing to stop a male
13 athlete, a biological male athlete identifying as a
14 female from participating on a boys team, right?

15 ATTORNEY VEROFF: Objection.

16 THE WITNESS: Right. I did not state
17 that. I'm not sure what that criteria should be, but it
18 helps us balance, being inclusive and also being fair.

19 BY ATTORNEY TRYON:

20 Q. So it's not excluding that person from
21 participating in sports, it's just excluding that person
22 from participating on the team that person wants to
23 participate on, right?

24 ATTORNEY VEROFF: Objection.

1 THE WITNESS: If we understand that
2 transathletes are identifying with a particular gender,
3 so in this case transfemales, then no, that wouldn't be
4 an option to go participate on a male team.

5 BY ATTORNEY TRYON:

6 Q. Well, why is that not an option?

7 A. Right, well, I just point to PBJ, right, who has
8 identified as a girl for a long time and looks very much
9 like a girl and is the --- I believe the principal said,
10 you know, we're just creating problems. This little
11 girl can be with her friends, can run cross-country, can
12 reap all these benefits, right, and it's not an option
13 to send her over to the boys team because she is a girl.

14 Q. Do you need to look like a girl to be on the
15 girls team?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: No, I'm not sure what that
18 means.

19 BY ATTORNEY TRYON:

20 Q. Well, there are girls that look masculine that
21 are girls and they, of course, want to be on the girls
22 team. I would presume you would agree they should be on
23 the girls team, right?

24 ATTORNEY VEROFF: Objection.

1 THE WITNESS: Right, there are --- you
2 know, we may get into a debate about what is masculine
3 or feminine if we're saying that --- you're describing
4 somebody as more --- a female that's more masculine, but
5 maybe other people see it that there's a feminine
6 quality to whatever, being strong, yeah, having a solid
7 build, those things.

8 BY ATTORNEY TRYON:

9 Q. Well, you're the one that pointed out that BPJ
10 looks like a little girl and suggesting that that was
11 one of the reasons that BPJ should be on the girls team.
12 Did I understand that incorrectly?

13 A. What, I meant to emphasize is that she sees
14 herself as a girl, and so we put her in a really
15 uncomfortable spot to say you can't be with the girls
16 and you have to go be with the boys even though in your
17 heart of hearts you know you're a girl.

18 Q. Can that be uncomfortable for the biological
19 girls on the girls team if biological boys who identify
20 themselves as internally as being girls are allowed to
21 participate on the girls team?

22 ATTORNEY VEROFF: Objection.

23 THE WITNESS: Could --- you know, could
24 the fact that a transgender girl is participating in a

1 sport, on a team, could that make someone feel
2 uncomfortable? Definitely it's possible.

3 BY ATTORNEY TRYON:

4 Q. Not only is it possible, but it happens, right?

5 ATTORNEY VEROFF: Objection.

6 THE WITNESS: Yes, I think it probably
7 happens. It probably happens both ways, that there are
8 also teammates that are very supportive.

9 BY ATTORNEY TRYON:

10 Q. But the feelings of the biological girls who are
11 uncomfortable with a biological male identifying as a
12 female or a transgender girl, as you have said, their
13 feelings are important too, right?

14 ATTORNEY VEROFF: Objection.

15 THE WITNESS: You know, pulling from my
16 expertise, if we're trying to create this caring task
17 involving climate, then yes, it would be very important
18 for a coach to sit down with those athletes and talk and
19 encourage them. If the transfemale athlete is playing
20 by the rules and has done everything that has been asked
21 and they are part of a team, then coaches should really
22 talk with the athletes than help them understand, help
23 them not let this be a distraction, help them embrace
24 all their teammates, right. There is so much in the

1 sport that any of us on a team might like to change,
2 right, or wish our teammates did other things, right,
3 wish they worked harder or wish they used less
4 recreational drugs or anything, right, but we are a team
5 and we come together and we just support each other and
6 we keep the focus on being the best we can be every day.

7 BY ATTORNEY TRYON:

8 Q. So biological girls just need to knuckle under
9 and accept things the way that you want them to be. Is
10 that what you are saying?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: I'm saying being part of a
13 team is challenging, and for some people having a
14 teammate that is transgender may be one of those
15 challenges they have to deal with. But everyone is
16 dealing with challenges with the teams, right. And if
17 that transgender athlete is there playing by the rules,
18 right, and is allowed to be there, then yeah, I guess
19 the others have to deal with it.

20 BY ATTORNEY TRYON:

21 Q. So on the other hand, you can tell that
22 transgender female to participate on the boys team and
23 the coach on the boys team would sit down with the boys
24 and say you will not make fun of this child, you accept

1 this child as one of our own even though this child is a
2 transgender female, this transgender female will be on
3 the boys team and you will treat this transgender female
4 with respect and be a full part of the team, right, that
5 coach could do that?

6 ATTORNEY VEROFF: Objection.

7 THE WITNESS: Yes, the problem is that the
8 transgender athlete is a female, right, and has the
9 right to participate with the female team.

10 BY ATTORNEY TRYON:

11 Q. Where is that right found? You just said she
12 has that right. Where is that right?

13 ATTORNEY VEROFF: Objection.

14 THE WITNESS: I mean as it comes within
15 the rules, right. I'm sorry, Julie. I mean, as it
16 falls within the rules, right.

17 BY ATTORNEY TRYON:

18 Q. Well, right now the rule is HB-3293, which says
19 that that transgender girl must participate on the boys
20 team. And since that is the rule, following your ---
21 your logic, you go to the boys team and the boys coach
22 and you say this child is going to be participating in
23 this team, you will welcome her with open arms onto our
24 team just as we do on football, we open with --- welcome

1 with open arms girls who are playing on a boys football
2 team, right?

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: My understanding in this
5 case is that the judge is --- has kind of looked at the
6 evidence and said right now I think there is potential
7 discrimination and so we're going to let BPJ continue to
8 compete and all through this so ---.

9 BY ATTORNEY TRYON:

10 Q. That's right, the Judge did say that for now,
11 but he did not say that for everything. But I'm asking
12 for a more general rule. Putting aside BPJ, as a
13 general rule, why would you say coach of the boys team,
14 you will allow these transgender girls to come and play
15 on your team and you will welcome them with open arms
16 just as we do with our football teams that allow girls
17 to play on them?

18 ATTORNEY VEROFF: Objection.

19 BY ATTORNEY TRYON:

20 Q. Because after all, as you said, the transgender
21 girl is a girl and so should be allowed to play on the
22 boys team if she chooses?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: I think football is a great

1 sport, and I wish they had male and female teams.
2 Typically, it's just a male team, so a female who wants
3 to play football doesn't have another option. But in
4 this case BPJ and others who identify as a female and
5 should be able to compete with other females, their
6 friend group and --- so I see that as an indifference.

7 BY ATTORNEY TRYON:

8 Q. Their friend group? So girls can't have boy
9 friends?

10 A. No. I meant it --- sorry, I meant in this case
11 BPJ is saying her closest friends are on the girls team.
12 She is a girl and she --- and so it would be harmful,
13 not fair to not let her compete with that team.

14 Q. How do you define fair? You told me before you
15 are not an expert on fairness. Are you now saying that
16 you do know what is fair?

17 ATTORNEY VEROFF: Objection.

18 THE WITNESS: I'm just keeping focused on
19 what the rules are and the Judge has ruled right now
20 that BPJ should be able to compete with the girls
21 because she is a girl, and so from my perspective,
22 that's where it stands right now.

23 BY ATTORNEY TRYON:

24 Q. Okay.

1 That's just because that's what the Judge said
2 then, right?

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: No. I think the core issue
5 is BPJ identifies as a girl, has lived the majority of
6 her life as a girl and wants to be able to participate
7 in her school activities as a girl, including
8 cross-country.

9 BY ATTORNEY TRYON:

10 Q. So how long do you think a transgender girl has
11 to live as a girl before participating on the girls
12 team?

13 ATTORNEY VEROFF: Objection.

14 THE WITNESS: Again, I think I'm not the
15 best person for that line of inquiry. I'm not sure, but
16 I know others are studying that, those kind of issues,
17 and can add greater insight to it.

18 BY ATTORNEY TRYON:

19 Q. Okay.

20 A. I'm just someone who would hate to see BPJ not
21 be allowed to participate in her school activities, just
22 to be told no, I'm sorry.

23 Q. On the girls team?

24 A. Right.

1 Q. And of course, not all athletes compete on
2 teams. Sometimes if they just love to run, if that is
3 the key, they just love to run, they don't have to be on
4 a team to run, right?

5 A. Right.

6 ATTORNEY TRYON: So we have gone for an
7 hour. And I would like to get some documents printed
8 since we're not able to easily look at them on your
9 iPad. So why don't we go off the record to see if we
10 can get that taken care of. Is that okay with you,
11 Julie?

12 ATTORNEY VEROFF: That is great. Thank
13 you.

14 VIDEOGRAPHER: Going off the record. The
15 current time reads 3:15 p.m. Eastern Standard Time.

16 OFF VIDEOTAPE

17 ---

18 (WHEREUPON, A SHORT BREAK WAS TAKEN.)

19 ---

20 ON VIDEOTAPE

21 VIDEOGRAPHER: We are back on the record.
22 The current time reads 3:37 p.m. Eastern Standard Time.

23 BY ATTORNEY TRYON:

24 Q. Professor Fry, thank you for helping us with

1 that technical issue.

2 A. No problem.

3 Q. I would like you to find the exhibit that says
4 Depression in Athletes. It should be Exhibit-8, I
5 believe.

6 A. I've got it.

7 Q. Okay.

8 I've lost you. There you are. Okay. Let me
9 find the right page I'm outlining to. Okay. So Exhibit
10 8 is Depression in Athletes: Prevalence and Risk
11 Factors by Andrew Wolanin and other authors, right?

12 A. Yes.

13 Q. So I wanted to ask you about a passage on the
14 second page of this, which is page 57, under the title
15 Sports Injuries and Depression at the bottom of the
16 first column. So I will just read the passage that I
17 have a question about and if you choose to read it, too,
18 if you want to read it more --- in fact, did you already
19 read the abstract on this earlier?

20 A. I just did.

21 Q. Okay.

22 So you've read the abstract. My question is
23 on, as I said, under Sports Injuries and Depression.
24 And I will just read into the record, Bruer and Petrie,

1 seven in parentheses, were among the first researchers
2 to compare depression symptoms between athletes who had
3 and had not experienced injuries. In this retrospective
4 study it was found that athletes who experienced an
5 injury during the previous year reported significantly
6 higher depression symptom scores than those reported by
7 non-injured athletes, as measured by the Validated
8 Center for Epidemiological Studies Depression,
9 parentheses, CES-D scale. Do you see that?

10 A. I do.

11 Q. And my question is do you have any reason to
12 dispute this or contest this finding in this statement?

13 A. No.

14 Q. Would it be fair to say that you agree with it?

15 A. You know, it's retrospective, so they're going
16 back in time and asking, hey, when you were injured what
17 was going on, but no, I would accept this is --- could
18 be a legitimate finding.

19 Q. Okay.

20 Then in the next column, first full paragraph,
21 there has been a recent surge of evidence suggesting
22 that sports concussions can lead to changes in emotional
23 state, parentheses, 14, closed paren, period.

24 Furthermore, there is recent evidence to suggest that

1 sports concussions can have long-lasting emotional
2 impact. And my question is, do you have any reason to
3 contest this statement? And feel free to look at it and
4 make sure I'm not reading it out of context.

5 A. No, I don't contest this.

6 Q. Then in the beginning of the last full paragraph
7 on the page it says, while the relationship between
8 concussion and depression may be significant there is
9 also evidence to suggest that a concussion may have the
10 same effect as other injuries on mental health. For
11 example, Main Wearing, et al., 18 in parentheses,
12 conducted a study to examine the differences between
13 emotional responses in athletes who had a concussion
14 compared with anterior cruciate ligament, ACL, injury.
15 They found that athletes with ACL injuries had more
16 severe levels of depression and longer duration of
17 depression compared to those athletes with concussion.
18 Do you see that?

19 A. I do.

20 Q. And do you have any reason to contest that
21 statement?

22 ATTORNEY VEROFF: I'll just object to the
23 extent this statement relies on a study that is actually
24 not before the witness.

1 BY ATTORNEY TRYON:

2 Q. Go ahead, you may answer.

3 A. Okay.

4 You know, there is probably just a lot of
5 background to this, so I agree. I haven't read this one
6 but I would jus say ACL injuries can be extensive and
7 last over months, right, and take an athlete out of
8 sports for months. Whereas a concussion, you know, it
9 varies in severity and somebody might be back relatively
10 quickly in comparison. But, you know, both of --- both
11 of these injuries are not fun for athletes to deal with
12 and, yeah, can cause stress and depression.

13 Q. Okay.

14 So I think you would agree that it's important
15 for athletes to avoid injuries where possible, right?

16 A. Right, right, and --- yeah.

17 Q. And would you agree that it is important to have
18 rules in place to avoid injuries where possible?

19 A. Yes, I would agree.

20 Q. And would you agree that we don't need to wait
21 for actual harm before putting rules in place to prevent
22 harm if it's reasonably foreseeable?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: Yeah, the keyword is

1 reasonably.

2 BY ATTORNEY TRYON:

3 Q. Right. So you agree with that but focusing on
4 the word reasonably, right?

5 ATTORNEY VEROFF: Objection.

6 THE WITNESS: Right.

7 BY ATTORNEY TRYON:

8 Q. Would you agree that segregation of male and
9 female sports is at least in part to protect girls from
10 injury, at least for some sports?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: Possibly. I would just
13 note that there is tremendous variability within each
14 gender and if that were totally what was driving this
15 then we really would be concerned about some, for
16 example, not as strong males competing against bigger,
17 stronger males and same with females. So the issue just
18 transcend gender, you know, it's an issue within each
19 gender.

20 BY ATTORNEY TRYON:

21 Q. Well, you said you had some familiarity with
22 Title 9, right?

23 A. Yes.

24 Q. And Title 9 divides sports into boys --- male

1 and female sports in some instances, right?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: Yes.

4 BY ATTORNEY TRYON:

5 Q. And in particular, with respect to contact
6 sports, right?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: Yes.

9 BY ATTORNEY TRYON:

10 Q. And would it be fair to say that those contact
11 sports Title 9 does that specifically to --- for safety
12 purposes?

13 ATTORNEY VEROFF: Objection.

14 THE WITNESS: I think it's fair to say
15 that that is a --- is a concern, yeah.

16 BY ATTORNEY TRYON:

17 Q. You wouldn't say that Title 9, the regulations
18 for Title 9 that regulate that, do you think those are
19 unfair or should be determined to be illegal?

20 ATTORNEY VEROFF: Objection.

21 THE WITNESS: Right, no.

22 BY ATTORNEY TRYON:

23 Q. So let's go back to the study by --- I will say
24 it wrong, in Balaguer?

1 A. Yes, Balaguer.

2 Q. Balaguer, thank you. Do you speak French?

3 A. No, but she is one of my favorite people in the
4 world.

5 Q. Oh, okay.

6 VIDEOGRAPHER: Counsel help me out here,
7 which exhibit number is that?

8 THE WITNESS: Maybe 2.

9 ATTORNEY TRYON: No, the Balaguer.

10 VIDEOGRAPHER: If you can tell me the
11 title I can tell you the number.

12 ATTORNEY TRYON: I'm sorry.

13 VIDEOGRAPHER: I said if you can tell me
14 the title I can tell you the number.

15 ATTORNEY TRYON: Here it is. I think it
16 is number 7, Motivational Climate and Goal Orientation
17 as predictors of Perceptions.

18 VIDEOGRAPHER: Correct, that would be
19 Number 7.

20 BY ATTORNEY TRYON:

21 Q. And is that printed out for you, Professor Fry?

22 A. Yes.

23 Q. And going back in the report --- let me see if I
24 can find the right paragraph. Here we go, paragraph 32

1 of your most recent report. Okay. So the first clause
2 of that first sentence says athletes high in ego
3 orientation report lower companionship and greater
4 conflicts with teammates and you cite Balaguer for that
5 proposition. I simply was not able to find that
6 proposition in the Balaguer report. By the way, the
7 University of Valencia, where is that? Is that in
8 Spain?

9 A. It is.

10 Q. Then why does Elizabeth have a French name? I'm
11 sorry. If you could just look through and tell me if
12 you can see the language that supports your language in
13 paragraph 32.

14 A. Yeah, yeah, just one more second. Yeah, okay.
15 They give you this. I think this wasn't the best
16 article. It was referring to the coach instead of the
17 teammates with this one. But if you would look on ---
18 or maybe --- 383, that paragraph in the middle of the
19 first column. Yeah, just a little bit lower. But the
20 wording in this paragraph on the left, yeah, if you can
21 fit the whole thing in again. Right. So partway down
22 it's just asking about --- to write your current coach
23 or somebody that --- so one would be just doesn't
24 coincide at all with the coach I would like to have

1 versus my ideal coach. So the lower rating on the coach
2 is just --- that is not a good thing when you're going
3 this is not the coach that I want, right, or all the way
4 up to this is my ideal coach. So it supports the
5 findings that relationships aren't that strong, but it
6 is not the best study --- or you know, it shouldn't have
7 been slotted there because it's just referring to the
8 coach instead of the athletes. If you look at that
9 table underneath where we're looking now, Table 2.

10 BY ATTORNEY TRYON:

11 Q. I'm looking at it.

12 A. Whoops, is that it. Under satisfaction and so
13 the middle part on the left and the bottom one,
14 satisfaction with the coach, you can just see that the
15 more you perceive a task climate, the more you are
16 thinking this is the ideal coach, I'd like to have, the
17 more respect I have for the coach, or however you want
18 to put that in your words and the more you perceive an
19 ego climate the less and the more on the task
20 orientation, you are more likely to just say this is a
21 coach I'm glad I have. And with the ego orientation,
22 it's just not significant --- so anyway, it supports
23 the results for saying overall, but that was not the
24 best reference there. It shouldn't have been used right

1 there.

2 Q. So just to make sure I understand then, the
3 Balaguer report does not actually support the idea that
4 athletes high in ego orientation report lower
5 companionship and greater conflict with teammates,
6 right?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: Right.

9 BY ATTORNEY TRYON:

10 Q. Do you believe Smith and Small does?

11 A. Yeah. You know, a little while ago when we were
12 looking at that passage, it just included like ten
13 variables that were cognitive anxiety and worry and
14 concentration disruption and I don't know, five other
15 things, a lot of ways to measure stress. And so across
16 these studies a lot of ways that these relationships
17 with coaches and athletes, but it's not like everyone is
18 using one uniform measure. Yeah, so there's probably
19 more studies showing that you have better relationships
20 when people perceive a task involving climate or have a
21 task orientation and then it's kind of a mix on the ego
22 side. So sometimes that comes out and sometimes it
23 doesn't.

24 Q. Don't studies show that the best mix is a high

1 ego orientation and a high task orientation?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: No, I wouldn't agree with
4 that, that mixes --- it's not necessarily that that is
5 harmful, right, having a high task and high ego. But to
6 say it is the best, no, I wouldn't say that.

7 BY ATTORNEY TRYON:

8 Q. Is Smith and Small cited in the bibliography?

9 A. One of their articles by Grossbar is, but that
10 is looking more at the orientations in climate. That
11 one, I lost that page. I was just trying to see if
12 there was another one. There is one by Cummings, 2007,
13 Is Winning Everything, the Contributions of Climate
14 and ---.

15 Q. And that is going to tell me that --- is going
16 to support the statement that ego orientation creates
17 more conflict?

18 A. No, no. I'm not sure. I think I'd have to step
19 back and review to tell you for sure what those are, but
20 I can certainly do that.

21 Q. All right.

22 Well, let's move on. I don't want to keep you
23 here any longer than we need to be here.

24 A. Thank you. I appreciate that.

1 Q. You bet. So let me redirect your attention to
2 paragraph 39. So in the last --- let's see, the
3 sentence that says because these positive benefits are
4 fostered in task involving environment, arbitrary
5 exclusions can cause harm not only to the athletes who
6 are excluded but also to the other athletes on the team.
7 Can you tell me what harms it causes to other athletes
8 on the team?

9 A. It could cause harm to athletes who aren't
10 allowed to have their --- their friends participate,
11 their friends who should be on the team, right, if ---
12 BPJ was not allowed to participate and her friends
13 really were looking forward to that being a part of the
14 sport, right. The sport experience is to share that
15 together. That could be harmful. It is also just, you
16 know, it could be a missed opportunity to --- for kids
17 to learn and to grow and to become more familiar and to
18 become more accepting, right.

19 Q. So if that's the case, couldn't the coach just
20 say to them I know you would like to have your friend on
21 the team, but that's not the way it works and help them
22 work through that, just as you told me the coach can
23 counsel kids who disagree with the decisions --- some
24 other decisions?

1 ATTORNEY VEROFF: Objection.

2 THE WITNESS: Okay.

3 Definitely a coach could do that, but
4 that doesn't change the fact that --- that it could be
5 harmful in the sense that knowing that other people you
6 care about and evaluate are being excluded in an unfair
7 way.

8 BY ATTORNEY TRYON:

9 Q. And that term, the unfair way, is something that
10 you said that you are not an expert on what's fair and
11 what's unfair, right?

12 A. Right. I said it's not a primary area of study,
13 right.

14 Q. Yeah. Well, I want to ask you a question. I
15 think you're referring to the Plaintiff as PBJ, with
16 first letter being P.

17 Am I hearing you right?

18 A. I didn't think so. But it does --- but BPJ.
19 Sorry.

20 Q. All right. I want to make sure we're all saying
21 the correct initials.

22 VIDEOGRAPHER: Excuse me, Counsel. If I
23 could interrupt for a second. If I could just ask the
24 witness to kind of sit up. You're starting to slouch

1 down and your head is getting cut off in the video.

2 Thank you.

3 THE WITNESS: All right. Sorry about
4 that.

5 BY ATTORNEY TRYON:

6 Q. You're not saying that any West Virginia sports
7 organization or educational education has adopted an
8 ego-promoting philosophy, are you?

9 A. I'm not.

10 Q. And you don't know of any coaches in West
11 Virginia that have either, right?

12 ATTORNEY VEROFF: Objection.

13 THE WITNESS: No.

14 BY ATTORNEY TRYON:

15 Q. And a team can build a task oriented climate
16 with sports separated by sex, right?

17 A. That's right.

18 Q. Do you know if female teams are better at
19 building task oriented climates than boys teams or vice
20 versa?

21 A. Yeah. It's possible to build a strong task
22 involving caring climate in both teams with males and
23 females. There may be a slight tendency across some
24 studies where those scores come out a little bit higher

1 for females than males, but it's not consistent, right,
2 but females sometimes really value that --- those social
3 aspects of the sport. Not that males don't, but maybe a
4 slightly higher --- if we're looking at those bell
5 curves again, they would be really close, but it's
6 possible that for --- if we are looking at guys they
7 might come out a little bit higher on the ego aspects of
8 the climate and females the task.

9 BY ATTORNEY TRYON:

10 Q. Can we look at paragraph 41 of your report,
11 please?

12 A. Yes.

13 Q. So you say the climate of youth sports must be
14 geared to include all participants, so that teams are
15 more likely to help every athlete maximize their
16 potential. Now, the word must is a mandatory word,
17 right?

18 A. Yeah. I think it means must in the sense that
19 that's our aim, to maximize the potential of every
20 athlete. If that's our aim, then it is pretty key to
21 creating that climate.

22 Q. So who would be the --- what entity would be the
23 one to enforce that?

24 ATTORNEY VEROFF: Objection.

1 THE WITNESS: Right, I think it comes
2 down to a matter of administrators in sport leagues and
3 having a desire to provide coaching education, try to
4 help coaches understand this research and to help foster
5 caring and task involving climate.

6 BY ATTORNEY TRYON:

7 Q. Are you suggesting there should be a statewide
8 or nation-wide rule on this?

9 A. No.

10 ATTORNEY VEROFF: Objection.

11 THE WITNESS: No, I'm not suggesting.
12 I'm sorry, Julie.

13 ATTORNEY VEROFF: That is quite okay. Go
14 ahead.

15 THE WITNESS: No, I'm not suggesting
16 that, although I would just note that Canada has a basic
17 coaching education for anyone who is going to work with
18 even very young athletes, right, and then they have
19 these different levels that people need to go through
20 this coaching education because they really value trying
21 to help create inclusive environments that help kids
22 focus on their effort and improvement and can be set up
23 in a way to bring out the best in any child.

24 BY ATTORNEY TRYON:

1 Q. So what you said in Canada, they have this, who
2 has this?

3 A. I believe it kind of trickled down from the
4 government, that they just said --- you know, in the
5 States, in the U.S., our model is if you have a
6 heartbeat, right, and you're willing, let's put you with
7 a team because we just want --- want to have as many
8 teams and neighborhoods where kids can participate. But
9 in Canada they just set the bar higher and they said if
10 you're going to work with kids, we want you to have some
11 basic coaching education. And so it's just a rule
12 across their sort of sporting government.

13 BY ATTORNEY TRYON:

14 Q. You say sporting government. Are you saying the
15 national government is doing this or some sporting
16 organization? I don't know much --- anything about
17 Canada as far as that is concerned.

18 A. Yeah. You know, I would have to look at that
19 more closely. Definitely their sporting organizations,
20 but I'm not sure that doesn't trickle down from some of
21 their government rules, but I won't say that for the
22 record. For the record, I'll just say that they do
23 require any use for a coach to have a basic introduction
24 to coaching education, which would include some of these

1 concepts.

2 Q. But you're not advocating that for the United
3 States, are you?

4 A. No.

5 Q. Okay.

6 Let's see, so my next question is you say so
7 that teams are more likely to help every athlete ---
8 I'm sorry, strike that.

9 Still that first clause. The climate of youth
10 sport must be geared to include all participants. So
11 who gets to participate? When you say all participants
12 what do you mean by that?

13 A. Hopefully, we have an avenue for all young
14 people to gain some exposure to youth sport, so all
15 athletes who want to.

16 Q. Okay.

17 So in some sports and high school athletes and
18 in college you have tryouts. And if you don't make the
19 tryouts, you don't make the team.

20 Right?

21 A. That's right.

22 Q. And do you think that's okay or do you think
23 that we should do away with tryouts and everybody should
24 be on the team if they want to be on the team?

1 ATTORNEY VEROFF: Objection.

2 THE WITNESS: I think there is a lot of
3 benefits to looking at high school sports and including
4 as many athletes as we can. But no, I wouldn't say that
5 I'm against all --- everywhere we should have a no cut
6 policy. But I think it's valuable to look and say, hey,
7 are we including as many kids as we can. Because the
8 evidence supports that kids feel more connected at
9 school, you know, their attendance is better. There's a
10 lot pluses when kids get that opportunity to
11 participate.

12 BY ATTORNEY TRYON:

13 Q. Don't sports sometimes take kids away from their
14 academics?

15 ATTORNEY VEROFF: Objection.

16 THE WITNESS: They sometimes do for some
17 kids.

18 BY ATTORNEY TRYON:

19 Q. For a lot of kids, isn't it?

20 A. I'm not sure what the percentages are, but yeah,
21 some kids may be less focused on academics.

22 Q. And that is why a lot of schools actually have
23 rules on minimum academic scores that you are getting in
24 order to be on a team, right?

1 A. Probably so, yes.

2 Q. So going back to cutting kids off teams, that's
3 a thing where kids, if they don't perform at a certain
4 level, they're cut from the team or never allowed onto
5 the team, right?

6 A. Right.

7 Q. And so if somebody does better than you on that
8 team, then you are at a disadvantage, right?

9 ATTORNEY VEROFF: Objection.

10 BY ATTORNEY TRYON:

11 Q. If you are cut from the team?

12 A. Yes.

13 Q. Now, you say from an educational standpoint it
14 is optimal to encourage all athletes to do the best they
15 can and to help all athletes enjoy the sport they love,
16 right?

17 A. Uh-huh (yes). Yes.

18 Q. So when you say from an educational perspective
19 let me just ask you --- do you feel like you are an
20 expert on education or teaching methodology?

21 A. It depends. When I say an educational
22 perspective I mean from the sports psychology
23 literature. And you know, it's not what I study in ---
24 sorry, I'm just going to think for a second.

1 Q. Take your time. I want to get an accurate
2 answer from you. I'm not trying to fool you or
3 anything.

4 A. Thank you. Yeah, I think this is building on
5 achievement goal perspective theory that just as we
6 should be helping all kids be the best that they can be,
7 right, and if we're not doing that, then we're more
8 likely setting it up to just focus on those kids who we
9 think are going to be the best and the highest
10 achievers, but to keep the focus on helping every
11 athlete, every student, be the best that they can be I
12 think is really a valuable aim.

13 Q. Do you know how many schools in West Virginia
14 have sports programs?

15 A. I do not.

16 Q. Do you have any idea of what percentage of kids
17 are in athletic programs in West Virginia schools?

18 A. I don't.

19 Q. Do you know about in any of the universities in
20 West Virginia?

21 A. No, I don't know.

22 Q. Take a look at paragraph 42. Read that. I'm
23 not going to read it all out loud, but I do have some
24 questions for you about paragraph 42.

1 A. Okay. Okay.

2 Q. As far as I can tell, this paragraph has nothing
3 to do with House Bill 3293, does it?

4 ATTORNEY VEROFF: Objection.

5 THE WITNESS: I think it takes a bigger
6 picture perspective of just the youth sport world, and
7 so what's true for parents, for this parent, Jim
8 Thompson, who had a child who experienced so much
9 negative, you know, interactions when he first signed up
10 for sport, that Jim Thompson was like, wow, this is
11 crazy, and he went on to start this organization to
12 provide coaching education for --- you know, for
13 coaches. He has materials for parents, for officials,
14 but you know, reading it, it makes me think it would be
15 healthy for all of us to step back and just say, hey,
16 let's not get too, too over crazy about this, right.
17 And in the case of BPJ, right, how cool if we can let
18 her have the experience of running cross-country school
19 and wouldn't it be a shame if we just had a blanket
20 exclusion of kids based on their gender identity.

21 BY ATTORNEY TRYON:

22 Q. Okay.

23 But what does that have to do with HB-3293?

24 ATTORNEY VEROFF: Objection.

1 THE WITNESS: You know, it's probably
2 just a matter of how we interpret this, but if we --- if
3 we have legislators just making a blanket decision that
4 across our state no child in secondary education, no
5 athletes in universities who are transathletes can
6 participate, it feels like we are really doing a
7 disadvantage to those athletes and not allowing them to
8 participate and reap the benefits. And I think Jim
9 Thompson here is just saying there is just so many
10 benefits and what if we were all united and saying how
11 can we come in and just make sport be all it can be.
12 Parents play a big role in that, but they're definitely
13 not the only party that does.

14 BY ATTORNEY TRYON:

15 Q. Is it your position then that a child or youth,
16 a young adult should be allowed to participate on
17 whatever team that child identifies as being a gender
18 associated with that team? That wasn't very artfully
19 said, so let me try again. Is it your position that any
20 child that identifies as a girl should be allowed to
21 participate on a girls team or women's team as the case
22 may be?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: It's my position that when

1 I look at the sport organizations across this country
2 and internationally that sport leaders are recognizing
3 that we want to balance fairness with inclusion and that
4 there has been success in that already and that that is
5 something that we can do and that we don't have to just
6 exclude all trans athletes from participating in sport.

7 BY ATTORNEY TRYON:

8 Q. So you have not answered my question directly.
9 Is that because you don't want to or because you don't
10 feel like you can?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: I feel like it's more
13 complex than what you're mapping it out. When we talk
14 about transathletes and their gender identity and
15 whether they may be transitioning and all these other
16 factors, it's just a bigger picture than saying any male
17 should be able to decide at any moment I want to compete
18 as a female. No, we have to have guidelines in place
19 that are fair and inclusive.

20 BY ATTORNEY TRYON:

21 Q. So if we just narrowed down the statute somewhat
22 to imply with your views on that, then you think it
23 would be okay to exclude some transgenders ---
24 transgender girls from competing on girls teams but not

1 all?

2 ATTORNEY VEROFF: Objection.

3 BY ATTORNEY TRYON:

4 Q. Is that right?

5 A. Right. I think that's what's happening right
6 now, right, there are like criteria within the NCAA, for
7 example, and athletes have meet that criteria to
8 participate as a transgender female.

9 Q. And so a statute that did that you would find
10 okay?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: I believe sport
13 organizations and leaders are going to be able to find a
14 way to balance inclusion and fairness, and what that may
15 look like across sports or different levels, yeah, I'm
16 not an expert on that and couldn't outline all that for
17 you right now. I could just say it makes me sad when
18 athletes are excluded and not given a chance to reap all
19 these amazing benefits from being a part of sport.

20 BY ATTORNEY TRYON:

21 Q. I hear you, but I still want to know if you
22 believe that there's a place for the State to pass laws
23 to regulate that?

24 ATTORNEY VEROFF: Objection.

1 THE WITNESS: Yeah, I don't think the
2 State legislators in my view are the best position. I
3 feel like the sport organizations and sport leaders and
4 people really invested and knowledgeable and involved in
5 the sports at different levels should be making these
6 calls.

7 BY ATTORNEY TRYON:

8 Q. So you don't believe that the State should pass
9 any law whatsoever regulating participation of
10 transgender girls in girls sports?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: Yeah, I'm not speaking to
13 every possible law that could ever be invented, but with
14 regard to this House Bill, right, I think it's
15 unfortunate to have just a blanket exclusion for
16 transathletes, for transfemales.

17 BY ATTORNEY TRYON:

18 Q. Fair enough. What about maybe a --- well, let
19 me just ask this question. When kids are competing, is
20 it their identity that's competing or is it their body
21 that's competing?

22 ATTORNEY VEROFF: Objection.

23 THE WITNESS: I'm sorry. I wouldn't even
24 know where to begin to address that question or what

1 even ---.

2 BY ATTORNEY TRYON:

3 Q. Let me see, you're not an expert on puberty
4 blockers therapy for boys or young men who want to be on
5 the girls teams, right?

6 A. I am not.

7 Q. And you're not an expert on testosterone
8 suppression for boys or young men who wanted to be on a
9 girls team, right?

10 A. That is correct.

11 Q. And you are not an expert on hormone therapy for
12 boys or young men who want to compete on girls teams,
13 right?

14 A. That's correct.

15 Q. Let's take a look at Exhibit-11.

16 ATTORNEY TRYON: Jake, if you could bring
17 that up. Excuse me, Exhibit-9. I beg your pardon. I
18 have to relabel some of these.

19 ---

20 (Whereupon, Exhibit 9, Article on Lia
21 Thomas, was marked for identification.)

22 ---

23 BY ATTORNEY TRYON:

24 Q. So I'm sure you expected that I was going to ask

1 you some questions about Lia Thomas, didn't you?

2 A. I didn't know what to expect, honestly.

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: I didn't know what to
5 expect.

6 BY ATTORNEY TRYON:

7 Q. Of course, the whole issue with Lia Thomas has
8 been in the news a lot, and so I want to ask you about
9 --- this is an article in Fox News. It says Penn
10 Swimmer Slams School's Handling of Lia Thomas Saga.
11 They Don't Actually Care about Women at All. So have
12 you seen this article?

13 A. No.

14 Q. But you are aware of the Lia Thomas what I will
15 call controversy, right?

16 A. Yes.

17 Q. So the first paragraph says a swimmer on
18 University of Pennsylvania Women's team says she feels
19 the school's decision to allow transgender swimmer Lia
20 Thomas to compete has created an unfair balance within a
21 sport that prioritizes Thomas's rights over that of
22 biological female student athletes. A student who spoke
23 to Fox New Digital on the condition of anonymity out of
24 fear of retribution said she was hopeful after learning

1 the NCAA's decision last week to update its policies of
2 allowing transgender girls to compete based on hormone
3 levels. And then skipping down it says stuff like that,
4 it's not just the difference between two girls and how
5 one may have slightly larger lungs that gives them a
6 slight advantage. These are monumental advantages that
7 biological males just develop through puberty and it's
8 not something that a year of hormone treatments, in
9 brackets, can suppress because they still have all the
10 muscle mass that they had for the last 20 years, closed
11 quote. Do you believe that this swimmer is justified in
12 her feelings about this being unfair?

13 ATTORNEY VEROFF: Objection.

14 THE WITNESS: I believe this swimmer has
15 the right to her opinion, for sure.

16 BY ATTORNEY TRYON:

17 Q. Do you agree that it was unfair for Lia Thomas
18 to compete with the girls on the team?

19 ATTORNEY VEROFF: Objection.

20 THE WITNESS: The NCAA has set these
21 standards in place and Lia Thomas followed everything,
22 she has followed the rules and so it's really
23 unfortunate to see how much hate and lack of respect and
24 lack of kindness has been thrown her way. It's just

1 really hard stuff. I understand that athletes --- this
2 is new and I think each sport will be just looking at
3 the criteria they use and so, you know, they may tweak
4 some things along the way. But I don't think we can
5 take it out on Lia Thomas who has done everything that
6 has been asked of her.

7 BY ATTORNEY TRYON:

8 Q. Is there anything that you are aware of --- this
9 swimmer doesn't say I hate Lia Thomas. You just started
10 out talking about hate. Where do you get that from?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: From everything coming from
13 social media. And so she fears retribution and wants to
14 stay anonymous. Lia Thomas I feel has a lot of courage
15 to put herself out there knowing that there is going to
16 be a lot of people unhappy and a lot of pushback and,
17 you know, kind of couple of things that she says is just
18 referring to be who she is, ready to compete. And so
19 I'm acknowledging this is a really difficult situation,
20 right, for swimmers, for her teammates, but I think in
21 this case we have to wait to see what the NCAA and what
22 the USA Swim group decides to do and what they decide is
23 fair. And they have ongoing studies about how to be
24 inclusive and yet fair, and I'm confident that we can

1 keep pursuing that and there may be a learning curve for
2 us, right, or it may be that this is determined with
3 data over time that this is exactly what the criteria
4 needs to be.

5 BY ATTORNEY TRYON:

6 Q. So let's turn to the third page underneath that
7 picture, it says --- keep going down. I'm sorry. More
8 please, below the next picture. There we go. And right
9 --- so the paragraph, it says they are just proving,
10 once again, that they don't actually care about women
11 athletes, the swimmer said of the University of
12 Pennsylvania. They said they care and that they're here
13 for our emotions, but why do we have to be gracious
14 losers? Who are you you to tell me that I shouldn't
15 want to win because I do want to win. I'm swimming.
16 I'm dedicating more than 20 hours a week to the sport.
17 And obviously I want to win. You can't just tell me
18 that I should be happy with second place. I'm not. And
19 these people in Penn's administrative department who
20 just think that women should just roll over, it's
21 disturbing and it's reminiscent of the 1970s when the
22 are fighting for Title 9 and stuff like that. They
23 don't actually care about women at all. What would you
24 say to this swimmer?

1 ATTORNEY VEROFF: Objection.

2 THE WITNESS: I'd say I just recognize
3 that you're really frustrated with this and you don't
4 agree with it and that we --- well, I think, you know
5 when stuff is new and we don't have a lot of experience
6 or exposure to it, you know, that is really hard. I
7 just reflect back to my first semester at college and I
8 was just having lunch at a long table with lots of
9 women, and my roommate told me afterwards that every
10 person that we had lunch with, which was a lot, that
11 they were all gay. And I had no idea, never --- I grew
12 up in Texas, never talked to anybody, never knew anybody
13 that I knew was gay, was probably just naive.

14 And so down the road now, some people
15 that I'm closest to and love in the world are gay and it
16 is not anything that I give any thought to. It's like,
17 you know, crazy that is what happens over time. And I
18 see the same thing happening with transgender athletes.
19 We're just going to --- who would want to have the
20 courage to come out and just put your lives out there
21 and your family and do everything that they have to do,
22 too, and so I think we'll all just grow and we'll learn
23 more about what this experience is and we'll be able to
24 see, right, that here is just another athlete like me.

1 We have more in common than we don't. And I think over
2 time a lot of views will change and we'll just keep
3 working on trying to be as fair as we can on what the
4 criteria should be. But with this athlete I would say
5 nothing changes for you. What you are trying to do is
6 be the absolute very best that you can be, right, and so
7 let's keep working hard, let's keep seeing what you can
8 do. In swimming, that's a nice sport to just be able to
9 stay focused on your time and your performance and
10 proving your technique.

11 BY ATTORNEY TRYON:

12 Q. And so you are saying that this girl should be a
13 gracious loser, period, right?

14 ATTORNEY VEROFF: Objection.

15 THE WITNESS: No. I'm saying if that
16 suggests that every transgender female that ever
17 competes in sports is going to be every female, right,
18 and that's just crazy, so --- and you know, I'm not
19 following it that closely, but Lia Thomas has lost races
20 as well. So just to say that she is here.

21 BY ATTORNEY TRYON:

22 Q. Right.

23 A. And I'm just a big loser for now because I can
24 never, you know, beat her, no, you just go out there and

1 compete because that's what sports is about.

2 Q. And that --- sorry, go ahead. I thought you
3 were finished.

4 A. Sorry. It's just out of, you know, some of
5 these rules are things that are just out of her control
6 so she needs to stay focused on what she can focus on.

7 Q. Is it your view that these girls that are
8 objecting to Lia Thomas being on the team are doing it
9 because they hate Lia Thomas?

10 ATTORNEY VEROFF: Objection.

11 THE WITNESS: No, no, I don't know any of
12 these athletes.

13 BY ATTORNEY TRYON:

14 Q. Let me ask you to take a look at Exhibit-11.
15 Let me know when you have it.

16 A. Okay, I have it.

17 Q. This is the opening paragraph and this says
18 Virginia Tech, fifth year Reka Gyorgy has released a
19 letter to NCAA addressing her opinion on the
20 organization's controversial transgender policy which
21 allowed Penn fifth year Lia Thomas to compete at the
22 NCAA championships last week. And if we can turn to the
23 page we can see the actual letter written by this
24 swimmer. It is in italics. And let me start with the

1 second paragraph. My name is Reka Gyorgy of Hungary. I
2 am a 2016 Rio Olympian, represented Virginia Tech for
3 the past five years, a two-time ACC champion, two time
4 all-American and three-time honorable mention
5 all-American. And then skipping down one paragraph she
6 says, Micka, if I'm saying her name right, says I'm
7 writing this letter right now in hopes that the NCAA
8 will open their eyes and change these rules in the
9 future. It doesn't promote our sport in a good way and
10 I think it's disrespectful against the biologically
11 female swimmers who are competing in the NCAA.

12 And then I want to skip down --- well, let's
13 just continue on the next paragraph. I don't want to
14 skip too much. I swam the 500 free at NCAA on
15 March 17th, 2022, where I got 17th which means I didn't
16 make it back to the finals and first alternate. I am a
17 fifth-year senior. I have been top 16 and top 8 and I
18 know how much a privilege it is to make finals at a big
19 --- at a meet this big. This is my last college meet
20 ever and I feel frustrated. It feels like that final
21 spot was taken away from me because of the NCAA's
22 decision to let someone who is not a biological female
23 compete. I know you can say I had the opportunity to
24 swim faster, make the top 16, but this situation makes

1 it a bit different and I can't help but be angry or sad.
2 It hurts me, my team and other women in the pool. One
3 spot was taken away from a girl that got 9th in the 500
4 free and didn't make it back to the A final, preventing
5 her from being an all-American. Every event that
6 transgender athletes competed in was one spot taken away
7 from biological females throughout the meet. Do you
8 disagree with Reka Gyorgy?

9 ATTORNEY VEROFF: Objection.

10 THE WITNESS: I recognize that she is
11 very frustrated and feels that this decision wasn't
12 fair. You know, if we're looking at a bigger picture I
13 think sport organizations at the Olympic level,
14 international level, national level, are all invested in
15 keeping this value of inclusion, right, and trying to
16 balance that with fairness, and so I think it's
17 something these organizations are really going to keep
18 working on and that ---.

19 BY ATTORNEY TRYON:

20 Q. Sorry. Go ahead.

21 A. And that they are going to be able to find a
22 good spot that is somewhere --- somewhere in a place
23 that can be respectful, be it transfemale athletes and
24 also the female athletes on these teams.

1 Q. So you talk about a good spot. You don't know
2 what that good spot is.

3 Is that right?

4 ATTORNEY VEROFF: Objection.

5 THE WITNESS: No, I don't --- sorry,
6 Julie, but I'm confident that there are many people
7 looking --- spending a lot of time and trying to figure
8 out how to answer some of these questions. In response
9 to this athlete, she's probably knocked out a lot of
10 other female athletes because maybe she had more
11 advantages along the way, right. Maybe her parents were
12 able to put her in good programs or good coaching and
13 things like that. So you know, it's just never like a
14 --- we like to just think what a sweet, perfect world it
15 is where everyone has the same opportunities and, you
16 know, there's just a lot that's not fair out there,
17 right, across for athletes, but I think we do the best
18 we can, which is what the NCAA has tried to do at this
19 point. And like I said, things may be changing, yeah,
20 but then --- but just to go back to the other side, for
21 the answer to be a blanket exclusion of all transgender
22 athletes at every level is not helping us move forward.

23 BY ATTORNEY TRYON:

24 Q. But you think even Lia Thomas should have been

1 allowed to participate in this swim meet, right?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: Yeah, I don't think it
4 matters what I think because I'm just not that emersed
5 in the sport to know everything. So whether it's ten
6 whatever it is nanomols per liter or whether, you know,
7 that's going to change, I don't know, but I think she
8 --- I respect her, she did everything the sport has
9 asked her to do. And she says she gets in the pool
10 every day and gives it her best effort. And those are
11 the kind of teammates I like to have, right, that are
12 that way. So I think everybody can --- her teammates
13 can look at this as maybe they can make each other
14 better and grow as human beings and make the world
15 better.

16 BY ATTORNEY TRYON:

17 Q. So again you think Lia Thomas's teammates should
18 just knuckle under and be happy about it and be
19 complete, is that right?

20 ATTORNEY VEROFF: Objection.

21 THE WITNESS: I feel sympathy and empathy
22 for so many athletes that are dealing with difficult
23 challenges, right, including these athletes, right, and
24 I just acknowledge, yeah, it must be tough, right,

1 you've just been doing your thing in your sport for a
2 long time and then you happen to be at the center stage
3 of some of this taking place, but, you know, it's just a
4 lot of challenges that athletes are dealing with on many
5 levels and so I don't think they are unique in, you
6 know, it's not like they are the only athletes that have
7 challenges to deal with.

8 BY ATTORNEY TRYON:

9 Q. Do you think that --- are you equating the fact
10 that this swimmer might have had some advantages in her
11 life to the fact that Lia Thomas had been --- had gone
12 through puberty and was maybe as much as a foot taller
13 than the other swimmers, those are just the same thing?

14 A. No.

15 ATTORNEY VEROFF: Objection.

16 THE WITNESS: I'm sorry. I'm not
17 equating those. I'm just simply saying what I feel as
18 the truth, that not everybody out there has all the same
19 opportunities, right, and access and great coaching and
20 facilities and everything else. So I think the NCAA is
21 trying to do the best that they can and everybody is
22 learning, right, so ---.

23 BY ATTORNEY TRYON:

24 Q. One of the things that we are learning that

1 these other girls, biological girls, are feeling very
2 marginalized. Does that count for anything?

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: I think there is a lot that
5 our field of sports psychology can offer here in terms
6 of helping people work through these things. But I
7 would just go back to if we think the answer is to
8 exclude all transgender female athletes from competing,
9 then that's not right, and so we're going to have to
10 maneuver this, we are all going to have to be involved
11 in helping figure out how to move forward.

12 BY ATTORNEY TRYON:

13 Q. Let me just be clear, HB-3293 does not exclude
14 any athletes from competing in sports, does it?

15 ATTORNEY VEROFF: Objection.

16 THE WITNESS: Okay.

17 From my perception it does because BPJ is
18 a female and wants to compete with her female peers.

19 BY ATTORNEY TRYON:

20 Q. Okay.

21 A. So I don't see that as a good option for her to
22 compete with the males.

23 Q. What about Lia Thomas? I mean, Lia Thomas looks
24 like a male?

1 ATTORNEY VEROFF: Objection.

2 BY ATTORNEY TRYON:

3 Q. And couldn't he compete on the male team as he
4 had been for years and then the coach on that team
5 simply say, yeah, Lia Thomas now goes by she, but Lia
6 Thomas is going to compete on the boys teams and you
7 guys just need to respect that?

8 ATTORNEY VEROFF: Objection.

9 THE WITNESS: As a cisgender female it's
10 hard to fathom that you wake up and you just feel like
11 you are in the wrong body, right. And the more I've
12 read over the years and the more I've heard people share
13 their stories, it must just be excruciatingly painful to
14 go through life and feel like that's your situation, and
15 so ---.

16 BY ATTORNEY TRYON:

17 Q. Right. And nobody is disagreeing with that,
18 nobody is contesting that, just the question --- the
19 right question is what's fair to everyone, not just to
20 the transgender person, but also to the biological
21 girls.

22 Isn't that the question?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: Right. I think the

1 question is how do we balance that inclusion and
2 fairness.

3 BY ATTORNEY TRYON:

4 Q. I'm almost finished. I'm going to read you a
5 series of statements and please tell me if you agree or
6 disagree. Either one is fine. I just want to
7 understand your position. Or you may say I don't know.
8 That's fine too. The first statement, there are
9 physiological differences between natal males and natal
10 females.

11 ATTORNEY VEROFF: Objection. Apologies,
12 objection.

13 THE WITNESS: True.

14 ATTORNEY VEROFF: Sorry to --- Mr. Tryon,
15 are these your documents or are these statements coming
16 from a document somewhere.

17 ATTORNEY TRYON: No, these are my
18 statements.

19 ATTORNEY VEROFF: Thank you for the
20 clarification.

21 BY ATTORNEY TRYON:

22 Q. Second, there are physiological difference in
23 natal males and natal females that result in males
24 having a significant performance advantage over

1 similarly gifted age and trained females in nearly all
2 athletic events after puberty?

3 ATTORNEY VEROFF: Objection.

4 BY ATTORNEY TRYON:

5 Q. Agree or disagree?

6 ATTORNEY VEROFF: Objection.

7 THE WITNESS: I think there is exceptions
8 to this, but as a general rule that is true.

9 BY ATTORNEY TRYON:

10 Q. Number three, there are physiological
11 differences between males and females that result in
12 males having a significant performance advantage over
13 similarly gifted aged and trained females in nearly all
14 athletic events during puberty as opposed to after
15 puberty. Do you agree or disagree?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: Yeah, I think it --- I
18 think that statement somewhat depends on what we define
19 as significant.

20 BY ATTORNEY TRYON:

21 Q. Fair enough. Four, there are physiological
22 differences between males and females that result in
23 males having a significant performance advantage over
24 similarly gifted aged and trained females in all

1 athletic events before puberty?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: Disagree.

4 BY ATTORNEY TRYON:

5 Q. Okay.

6 Number five, there is not scientific evidence
7 that any amount or duration of cross sex hormone
8 therapy, puberty blockers, androgen inhibitors or cross
9 sex hormones, eliminates all physiological advantages
10 that result in males performing better than females in
11 nearly all athletic events?

12 ATTORNEY VEROFF: Objection.

13 THE WITNESS: Okay.

14 And I'm just going to say that is beyond
15 my expertise and knowledge of that literature.

16 BY ATTORNEY TRYON:

17 Q. Males who have recently --- excuse me, males who
18 have received such therapy retain sufficient male
19 physiological traits that enhance athletic performance
20 vis-à-vis similarly aged females from a physiological
21 perspective more accurately characterized as male ---
22 agree or disagree?

23 COURT REPORTER: I'm sorry, Counsel. Can
24 you restate that question? I missed it.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record.
The current time is 4:53 p.m. Eastern Standard Time.

ATTORNEY VEROFF: Excellent. Thank you.
Mr. Tryon, in our last exchange with Professor Fry you read a series of statements and I asked you if these statements were coming from any documents. You said, no, these are my statements. And I just want to put on the record that it appears that in some of those statements you were reading from portions of the report of Doctor Brown, one of Defendant's expert witnesses.

ATTORNEY TRYON: Well, in response, they were generated from that, but they are not his statements precisely, so --- and I think that I represented that correctly if you are suggesting that I misrepresented it.

ATTORNEY VEROFF: Thank you.

ATTORNEY TRYON: More over I don't think I need to reference the source of my questions, but I appreciate your statement.

ATTORNEY VEROFF: Thank you. I was just clarifying, I thought that the answer that you gave earlier was your statements and was inaccurate, and so I

1 just wanted to clarify that for the record.

2 ATTORNEY TRYON: Well, I believe it to be
3 accurate, but we'll agree to disagree perhaps.

4 BY ATTORNEY TRYON:

5 Q. So back to my questions, Professor Fry, it seems
6 that you have a specific view about transgender girls or
7 women participating on girls or women's teams.

8 Is that a fair statement?

9 ATTORNEY VEROFF: Objection.

10 THE WITNESS: Can you be more specific?

11 BY ATTORNEY TRYON:

12 Q. So you indicated numerous times of your belief,
13 generally, that trans --- that males who identify as
14 females should be allowed to participate on girls teams.

15 Right?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: Again, I've stated that I'm
18 opposed to having a blanket exclusion policy for all
19 transfemale athletes.

20 BY ATTORNEY TRYON:

21 Q. When did you arrive at that position?

22 A. I'm not sure.

23 Q. Was it sometime in the past two years or
24 somewhere before then?

1 A. I'd say before then, but I'm not sure.

2 Q. Okay.

3 Do you have any idea at all what timeframe?

4 ATTORNEY VEROFF: Objection. Asked and
5 answered.

6 THE WITNESS: I'm really not sure. You
7 know, things just kind of blur over time.

8 BY ATTORNEY TRYON:

9 Q. Sure.

10 A. But I'm a fan of trying to let athletes
11 participate. So I'm not sure. I definitely learned
12 more over the last few years and may come from a more
13 knowledgeable position but I think it's one I felt for
14 sometime.

15 Q. For more than ten years?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: You know, it's just hard to
18 say. I don't remember this being part of the
19 conversation so much ten years ago, so if someone had
20 asked, yeah, I'm really not sure how to put a timeframe
21 on it.

22 BY ATTORNEY TRYON:

23 Q. Do you know when the first time is you heard of
24 the idea of transgender women participating or

1 transgender females participating on girls sports?

2 A. Again, I don't know. You know, I've been
3 attending sports psychology conferences for the last
4 30 years, and I don't remember the first time I sat in
5 on a session, or you know, began to learn more.

6 Q. Okay.

7 A. I really don't.

8 Q. Very good. What's the total compensation that
9 you received or that you've charged for in this case so
10 far?

11 A. In this case?

12 Q. Yes, in this case.

13 A. Yeah, I haven't turned in a bill, so I haven't
14 received anything.

15 Q. So how much have you incurred so far as fees in
16 this case?

17 A. Yeah, I've --- I think it's in the ballpark of
18 eight to ten hours probably prior to today.

19 Q. And what is your hourly rate?

20 A. \$250.

21 Q. And how about in the other three cases combined,
22 how much have you --- how many hours have you expended?

23 A. Probably eight to ten hours for the Connecticut
24 and Idaho cases together.

1 Q. And Florida?

2 A. In Florida, four.

3 Q. So when you first ---?

4 A. Sorry.

5 Q. Sorry, go ahead.

6 A. Four to six, and I billed for four, though, so I
7 received a thousand for Florida --- in the Florida case.

8 Q. Do I understand correctly then that the first
9 report that you did was for Connecticut?

10 A. We started that one and then there was ---
11 that's when COVID hit and the season was on hold. I
12 would have to go back and look. But I think the first
13 one that was filed ended up being Idaho even though we
14 started on Connecticut --- or I was part of the
15 Connecticut one.

16 Q. And you believe you are able to put this whole
17 report together in eight to ten hours for Connecticut?

18 ATTORNEY VEROFF: Objection.

19 THE WITNESS: Yes.

20 BY ATTORNEY TRYON:

21 Q. And your billing rate is the same for all of
22 them?

23 A. That's correct.

24 ATTORNEY TRYON: I don't have any further

1 questions. And so thank you for your time. It is
2 always stressful and so I appreciate it. I recognize
3 that it was stressful and that I do appreciate your
4 patience and your time. Thanks?

5 THE WITNESS: Thank you. Thanks very
6 much.

7 ATTORNEY SCRUGGS: I guess I will jump in
8 since none of the other Defendants want to.

9 ATTORNEY TRYON: Go ahead.

10 ATTORNEY SCRUGGS: Okay.

11 ---

12 EXAMINATION

13 ---

14 BY ATTORNEY SCRUGGS:

15 Q. Hello, Doctor Fry. How are you doing? Can you
16 hear me okay?

17 A. I can. Doing well. Thank you.

18 Q. So my name is Johnathan Scruggs. I'm an
19 attorney for the intervening Defendant, Lainey
20 Armistead, in this case. So I'm just going to ask you a
21 few questions. The good news is I won't ask many
22 questions as the prior testimony, and I can't since we
23 are limited in time. So I will try to go quick. But
24 the most important question actually I have for you is

1 what is your favorite barbecue place in Memphis? That's
2 the real question.

3 A. I guess I'd have to go with the Rendezvous. My
4 husband and I had our first date there. That was kind
5 of special.

6 Q. Well, I'm from there originally, so that's why I
7 asked.

8 A. Where are you from?

9 Q. I'm from Memphis, the Memphis area originally.

10 A. Okay.

11 Q. I'm more partial to central barbecue places, but
12 they're all good. So anyway, I want to turn a little
13 bit to paragraph 38 of your expert report. It is
14 Exhibit 2 there. And I want to turn you more toward the
15 end of that paragraph where it says when athletes are
16 excluded from participating in the sport or in a climate
17 where they do not feel accepted or respected, they do
18 not have the opportunity to reap these benefits. Now,
19 what benefits are you talking about there?

20 A. The benefits of participating in sport and to
21 --- yeah, sorry, let me read this one more time, this
22 paragraph, please.

23 Q. Absolutely.

24 A. Yeah, so I was referring to the benefits

1 highlighted throughout this statement that come from
2 having a chance to participate in a really positive
3 climate. But in this particular paragraph saying that
4 there's some advantages to females who are able to
5 participate, right, and might be more likely to go on to
6 college and those things.

7 Q. Let's just talk generally real quick. Can you
8 outline, kind of, just as general benefit beyond that
9 one specific one you mentioned?

10 ATTORNEY VEROFF: Objection. Asked and
11 answered.

12 BY ATTORNEY SCRUGGS:

13 Q. You can answer the question.

14 A. Okay. Well, throughout the statement these
15 benefits of being able to participate in sport, you
16 know, in a caring climate that, you know, people can
17 have fun, can have good experiences and good
18 relationships with coaches and athletes. They can have
19 --- just reap the physical benefits of being in better
20 health and --- both psychologically and physically.
21 They can express greater empathy for others, and you
22 know, better sportspersonship, right, really evaluate
23 being a respectful competitor and things like that.

24 Q. Now, in your last sentence in paragraph 38, you

1 don't have a timeframe mentioned in terms of when
2 athletes are excluded from participating in sports they
3 don't have the opportunity to reap these benefits. Do
4 you mean when they don't have an opportunity for a
5 substantial period of time or any type of loss of
6 participation for any period of time?

7 A. So when athletes are excluded from sport --- I'm
8 not sure I'm following you, but if they were excluded
9 for a day or two, are you saying would that be a big
10 deal or are they excluded for a whole season or
11 they ---?

12 Q. Sure. Sure. I'm just wondering if you can put
13 that in a timeframe?

14 A. No, but I would grant that if they're excluded
15 for a day or something like that, we wouldn't be here
16 talking about it probably, but yeah, on a bigger scale.

17 Q. But you would agree that if students were
18 excluded from participating in high school sports for
19 four years, they would miss out on the opportunities for
20 participating in youth sports?

21 A. Yes.

22 Q. And I assume the same is for a year.

23 Correct?

24 A. Yes.

1 Q. Let's say there's a policy as far as males with
2 female gender identities to undergo testosterone
3 suppression for a year before they can participate on
4 the girl's team, would that policy force at least some
5 athletes to miss out on some opportunities associated
6 with youth sports?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: It could.

9 BY ATTORNEY SCRUGGS:

10 Q. Well, could you envision where it wouldn't?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: I'm just thinking they
13 might have other options or could play on a co-gender
14 team that's maybe not part of their school, what they
15 really wanted to do was on their school, but there could
16 be another possibility.

17 BY ATTORNEY SCRUGGS:

18 Q. Yeah, so being a situation where they only
19 wanted to be on their school and had to undergo
20 testosterone suppression for a year to do so, they would
21 lose out on those benefits for that year.

22 Correct?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: Uh-huh (yes).

1 BY ATTORNEY SCRUGGS:

2 Q. Now, earlier we discussed HB-3293 the law that
3 is at issue in the case. Now, I don't want to retread a
4 lot of old ground, but I just want to put it in your
5 words. So what is the problem, in your opinion, with
6 this law?

7 ATTORNEY VEROFF: Objection as to scope.

8 THE WITNESS: I think it's --- you know,
9 provides a blanket of exclusion of transgender female
10 athletes from participating in the secondary and college
11 level, and that is unfortunate and harmful.

12 BY ATTORNEY SCRUGGS:

13 Q. Ma'am, I'm sorry your answer broke up there. I
14 think my internet connection was a bit faulty. Can I
15 ask the court reporter to read back that answer?

16 ---

17 (WHEREUPON, COURT REPORTER READS BACK PREVIOUS ANSWER)

18 ---

19 BY ATTORNEY SCRUGGS:

20 Q. And how harmful exactly?

21 ATTORNEY VEROFF: Objection.

22 THE WITNESS: It is harmful, because I
23 think what school districts are trying to do is help
24 every child reach their own potential and bring out

1 their best and but we have these activities available
2 but we are telling a particular group of kids that you
3 can't participate in these activities and these maybe
4 very important to them and be extremely valuable part of
5 their educational experience through the secondary
6 schools.

7 BY ATTORNEY SCRUGGS:

8 Q. Got it. Got it. And now earlier in your
9 testimony you mentioned you didn't think it's a problem
10 if a male --- that would be a male that was excluded
11 from, for example, the women's girl track team.

12 Do you remember that?

13 ATTORNEY VEROFF: Objection.

14 THE WITNESS: I'm sorry, did you say a
15 male who identifies as a male?

16 BY ATTORNEY SCRUGGS:

17 Q. Yes, yes. From the women's sports team?

18 A. Right. The team for the females is for the
19 females, right, so I would agree.

20 Q. So you don't think HB-3293 is not problematic in
21 that situation?

22 ATTORNEY VEROFF: Objection.

23 THE WITNESS: Right.

24 BY ATTORNEY SCRUGGS:

1 Q. And that's true even if that male loses out on
2 an opportunity from participating on the girl's track
3 team?

4 ATTORNEY VEROFF: Objection.

5 THE WITNESS: Right. Right. But they're
6 identifying as a male and can perform on a --- can
7 participate on the male's team.

8 BY ATTORNEY SCRUGGS:

9 Q. So they can participate on the male's team and
10 that is why they talk about it?

11 ATTORNEY VEROFF: Objection.

12 THE WITNESS: Right.

13 BY ATTORNEY SCRUGGS:

14 Q. What if that male athlete is not fast enough to
15 run on the male team?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: In say cross-country
18 or ---?

19 BY ATTORNEY SCRUGGS:

20 Q. Yes. On cross country is not fast enough for
21 the male team, cannot run on the male team, should that
22 male at least be able to participate on the female track
23 team?

24 ATTORNEY VEROFF: Objection.

1 THE WITNESS: Right, no, no. No people
2 at tryouts do not make teams. But he is a male,
3 identifying as a male then he should stick with that
4 team.

5 BY ATTORNEY SCRUGGS:

6 Q. So in that situation, it doesn't matter, that
7 male athlete doesn't have another option?

8 ATTORNEY VEROFF: Objection.

9 THE WITNESS: Right.

10 BY ATTORNEY SCRUGGS:

11 Q. Okay.

12 Wouldn't it be more inclusive to allow the man
13 to participate on the female track team?

14 ATTORNEY VEROFF: Objection.

15 THE WITNESS: I don't see it like that,
16 right. There's a male track team and a male can try out
17 for the that. And the good news is with cross-country
18 they can handle a lot of athletes so often there is not
19 a cut policy in cross-country.

20 BY ATTORNEY SCRUGGS:

21 Q. Well, I think I can easily give a scenario where
22 the male can't make the male track team, but there is an
23 open slot on the female track team, so that males who
24 identify as males, should that person be able to

1 participate on the female track team?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: No. Sorry. No. No, I
4 don't think so.

5 BY ATTORNEY SCRUGGS:

6 Q. Well, why doesn't --- why shouldn't we value
7 their participation on an athletic team?

8 ATTORNEY VEROFF: Objection.

9 THE WITNESS: I don't think we're saying
10 we wouldn't value that, right. That happens all the
11 time.

12 BY ATTORNEY SCRUGGS:

13 Q. Yeah. I'm saying why don't we value --- why
14 don't we promote their participation in athletics and
15 allow them to participate on the female track team?

16 ATTORNEY VEROFF: Objection. And please
17 let the witness finish her answer.

18 THE WITNESS: I think there's a team for
19 this male athlete to at least try out for and go for and
20 so I don't see the issue that we're not being inclusive
21 and giving this athlete an opportunity to try out for
22 that team. Across teams and across schools, many
23 athletes try out for sports and don't make the team.

24 BY ATTORNEY SCRUGGS:

1 Q. Well, BPJ can try out for the male track team.

2 Correct?

3 ATTORNEY VEROFF: Objection.

4 THE WITNESS: That doesn't seem to be a
5 viable option since BPJ is a female.

6 BY ATTORNEY SCRUGGS:

7 Q. Gotcha. Okay. Let me turn you toward
8 paragraph 37 in your expert report, again I'm going to
9 ask you about the second question --- the second -- or
10 the last sentence, excuse me, there, where it says if
11 transgender students are arbitrarily excluded from these
12 sports they are in turn deprived of this positive
13 experience as an outcome and their teammates are
14 deprived of a generally optimal sport experience. Did I
15 read that correctly?

16 A. Yes, I think so.

17 Q. Now, would you agree that if we just said any
18 student is excluded from youth sports, they are deprived
19 of those positive experiences and outcomes and their
20 teammates are deprived of a generally optimal sports
21 experience?

22 A. Yeah, I'm not thinking of a situation where that
23 is not the case right now.

24 Q. So would you agree that if it said if any

1 student, no matter their gender identity, were
2 arbitrarily excluded from youth sports, they are
3 deprived of those positive experiences and outcomes?

4 A. I would just add that based on their gender
5 identity, right. So you could have a trans female
6 athlete who tries out for a team and doesn't make it,
7 right, we're not including that in the same ballpark
8 here with just having a blanket statement that
9 transfemale athletes may not participate.

10 Q. I guess I'm not really following you. But
11 again, you would agree that if any students are
12 arbitrarily excluded, they reap the benefits from youth
13 sports?

14 ATTORNEY VEROFF: Objection. Asked and
15 answered.

16 THE WITNESS: No, I wouldn't agree with
17 that. I would need the context of that because the
18 example I'm giving is transgender female athlete tries
19 out for a female team and doesn't make it, right, and so
20 would be excluded for that reason, that they're --- this
21 team is limited in how many positions they have and they
22 --- particular, you know, some kids try and don't make
23 the team.

24 BY ATTORNEY SCRUGGS:

1 Q. Let me turn you to your Declaration, your
2 initial expert Declaration, I think it's Exhibit 1, and
3 then let me turn you to paragraph 44 and just read the
4 second sentence, which says, if athletes are arbitrarily
5 excluded from youth sports, they are, in turn, deprived
6 of those positive experiences and outcomes and their
7 teammates are deprived of a generally task involving and
8 caring sports climate. Do you see that?

9 A. I do.

10 Q. And are you referring to all athletes there?

11 A. I think the point is arbitrarily there.

12 Q. Uh-huh (yes).

13 A. Right, then --- so if we're just saying we
14 should have a cut policy because that's not fair, right,
15 that's not what I'm insinuating here, right, just saying
16 but to have this --- make this decision that as a
17 blanket statement that certain group of athletes can't
18 participate, can't try out, can't participate, then,
19 yes, I think the statement is true.

20 Q. Yes, I think we are saying the same thing. Let
21 me ask it another way. Again, focusing on the
22 arbitrarily, if all athletes --- if any athlete is
23 arbitrarily excluded, that creates a problem in your
24 mind?

1 ATTORNEY VEROFF: Objection. Asked and
2 answered.

3 THE WITNESS: Yes, I think it changes the
4 meaning to say if any athletes, any athlete under any
5 circumstances, but I just mean --- athletes here.

6 BY ATTORNEY SCRUGGS:

7 Q. Yeah, I'm not saying under any circumstances. I
8 guess what I'm trying to figure out is what role does an
9 athlete's gender identity play in that sentence. It
10 says if athletes were arbitrarily excluded, so I assume
11 there could be a male athlete who identifies as male.
12 If that athlete is arbitrarily excluded, that creates a
13 problem that you identify in that paragraph?

14 A. I'm not familiar with --- sorry, Julie.

15 ATTORNEY VEROFF: Objection.

16 THE WITNESS: I'm not familiar with that
17 case where the male athlete is arbitrarily prevented
18 from participating. I'm not sure what you're referring
19 to there.

20 BY ATTORNEY SCRUGGS:

21 Q. Well, let's think about a situation on the
22 sports team where a coach cuts an athlete, a female
23 athlete who identifies as female and instead it favors
24 the coach's own daughter, for example. You would

1 consider that an arbitrary exclusion, right?

2 ATTORNEY VEROFF: Objection.

3 THE WITNESS: No. We'd have to know a
4 whole lot more about that situation.

5 BY ATTORNEY SCRUGGS:

6 Q. Okay.

7 A. Maybe the coach's daughter deserves to be on
8 the team and if the team can only handle so many maybe
9 that's how it had to be. But to make the assumption
10 that because it was the coach's daughter that it wasn't
11 a fair process ---.

12 Q. I'm assuming that was the only reason that the
13 athletes have been chosen and someone else is excluded?

14 A. In other words, if a coach just says I don't
15 like you, I don't want you on my team.

16 Q. Exactly.

17 A. It seems like there would be guidelines in place
18 for someone to appeal that to the Athletic Director and
19 so on, and yeah, that doesn't sound like it'd be very
20 fair to not give someone a chance.

21 Q. Exactly. And that kind of principle applies
22 regardless of someone's gender identity?

23 ATTORNEY VEROFF: Objection.

24 THE WITNESS: Okay. Yeah. If I'm

1 following you, yes, I think.

2 BY ATTORNEY SCRUGGS:

3 Q. Yeah. Now, switching gears slightly, you
4 mentioned --- to go back --- let's go back actually to
5 your expert report, paragraph 37. And again, that last
6 sentence that transgender students are arbitrarily
7 excluded, what is the situation when a transgender
8 student is not arbitrarily excluded from youth sports
9 --- or let me strike that. Let me rephrase.

10 What is a situation, to use your term,
11 transgender student doesn't make the sports team and
12 that's not arbitrary? Did you hear that question?

13 A. Sorry, I thought the court reporter was asking
14 for it to be repeated or something.

15 Q. No. I'm sorry.

16 A. No, that's okay. I lost something, okay. So
17 you're saying, for example, a transfemale athlete tries
18 out for a female athletic team and doesn't make it?.

19 Q. I'm asking is that an example of a non-arbitrary
20 exclusion?

21 A. Yes. In general, I would say, yes, without
22 having more details, all right, but it doesn't ---
23 transathletes, right, would just have the right to try
24 out, the right to, you know, potentially participate,

1 but it doesn't mean that everyone would make the team.

2 Q. Got it. So that situation where you have the
3 male athlete who identifies as female, right, and just
4 doesn't make the team, do they lose out on the
5 experiences and opportunities associated with
6 participating in sports?

7 ATTORNEY VEROFF: Objection.

8 THE WITNESS: Yeah, it depends. You
9 know, some might participate in another sport, right, or
10 find another avenue, but the potential is there for
11 that, yeah.

12 BY ATTORNEY SCRUGGS:

13 Q. So in a situation where there is no other
14 opportunity or avenue, but we are saying that athlete
15 just can't make that team because they just don't have
16 that athletic skill, in that situation they would lose
17 out on the opportunity outcomes associated with
18 participating on that team?

19 ATTORNEY VEROFF: Objection.

20 BY ATTORNEY SCRUGGS

21 Q. So the word arbitrary doesn't really determine
22 whether someone benefits from the experience and
23 outcomes of participating in youth sports?

24 ATTORNEY VEROFF: Objection.

1 THE WITNESS: Right. Inherent within
2 sports, unfortunately, particularly at the secondary
3 level, is that not all schools are in a position to let
4 every child participant who wants to, right, and so
5 there is a cut policy. Personally, because of
6 everything I've outlined today, I wish every school
7 district was doing everything possible to include as
8 many kids, as many athletes as they could, right, but
9 that's not the reality. Boys and girls try out for
10 teams and they get --- you know, they don't make it. I
11 just saw this clip this weekend, Billy Mills, Olympic
12 gold medalist, right, he was cut from his track team as
13 a freshman, right. So that happens. And I'm
14 distinguishing that from just arbitrarily saying this
15 whole group of athletes, you don't have the right to
16 even try out for the team.

17 BY ATTORNEY SCRUGGS:

18 Q. But in terms of taking advantage of the benefits
19 associated with sports, it's not so much why someone is
20 excluded but just the fact that they are excluded?

21 ATTORNEY VEROFF: Objection, asked and
22 answered.

23 THE WITNESS: I would say it's important
24 to consider why they are excluded.

1 BY ATTORNEY SCRUGGS:

2 Q. Okay.

3 And why is that important?

4 A. Because I believe it's harmful to just have a
5 blanket exclusion of a group of athletes like
6 transathletes to say you don't have the right to
7 participate in your school activities, to try out,
8 right, and to be part of these teams and activities.

9 Q. Well, I'm asking with respect to your expertise
10 about benefiting from the outcome and advantages of
11 participating in sports. It seems to me that any type
12 of exclusion from sports was by definition maybe cannot
13 take advantage of this opportunity to benefit. Isn't
14 that correct?

15 ATTORNEY VEROFF: Objection. Asked and
16 answered.

17 THE WITNESS: No. I'm speaking
18 specifically about sport because that's what's on the
19 table in this case, but you know, somebody else might
20 really experience a caring task involving climate and
21 have great opportunities in other activities of school
22 that they're passionate about, like school or music,
23 right. But if like BPJ, if her passion is sport,
24 wanting to run track, right, then --- and there's just a

1 blanket statement saying you're not --- you can't, you
2 can't try out for the women's track team, right, then
3 that would prevent her from the potential benefits that
4 she could be reaping, right, and just enhancing her
5 school experience.

6 Q. Got it. Like the male that identifies as male
7 and can't participate on either the males sports team or
8 the female sports team?

9 ATTORNEY VEROFF: Objection.

10 THE WITNESS: Right. The distinction is
11 that he can participate on the male team. He can try
12 out, right, just like the transgender female can try out
13 for the women's team, but there's no guarantee that the
14 athletes make the team.

15 BY ATTORNEY SCRUGGS:

16 Q. Exactly. So I mentioned to you that I represent
17 Lainey Armistead. And I will represent to you that she
18 is a female soccer player on the West Virginia State
19 University soccer team. Now, I think earlier you
20 mentioned that you reviewed some documents in the case.
21 Did you happen to run across any documents mentioning
22 Ms. Armistead?

23 A. Yes, I read her statement. It's been a little
24 bit of time, so I might need to be refreshed on it, but

1 I did take a look at that.

2 Q. Okay.

3 Well, let me go to Exhibit --- paragraph 41 of
4 your expert report.

5 VIDEOGRAPHER: What number did you say,
6 Counsel?

7 ATTORNEY SCRUGGS: Paragraph 41.

8 VIDEOGRAPHER: Thank you.

9 BY ATTORNEY SCRUGGS:

10 Q. And it says the climate of youth sport must be
11 geared to include all participants so the teams are more
12 likely to help every athlete maximize their potential.
13 From an educational perspective it is optimal to
14 encourage all athletes to do the best they can and to
15 help all athletes enjoy the sport that they love.

16 Did I read that correctly?

17 A. Yes.

18 Q. So I assume that would include Ms. Armistead in
19 your opinion.

20 Correct?

21 ATTORNEY VEROFF: Objection.

22 THE WITNESS: I think some of the ideas
23 hold, but you know, we were referring here to the
24 climate of youth sport. Typically in our field we

1 consider youth sport through high school and we would
2 separate that from collegiate sport.

3 BY ATTORNEY SCRUGGS:

4 Q. Do you think it would be wrong to say that we
5 should not --- you know, strike that.

6 Do you think that we shouldn't gear athletic or
7 college sports to include all participants?

8 ATTORNEY VEROFF: Objection.

9 THE WITNESS: You know, at a place like
10 the University of Kansas where I am, we have different
11 levels and so you have the D-1 sport, right, and then
12 you have club sport where people who don't have the
13 skill level or the experience to play a D-1 sport can
14 try out for the club sport those --- I think there's
15 like 40 teams or maybe more we have, and the skill level
16 among those sport club teams really varies, right. You
17 got some, that are not hit and giggle, you know, just
18 everyone's welcome and they don't have --- you know, a
19 cut policy. Others are pretty competitive and maybe
20 competing at national levels.

21 But you have another level of intermurals
22 that is open to every student on campus can sign up,
23 because they want to play whatever it is basketball or
24 indoor soccer or something. So I think ideally, you

1 know, universities should offer lots of opportunities
2 for people to participate in sport.

3 It is not realistic that every student on
4 campus could participate in you know D-1 sport or
5 whatever the level, you know, a school might have.

6 BY ATTORNEY SCRUGGS:

7 Q. So Doctor, if we had a male that identifies as
8 female, it wouldn't be problematic to exclude that
9 person from the female collegiate track team?

10 ATTORNEY VEROFF: Objection.

11 THE WITNESS: I think it depends on what
12 the rules are in place, but if this transgender female
13 meets the criteria and participates, right, that that is
14 great.

15 BY ATTORNEY SCRUGGS:

16 Q. Well, again, assuming the rules are --- the
17 rules of West Virginia are in place and says we now
18 require all natal males to participate on the male team
19 rather than on the female team, why can't we just tell
20 the male college athletes to identify as females, they
21 can go play on the club sports club team?

22 ATTORNEY VEROFF: Objection.

23 THE WITNESS: I think the transgender
24 female athlete should have the right to participate on

1 whichever of those levels that they want to participate
2 on. Right. The female D-1 team the sports team, the
3 intermural team, they should have the right to try out
4 as long as they meet the criteria that's in place.

5 BY ATTORNEY SCRUGGS:

6 Q. Do you feel that Ms. Armistead should have the
7 right to participate on the female women's soccer team?

8 ATTORNEY VEROFF: Objection.

9 THE WITNESS: Yes.

10 BY ATTORNEY SCRUGGS:

11 Q. Doctor Fry, you would agree that if Ms.
12 Armistead lost her spot on the soccer team to a male
13 soccer player who identifies as female, Ms. Armistead
14 would be deprived of the positive experiences associated
15 with participating on that soccer team?

16 ATTORNEY VEROFF: Objection.

17 THE WITNESS: Right. If the transgender
18 female is meeting the criteria that's in place by the
19 NCAA, right, and then --- and makes the team and someone
20 else doesn't make the team, right, I would say that's
21 --- that's part of sport just like Ms. Armistead, I
22 think, right, if she tried out and she didn't make the
23 team because there's other cisfemale athletes that had a
24 better performance or made the team, but either way she

1 would be missing out on the benefits if she didn't make
2 the team.

3 BY ATTORNEY SCRUGGS:

4 Q. And that's not my point. I understand your
5 argument. I understand that, as a matter of fact, she
6 would lose out on the benefits and opportunities for
7 participating on the sports team.

8 ATTORNEY VEROFF: I'm going to object to
9 Counsel testifying.

10 BY ATTORNEY SCRUGGS:

11 Q. I'm asking if you agree with that?

12 ATTORNEY VEROFF: Objection to the
13 question.

14 THE WITNESS: Yeah, I'm agreeing that
15 athletes try out for teams, and when they don't make it,
16 it's hard for them to reap the benefits of being part of
17 their team if they, you know, don't participate and
18 aren't part of that.

19 ATTORNEY SCRUGGS: I understand. I have
20 no further questions. Thank you, Dr. Fry.

21 ATTORNEY CROPP: This is Jeffrey Cropp,
22 Counsel for Defendant Harrison County Board of
23 Education, and Superintendant Dora Stutler. I have no
24 questions.

1 ATTORNEY GREEN: This is Roberta Green on
2 behalf of West Virginia Secondary School Activities
3 Commission. I have no questions.

4 ATTORNEY MORGAN: This is Kelly Morgan on
5 behalf of the West Virginia Board of Education and
6 Superintendant Burch. I have no questions.

7 ATTORNEY TRYON: And this is Dave Tryon.
8 I have no further questions, unless the Defense Counsel
9 does. Excuse me, Plaintiff's Counsel.

10 ATTORNEY VEROFF: No, we don't have any
11 further questions. The witness will read and sign
12 later.

13 VIDEOGRAPHER: Okay.

14 If there's no further questions that
15 concludes this deposition. The current time reads
16 5:38 p.m. Eastern Standard Time.

17 * * * * *

18 VIDEOTAPED DEPOSITION CONCLUDED AT 5:38 P.M.

19 * * * * *

20

21

22

23

24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
23
24

COMMONWEALTH OF PENNSYLVANIA)

COUNTY OF PHILADELPHIA)

CERTIFICATE

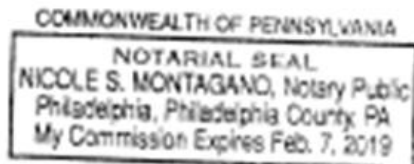
I, Nicole Montagano, a Notary Public in and for the Commonwealth of Pennsylvania, do hereby certify:

That the foregoing proceedings, deposition of Mary D. Fry, Ph.D., was reported by me on March 29, 2022 and that I, Nicole Montagano, read this transcript, and that I attest that this transcript is a true and accurate record of the proceeding.

That the witness was first duly sworn to testify to the truth, the whole truth, and nothing but the truth and that the foregoing deposition was taken at the time and place stated herein.

I further certify that I am not a relative, employee or attorney of any of the parties, nor a relative or employee of counsel, and that I am in no way interested directly or indirectly in this action.

Dated the 4 day of April, 2022



Nicole Montagano
Nicole S. Montagano,
Court Reporter|



IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION

B.P.J., by her next friend and mother, HEATHER JACKSON,

Plaintiff,

v.

WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official capacity as State Superintendent, and DORA STUTLER in her official capacity as Harrison County Superintendent,

Defendants.

Civil Action No.

Hon.

DECLARATION OF PROFESSOR MARY D. FRY, PHD

1. I have been retained by counsel for Plaintiff as an expert in connection with the above-captioned litigation.

2. The purpose of this declaration is to offer my expert opinion on: (1) the psychological and behavioral benefits of youth sports; and (2) the conditions that lend themselves to youth participating in athletics and accessing those benefits when they do participate.

3. I have knowledge of the matters stated in this declaration. I have collected and cite to relevant literature concerning the issues that arise in this litigation in the body of this declaration and in the attached bibliography.

4. In preparing this declaration, I reviewed West Virginia HB 3293, the bill at issue in this litigation.

5. In preparing this declaration, I relied on my education and training, my professional and research experience, and my knowledge of the literature in the pertinent fields. The materials I have relied upon in preparing this declaration are the same types of materials that experts in my field of study regularly rely upon when forming opinions on the subject. I may wish to supplement these opinions or the bases for them as a result of new research or publications or in response to statements and issues that may arise in my area of expertise.

PROFESSIONAL BACKGROUND

6. I am a Professor in the Department of Health, Sport & Exercise Sciences at the University of Kansas in Lawrence, Kansas. A true and correct copy of my CV is attached hereto as Exhibit A.

7. In 1984, I graduated from Texas Wesleyan University in Fort Worth, Texas with a Bachelor of Science in Physical Education. After graduating, I spent about five years teaching physical education and coaching tennis at schools and summer camps in Texas and North Carolina.

8. I graduated with a Master of Science in Sport Psychology/Pedagogy from the University of North Carolina in Greensboro in 1990. Then, in 1994, I graduated with a doctorate in Sport & Exercise Psychology from Purdue University. From 1994 to 1999, I served as an Assistant Professor in the University of Memphis's Department of Human Movement Sciences and Education. I continued at the same institution from 1999 to 2007 as an Associate Professor in the Department of Human & Sport Sciences. I joined the faculty of the University of Kansas in 2007, where I continue to teach and research as a Professor today.

9. I have authored or coauthored 63 papers in peer-reviewed journals, including many studies in sport psychology and youth athlete motivation. I have coauthored five book chapters and one book, titled *A Coach's Guide to Maximizing the Youth Sport Experience: Work Hard and Be Kind*. I have also given 116 presentations on my research at both international and national conferences, as well as dozens of local and regional presentations.

10. I have taught and/or developed six undergraduate level courses and 12 graduate level courses in sport and exercise psychology. The courses I developed include Psychosocial Aspects of Sport, Applied Sport Psychology, Developmental Perspectives in Youth Sport, and Special Course: Sport Psychology Within Youth Sport.

11. On a national level, I have served with the Association of Applied Sport Psychology ("AASP") as a member of the Program Review Committee (2008-present), a Subject Matter Expert for the Certification Exam Committee (2018), and a member of the Ad-Hoc Future of AASP Committee (2012-2015). For the AASP, I have served as an Executive Board Member (2004-2006), two three-year terms as a member of the Social Psychology Section Committee (1996-99; 2001-2003), and as a member of the Dissertation Award Committee (1998 & 2002). I have also served on the Editorial Board for *Physical Activity Today* (1997-2001) and on the Program Review Committee for the American Alliance of Health, Physical Education, Recreation & Dance (2009-2017), in addition to chairing the Committee in 2010. I also serve on the National Advisory Board for the Positive Coaching Alliance.

12. I have undertaken editorial roles on professional journals within my field, including as Associate Editor (2009-2012) and Editorial Board Member (2000-2009; 2013-present) for the *Journal of Applied Sport Psychology*; Associate Editor (2008-present) for the *Journal of Sport Psychology in Action*; Section Editor (2003-2006) and Reviewer (1994-present)

for the *Research Quarterly for Exercise and Sport*; and Editorial Board Member (2011-present) for *Sport, Exercise, and Performance Psychology*.

13. I have served on the Kansas University Certificate in Sport Committee (2017-2018), and the Kansas University Center for Undergraduate Research, Advisory Board (2016-2018), among other roles at the University.

14. I am, or have been, a member of several professional organizations, including the American Psychological Association (2017-present), the Kansas Alliance for Health, Physical Education, Recreation, & Dance (2008-present), the American Alliance for Health, Physical Education, Recreation, and Dance (1988-2017), and the North American Society for the Psychology of Sport and Physical Activity (1988-2000).

15. I also have experience applying sport psychology in the field, which include mental skills interventions for various athletes and teams, including with high school and university athletes (2018-present), a high school baseball team (2013-2018), a youth baseball team (2009-2011), a Division I collegiate volleyball team (2008-2010), a high school basketball team (2006-2007), and a Division I cross country team (2006).

16. I have not previously testified as an expert witness in either deposition or at trial.

17. I am being compensated at an hourly rate of \$250 per hour. My compensation does not depend on the outcome of this litigation, the opinions I express, or the testimony I provide.

MOTIVATION AND ATHLETICS

18. There are many benefits to young people from participating in athletic activities, discussed further below. But understanding what motivates youth to participate in athletics in the first place is essential for understanding how they can access these benefits. One critical way to

increase participation in athletics is to understand the factors that motivate individuals to stay engaged at different ages and in different contexts. Understanding motivation also helps to explain how the benefits youth derive from participating in sport translate to other aspects of their lives.

19. In simple terms, motivation is the desire to do activities. More formally, it is defined as “the process that influences initiation, direction, magnitude, perseverance, continuation, and quality of goal-directed behavior” (Maehr & Zusho, 2009). Motivation is about why, how, when, and in what circumstances people employ their resources.

20. One of the most-researched motivational theories in the field of sport psychology is achievement goal perspective theory (“AGPT”), which was developed to address how motivation could be heightened and sustained over time (Nicholls 1984, 1989). AGPT includes three components that together can work to optimize motivation among all individuals, including youth participating in sports.

21. First is the developmental component of AGPT. Young children are incapable of accurately comparing their ability to others, overestimate their ability, and are naturally focused on their effort as a marker of success. By the time they enter adolescence, however, they are able to distinguish the concepts of effort, luck, and ability.

22. Second, around 12 years of age, children achieve a mature understanding of the concept of ability and at that time adopt their own personal definitions of success, or “goal orientations.” The primary goal orientations are task and ego. Individuals with a “high task orientation” define success based on their effort, improvement, and mastery of tasks over time. In contrast, a high ego orientation occurs when individuals define success in normative terms,

only feeling successful when they outperform others. Individuals are to some degree both task- and ego-oriented; in fact, they can be high and/or low in both orientations.

23. Third, motivations are shaped by outside factors, which can reinforce a task orientation as opposed to an ego orientation. Specifically, athletes' perceptions of the environment that is created by coaches (but can also be influenced by parents and teammates) (Ames, 1992a, 1992b; Nicholls, 1984, 1989) can be a caring and task-involving or ego-involving climate. A caring climate is one where athletes feel safe and welcome, comfortable, valued, and are treated with kindness and respect by all in the sport setting (Newton et al. 2007).

24. With the goal of increasing opportunities for participation in mind, AGPT provides important guidance about how to help each athlete maximize their sport experience and to increase opportunities within athletics for youth.

BENEFITS OF SPORT FOR YOUTH ATHLETES

25. For youth student-athletes, athletics serve a different purpose than for athletes who participate in professional athletics or world elite competition. The National Collegiate Athletic Association (NCAA) estimates that there are 7.3 million high school student-athletes in the United States. Of those millions of athletes, only about 6% go on to compete at the college level in any division (with only about 2% earning an athletic scholarship).¹ By the numbers alone, the primary purpose of high school sports is not about preparing youth for college sports. For the 94% of high school athletes who do not compete in college as well as for those who do, youth sport creates a myriad of benefits (unrelated to preparing athletes to compete in college).

¹ NCAA Recruiting Facts (March 2018), <https://www.ncaa.org/sites/default/files/Recruiting%20Fact%20Sheet%20WEB.pdf>.

A. Athletes' Type of Goal Orientation Determines What Benefits They Derive from Youth Athletics.

26. A high task orientation, described above in Paragraph 21, is the key to optimizing motivation over time because effort and improvement – the keys to task orientation – are variables that individuals can more easily control. In contrast, individuals high in ego orientation define success based on performance relative to others. High task orientation results in athletes' being more likely to seek challenge, exert high effort, and persist over time (Maehr & Zusho, 2009).

27. It should be noted that the research findings described below, which highlight the relationships between goal orientations and numerous outcome variables, have been consistent for both boys and girls. In other words, within the body of research on athletes' goal orientations, results across studies reveal that task orientation is more often positively correlated with adaptive outcomes (e.g., intrinsic motivation), and ego orientation is more often negatively associated with maladaptive outcomes (e.g., worry) for both boys and girls (Fry & Moore, 2019; Roberts, 2012; Roberts, Nerstad, & Lemyre, 2018).

28. Perhaps the strongest finding within the goal orientation research links a task orientation with high enjoyment. Throughout childhood and adolescence, and across a range of sports, athletes who define success based on their personal effort and improvement have more fun playing their sport than those high in ego orientation (Schneider, Harrington, & Tobar, 2017; Seifriz, Duda, & Chi, 1992; Stephens, 1998; Stuntz & Weiss, 2009; van de Pol & Kavussanu, 2011). Importantly, goal orientations are also associated with the sources of enjoyment athletes identify. For example, youth athletes with a high task orientation more often report experiencing enjoyment from learning and having positive team interactions. In contrast, athletes high in ego

orientation more often report experiencing enjoyment as a result of winning and having high perceived competence (Lochbaum & Roberts, 1993).

29. Another benefit of high task orientation in youth athletes is the strong and positive association with interpersonal and team dynamics (Balaguer, Duda, & Crespo, 1999; Ommundsen, Roberts, Lemyre, & Miller, 2005). Task orientation is positively correlated with peer acceptance, less conflict with peers, and greater satisfaction with the coach.

30. Athletes high in ego orientation report lower companionship and greater conflict with teammates (Balaguer et al., 1999), and there is no evidence to suggest they reap the benefits of enhanced social relationships that athletes with high task orientation do (Ommundsen et al., 2005).

31. Athletes high in task orientation also report greater confidence and perceived ability, and task orientation has been correlated with both self and team efficacy and greater perceived competence (Magyar & Feltz, 2003; Seifriz et al., 1992; Stuntz & Weiss, 2009). Further, athletes high in task orientation report utilizing more adaptive coping strategies (Kim, Duda, & Gano-Overway, 2011; McCarthy 2011). These adaptive outcomes have been found for middle school, high school, and collegiate athletes.

32. Ego orientation (i.e. the non-pejorative, descriptive term for defining success based on ability and performance outcomes), in contrast, is not correlated with perceived ability in general. Confidence of athletes high in ego orientation was more often based on their perceptions of ability and having a strong physical presence, whereas athletes high in task orientation based their perceptions of confidence on their sense of feeling well prepared and mentally strong (Magyar and Feltz, 2003). There is also a consistently significant relationship between ego orientation and anxiety (Lochbaum et al., 2016). Young athletes with high ego

orientation participating in a variety of sports have reported higher trait and state cognitive and somatic anxiety, as well as greater concentration disruption, maladaptive perfectionism, and concern over making mistakes (Grossbard, Cumming, Standage, Smith, & Smoll, 2007; Hall, Kerr, & Matthews, 1998; Ommundsen & Pedersen, 1999; Ommundsen et al., 2005; White & Zellner, 1996).

B. Structuring Sport with a Caring and Task-Involving Climate Fosters High Task Orientation, Which Optimizes Benefits for Youth Athletes.

33. A large body of research in sport psychology, and specifically youth sport, identifies how sport can be structured to help young athletes reap many physical, psychological, and social benefits from their participation in sport and physical activities (Duda, 2013; Fry & Hogue, 2018; Fry & Moore, 2019; Harwood, Keegan, Smith, & Raine, 2015; Roberts, 2013).

34. In youth sports, the climate created on individual athletes' teams, more than the identity of their opponents, determines whether and to what extent young athletes are deriving optimal benefits from sport and maintaining motivation to participate in sport. Overall, the best way to get youth athletes to participate in sports is to create a caring and task-motivated climate, which reinforces high task orientation and leads to the benefits described above. These outcomes help athletes have a sport experience that makes them want to keep playing sport, thereby deriving the benefit of sport more consistently and for longer periods of time. Again, within the motivational climate literature, the findings are consistent for both boys and girls, in that they both have more adaptive responses in a caring and task-involving climate and more problematic, maladaptive responses in ego-involving climates. (Fry & Hogue, 2018; Fry & Moore, 2019; Harwood et al., 2015; Roberts, 2012; Roberts, Nerstad, & Lemyre, 2018).

35. A caring and task-involving climate is one in which coaches do the following: recognize and reward effort and improvement; foster cooperation among teammates; make

everyone feel they play an important role on the team; treat mistakes as part of the learning process; and encourage an approach where everyone is treated with mutual kindness and respect.

36. When athletes perceive a caring and task-involving climate on their teams, they are more likely to have fun, exert high effort, experience intrinsic motivation, have better interpersonal relationships with coaches and athletes, display better sportsperson-like values and behaviors, have better psychological well-being, and perform better (Duda & Nicholls, 1992; Fry & Hogue, 2018; Iwasaki & Fry, 2013; Newton, Duda, & Yin, 2000; McDonald, Cote, Eys, & Deakin, 2011). In addition, there are positive and significant associations between perceptions of a caring climate in sport settings and the hope and happiness of youth, and negative relationships with depression and sadness (Fry et al., 2012), as well as the ability of youth athletes to monitor and control their affective responses. This self-regulation was found to contribute to athlete empathy, indicating that fostering more caring climates in sport settings may facilitate positive social interactions and character development (Gano-Overway et al., 2009). Elite adult athletes who are task-oriented and/or who perceive a task-involving climate are also significantly more likely to report not using performance-enhancing drugs (Allen, et al., 2015).

37. Youth involved in positive and supportive sport environments experience greater self-esteem, psychological well-being, and hope, with less depression, sadness, and burnout than those in less supportive environments. They have better emotional self-regulation, meaning they are more able to manage negative emotions, to keep things in perspective, and to feel and express joy when good things happen (Fry et al, 2012; Gano-Overway et al, 2009).

38. In contrast, where coaches reward only ability and performance outcome, foster rivalry among teammates, punish mistakes, and give most of the recognition to a few “stars,” they contribute to an ego-focused climate that can lead to athletes’ experiencing fewer adaptive

and positive motivational outcomes and greater negative outcomes. Ego-focused environments create greater acceptance of rough play, cheating, and aggressive behaviors in their sport (Boixados, Cruz, Torregrosa, & Valiente, 2004), and are less likely to lead to appropriate, desirable, and respectful behaviors within sport (Fry & Newton, 2003).

39. Athletes' perceptions of a caring and task-involving climate may also be linked to higher quality training and better performance outcomes, as researchers report more effective practice strategies in sport and physical education settings (Boyce, Gano-Overway, & Campbell, 2009; Iwasaki & Fry, 2016; Lochbaum et al., 2016). Some studies have revealed a direct association between perceptions of a task-involving climate to objective performance (Hogue, Fry, & Fry, 2017; Theeboom, De Knop, & Weiss, 1995; Xiang, Bruene, & McBride, 2004).

40. Young athletes have also had higher winning percentages on their teams and performed better on tasks when they perceived a task-involving (rather than ego-involving) climate (Cumming et al., 2007; Sarrazin, Roberts, Cury, Biddle, & Famose, 2002).

41. Athletes' perceptions of a task-involving climate were associated with less performance worry and escapism thoughts (Hatzigeorgiadis & Biddle, 2002). Often, mistakes and facing challenges present opportunities to learn and succeed in different ways (by improving oneself, for example). And in sport, much is unpredictable: An opponent's unexpected performance, the weather, and an illness, can drastically change a competition day. Being adaptive and focused on giving one's best effort can help athletes' overcome disappointment (Fry, et al., 2020; Fry & Moore, 2019).

42. Despite the ego-involving climate's emphasis on performance outcomes, results across studies suggest that the benefits of a task-involving climate may have a direct impact on athletic performance and ultimately improve performance outcomes (Jackson & Roberts, 1992;

McDonald, Cote, & Deakin, 2011). By contrast, no evidence currently points to an ego-involving climate leading to greater performance outcomes with young athletes.

43. Even for athletes who are themselves highly ego-oriented, and who prioritize winning and external rewards, a task-involving and caring climate is preferable. Such a climate encourages young athletes to orient themselves toward a task-involved model for motivation and away from the stress-inducing ego-orientation, which will in turn garner the young person the benefits associated with a task-orientation. For example, Division I college athletes who perceived a caring and task-involving climate on their teams reported having stronger mental skills including their use of goal setting; ability to concentrate, remain worry free, cope with adversity and peak under pressure; act with confidence; and be open to receiving feedback from coaches (Fry, Iwasaki, & Hogue, in press). These findings would suggest that athletes with strong mental skills might also perform better. Further, perceptions of an ego-involving climate have been linked to higher salivary cortisol responses (Hogue, Fry & Fry, 2017). Cortisol is an important and necessary hormone, but in excess it can break down muscle tissue and interfere with the immune system.

**EXCLUDING GROUPS FROM PARTICIPATING IN
HIGH SCHOOL ATHLETICS WOULD DEPRIVE THEM AND THEIR TEAMMATES
OF A WIDE RANGE OF EDUCATIONAL BENEFITS**

44. A goal of youth sport is to help young athletes have positive experiences across sport. This includes creating space for athletes to have fun, develop skills, make friends, increase their levels of physical activity, continue their participation over time, and learn valuable life lessons (Thompson, 2010). If athletes are arbitrarily excluded from youth sports, they are, in turn, deprived of those positive experiences and outcomes and their teammates are deprived of a genuinely task-involving and caring sports climate.

45. Athletes who participate in high school sport are more likely to finish college, and more likely to be actively engaged in planning for their future after their sport career ends (Chamberlin & Fry, 2020; Troutman & Defur, 2007). Many of the benefits to youth who participate in athletics are documented throughout life. For example, women who participated in high school sport see greater success in the business world (ESPNW & EY, 2017; Sasaki, 2020).

46. All youth benefit from a sport environment that is task-involving, which results in athletes taking on more challenging tasks (Stuntz & Weiss, 2009; van de Pol & Kavussanu, 2011), building stronger interpersonal dynamics (Balaguer, Duda, & Crespo, 1999; Ommundsen, Roberts, Lemyre, & Miller, 2005), reducing antisocial behavior (Kavussanu & Roberts, 2001; Stephens & Kavanagh, 2003), and acquiring greater confidence (Magyar & Feltz, 2003; Seifriz et al., 1992; Stuntz & Weiss, 2009).

47. Coaches and others involved in youth sport have a responsibility for creating the climate that is most conducive to encouraging young athletes to adopt a high task-orientation. Arbitrarily excluding athletes from their teams undermines a caring climate, which, in turn, diminishes the positive outcomes for all youth athletes. The negative outcomes apply not only to the athletes who are excluded, but to the other athletes on the team.

48. Excluding groups of athletes can also undermine the benefits of a high task-involving climate, as such a climate should help athletes develop strong interpersonal and team dynamics (Balaguer, Duda, & Crespo, 1999; Ommundsen, Roberts, Lemyre, & Miller, 2005). Fostering task orientation positively correlates with peer acceptance, less conflict with peers, and greater satisfaction with the coach. These outcomes help athletes have a sport experience that make them want to keep playing sport.

49. When young athletes are excluded from participating in youth sport, or are in a climate where they do not feel accepted or respected, they do not have the opportunity to reap these benefits.

**FOCUSING SOLELY ON PERFORMANCE OUTCOMES
UNDERMINES THE BENEFITS OF YOUTH ATHLETICS**

50. When a team, league, or organization adopts an ego-promoting philosophy, and cares only about performance outcomes, the broader benefits of sport are diminished for all involved (both with regard to their future athletic careers and lives outside of sport). The overwhelming majority of high school athletes will never go on to compete in college, so focusing only on the highest-performing athletes compromises the other critical benefits of sports for youth.

51. Such a focus is stress-inducing and undermines the experience of the rest of the athletes who may train hard, improve, but may not be on the podium to receive a medal. The climate of youth sport must be geared to include everyone, including those who are not as skilled, so that teams are more likely to help every athlete maximize their potential. From an educational perspective, it is optimal to encourage all athletes to do the best that they can, and to help all athletes enjoy the sport that they love. Even among Division I collegiate athletes, athletes who perceived a task-involving climate on their teams reported higher academic and athletic satisfaction (Tudor & Ridpath, 2018).

52. Thus, the benefits associated with youth sport are not limited to whether athletes are winning competitions, where they are ranked in their sport, or what level of publicity they are getting. In fact, a focus exclusively on those things not only undermines an athlete's success in those areas but can compromise the holistic range of benefits derived from youth sport.

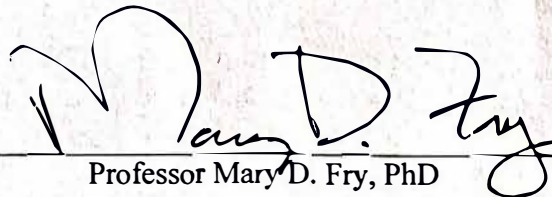
Ultimately, athletes are more likely to reap the positive benefits associated with youth sports if

they are task-involved, which places greater emphasis on effort, than if they are ego-involved, which would put greater emphasis on trappings of individual success.

53. For coaches of youth athletes, one important message is that, for the overwhelming majority of people, the period of time that a person participates in organized athletics is short and maximizing the benefits of that participation is essential. As Jim Thompson, Founder and former-CEO of the Positive Coaching Alliance notes: “Here’s the bottom line for parents. Your child’s experience with youth sports will come to an end, and it may happen suddenly. If you are like me, you will look back and think, ‘I wish I had enjoyed it more. I wish I hadn’t obsessed so much about how well my child was performing, or the team’s record, or whether he or she was playing as much as I wanted, or why the coach didn’t play him or her in the right position. I wish I had just enjoyed the experience more.’ Because the youth sports experience is so intense, we tend to forget how short it is and what a small amount of time parents and children get to spend together over the course of life.”

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Dated: May 1, 2021



Professor Mary D. Fry, PhD

Exhibit 2

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION

B.P.J. by her next friend and mother, HEATHER JACKSON,

Plaintiff,

v.

WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official capacity as State Superintendent, DORA STUTLER in her official capacity as Harrison County Superintendent, and THE STATE OF WEST VIRGINIA,

Defendants,

and

LAINY ARMISTEAD,

Defendant-Intervenor.

Civil Action No. 2:21-cv-00316

Hon. Joseph R. Goodwin

EXPERT REPORT AND DECLARATION OF PROFESSOR MARY D. FRY, PHD

1. I have been retained by counsel for Plaintiff as an expert in connection with the above-captioned litigation.

2. The purpose of this expert report and declaration is to offer my expert opinion on: (1) the psychological and behavioral benefits of sports for youth and young adults (including collegiate athletes); and (2) the conditions that lend themselves to youth and young adults participating in athletics and accessing those benefits when they do participate.

3. I have knowledge of the matters stated in this expert report and declaration. I have collected and cite to relevant literature concerning the issues that arise in this litigation in the body of this expert report and declaration and in the attached bibliography.

4. In preparing this expert report and declaration, I reviewed West Virginia H.B. 3293, the bill at issue in this litigation.

5. In preparing this expert report and declaration, I relied on my education and training, my professional and research experience, and my knowledge of the literature in the pertinent fields. The materials I have relied upon in preparing this expert report and declaration are the same types of materials that experts in my field of study regularly rely upon when forming opinions on the subject. I may wish to supplement these opinions or the bases for them as a result of new research or publications or in response to statements and issues that may arise in my area of expertise.

PROFESSIONAL BACKGROUND

6. I am a Professor in the Department of Health, Sport & Exercise Sciences at the University of Kansas in Lawrence, Kansas. A true and correct copy of my Curriculum Vitae is attached hereto as Exhibit A.

7. In 1984, I graduated from Texas Wesleyan University in Fort Worth, Texas with a Bachelor of Science in Physical Education. After graduating, I spent about five years teaching physical education and coaching tennis at schools and summer camps in Texas and North Carolina.

8. I graduated with a Master of Science in Sport Psychology/Pedagogy from the University of North Carolina in Greensboro, North Carolina in 1990. Then, in 1994, I graduated with a doctorate in Sport & Exercise Psychology from Purdue University in West Lafayette, Indiana. From 1994 to 1999, I served as an Assistant Professor in the University of Memphis's

Department of Human Movement Sciences and Education. I continued at the same institution from 1999 to 2007 as an Associate Professor in the Department of Human & Sport Sciences. I joined the faculty of the University of Kansas in 2007, where I continue to teach and research as a Professor today.

9. I have authored or coauthored 69 papers in peer-reviewed journals, including many studies in sport psychology and youth athlete motivation. I have coauthored seven book chapters and one book, titled *A Coach's Guide to Maximizing the Youth Sport Experience: Work Hard and Be Kind*. I have also given 118 presentations on my research at both international and national conferences, as well as dozens of local and regional presentations.

10. I have taught and/or developed six undergraduate level courses and 12 graduate level courses in sport and exercise psychology. The courses I developed include Psychosocial Aspects of Sport, Applied Sport Psychology, Developmental Perspectives in Youth Sport, and Special Course: Sport Psychology Within Youth Sport.

11. On a national level, I have served with the Association of Applied Sport Psychology ("AASP") as a member of the Program Review Committee (2008-present), a Subject Matter Expert for the Certification Exam Committee (2018), and a member of the Ad-Hoc Future of AASP Committee (2012-2015). For the AASP, I have served as an Executive Board Member (2004-2006), two three-year terms as a member of the Social Psychology Section Committee (1996-99; 2001-2003), and as a member of the Dissertation Award Committee (1998; 2002). I have also served on the Editorial Board for *Physical Activity Today* (1997-2001) and on the Program Review Committee for the American Alliance of Health, Physical Education, Recreation & Dance (2009-2017), in addition to chairing the Committee in 2010. I also serve on the National Advisory Board for the Positive Coaching Alliance.

12. I have undertaken editorial roles on professional journals within my field, including as Associate Editor (2009-2012) and Editorial Board Member (2000-2009; 2013-present) for the *Journal of Applied Sport Psychology*; Associate Editor (2008-present) for the *Journal of Sport Psychology in Action*; Section Editor (2003-2006) and Reviewer (1994-present) for the *Research Quarterly for Exercise and Sport*; and Editorial Board Member (2011-present) for *Sport, Exercise, and Performance Psychology*.

13. I have served on the Kansas University Certificate in Sport Committee (2017-2018), and the Kansas University Center for Undergraduate Research, Advisory Board (2016-2018), among other roles at the University.

14. I am, or have been, a member of several professional organizations, including the American Psychological Association (2017-present), the Kansas Alliance for Health, Physical Education, Recreation, & Dance (2008-present), the American Alliance for Health, Physical Education, Recreation, and Dance (1988-2017), and the North American Society for the Psychology of Sport and Physical Activity (1988-2000).

15. I also have experience applying sport psychology in the field, which include mental skills interventions for various athletes and teams, including with high school and university athletes (2000-present), a high school baseball team (2013-2018), a youth baseball team (2009-2011), a Division I collegiate volleyball team (2008-2010), a high school basketball team (2006-2007), and a Division I cross-country team (2006).

16. I have not previously testified as an expert witness in either deposition or at trial.

17. I am being compensated at an hourly rate of \$250 per hour. My compensation does not depend on the outcome of this litigation, the opinions I express, or the testimony I provide.

**FOCUSING SOLELY ON PERFORMANCE OUTCOMES UNDERMINES THE
BENEFITS OF SPORT FOR YOUTH AND YOUNG ADULT ATHLETES**

18. For youth and young adult student-athletes, athletics serve a different purpose than for athletes who participate in professional athletics or world elite competition. A myopic focus on winning in youth and young adult athletics ignores the other important benefits that school athletics offer young athletes, such as teamwork and camaraderie, which are advanced when all athletes have the opportunity to play the sport they love and reap the benefits of such participation.

19. The National Collegiate Athletic Association (NCAA) estimates that there are eight million high school student-athletes in the United States.¹ Of those millions of athletes, only about 6% go on to compete at the college level in any division (with only about 2% earning an athletic scholarship).² By the numbers alone, the primary purpose of high school sports is not about preparing youth for college sports. For the 93% of high school athletes who do not compete in college as well as for those who do, youth sport creates a myriad of benefits unrelated to preparing athletes to compete in college.

20. Then for collegiate athletics, most athletes do not go on to have athletic careers beyond college in an elite sports context. According to the NCAA: “Fewer than two percent of NCAA student-athletes go on to be professional athletes.”³ That percentage does not include National Association of Intercollegiate Athletics (for small college sports) and junior college student-athletes, who are less likely to have professional sports careers. Accordingly, among total numbers of collegiate athletes in the United States, the total percentage of athletes who go on to participate in elite, professional athletics after college is even lower than two percent.

¹ <https://www.ncaa.org/about/resources/research/estimated-probability-competing-college-athletics>

² *Id.*; <https://www.ncaa.org/student-athletes/future/scholarships>

³ <https://www.nfhs.org/media/886012/recruiting-fact-sheet-web.pdf>

21. There are many benefits to young people from participating in athletic activities, discussed further herein. But understanding what motivates youth and young adults to participate in athletics in the first place is essential for understanding how they can access these benefits. One critical way to increase participation in athletics is to understand the factors that motivate individuals to stay engaged at different ages and in different contexts. Understanding motivation also helps to explain how the benefits youth and young adults derive from participating in sport translate to other aspects of their lives.

22. In simple terms, motivation is the desire to do activities. More formally, it is defined as “the process that influences initiation, direction, magnitude, perseverance, continuation, and quality of goal-directed behavior” (Maehr & Zusho, 2009). Motivation is about why, how, when, and in what circumstances people employ their resources.

23. One of the most-researched motivational theories in the field of sport psychology is achievement goal perspective theory, which was developed to address how motivation could be heightened and sustained over time (Nicholls 1984, 1989). Achievement goal perspective theory includes three components that together can work to optimize motivation among all individuals, including youth and young adults participating in sports.

24. First is the developmental component of achievement goal perspective theory. Young children are incapable of accurately comparing their ability to others, overestimate their ability, and are naturally focused on their effort as a marker of success. By the time they enter adolescence, however, they are able to distinguish the concepts of effort, luck, and ability.

25. Second, around 12 years of age, children achieve a mature understanding of the concept of ability and at that time adopt their own personal definitions of success, or “goal orientations.” The primary goal orientations are task and ego. Individuals with a “high task

orientation” define success based on their effort, improvement, and mastery of tasks over time. In contrast, a high ego orientation occurs when individuals define success in normative terms, only feeling successful when they outperform others. Individuals are to some degree both task- and ego-oriented; in fact, they can be high and/or low in both orientations.

26. Third, motivations are shaped by outside factors, which can reinforce a task orientation as opposed to an ego orientation. Specifically, athletes can perceive the environment that is created by coaches (but can also be influenced by parents and teammates) (Ames, 1992a, 1992b; Nicholls, 1984, 1989) as a task-involving or ego-involving climate. When the environment created by coaches and others is a caring environment, athletes are more likely to perceive the overall climate as task-involving. A caring environment is one where athletes feel safe, welcome, comfortable, and valued, and are treated with kindness and respect by all in the sport setting (Newton et al., 2007). A climate that is both task-involving and caring is one in which coaches do the following: recognize and reward effort and improvement; foster cooperation among teammates; make everyone feel they play an important role on the team; treat mistakes as part of the learning process; and encourage an atmosphere where everyone is treated with mutual kindness and respect.

27. A high task orientation, described above in Paragraph 25 is the key to optimizing motivation over time because effort and improvement – the keys to task orientation – are variables that individuals can more easily control. High task orientation results in athletes being more likely to seek challenge, exert high effort, and persist over time (Maehr & Zusho, 2009).

28. Perhaps the strongest finding within the goal orientation research links task orientation with high enjoyment. Throughout childhood and adolescence, and across a range of sports, athletes who define success based on their personal effort and improvement have more fun

playing their sport than those high in ego orientation (Schneider, Harrington, & Tobar, 2017; Seifriz, Duda, & Chi, 1992; Stephens, 1998; Stuntz & Weiss, 2009; van de Pol & Kavussanu, 2011). Importantly, goal orientations are also associated with the sources of enjoyment athletes identify. For example, youth athletes with a high task orientation more often report experiencing enjoyment from learning and having positive team interactions. In contrast, athletes high in ego orientation more often report experiencing enjoyment as a result of winning and having high perceived competence (Lochbaum & Roberts, 1993).

29. Another benefit of high task orientation in youth athletes is the strong and positive association with interpersonal and team dynamics (Balaguer, Duda, & Crespo, 1999; Ommundsen, Roberts, Lemyre, & Miller, 2005). Task orientation is positively correlated with peer acceptance, less conflict with peers, and greater satisfaction with the coach.

30. Athletes high in task orientation also report greater confidence and perceived ability, and task orientation has been correlated with both self and team efficacy and greater perceived competence (Magyar & Feltz, 2003; Seifriz et al., 1992; Stuntz & Weiss, 2009). Further, athletes high in task orientation report utilizing more adaptive coping strategies (Kim, Duda, & Gano-Overway, 2011; McCarthy, 2011). These adaptive outcomes have been found for middle school, high school, and collegiate athletes.

31. By contrast, ego orientation (i.e., the non-pejorative, descriptive term for defining success based on ability and performance outcomes), is not correlated with perceived ability in general. Confidence of athletes high in ego orientation was more often based on their perceptions of ability and having a strong physical presence, whereas athletes high in task orientation based their perceptions of confidence on their sense of feeling well prepared and mentally strong (Magyar and Feltz, 2003).

32. Athletes high in ego orientation report lower companionship and greater conflict with teammates (Balaguer et al., 1999), and there is no evidence to suggest they reap the benefits of enhanced social relationships that athletes with high task orientation do (Ommundsen et al., 2005). Despite the ego-involving climate's emphasis on performance outcomes, results across studies suggest that the benefits of a task-involving climate may have a direct impact on athletic performance and ultimately improve performance outcomes (Jackson & Roberts, 1992; McDonald, Cote, & Deakin, 2011). By contrast, no evidence currently points to an ego-involving climate leading to greater performance outcomes with young athletes.

33. There is also a consistently significant relationship between ego orientation and anxiety (Lochbaum et al., 2016). Young athletes with high ego orientation participating in a variety of sports have reported higher trait and state cognitive and somatic anxiety, as well as greater concentration disruption, maladaptive perfectionism, and concern over making mistakes (Grossbard, Cumming, Standage, Smith, & Smoll, 2007; Hall, Kerr, & Matthews, 1998; Ommundsen & Pedersen, 1999; Ommundsen et al., 2005; White & Zellner, 1996).

34. Even for athletes who are themselves highly ego-oriented, and who prioritize winning and external rewards, a task-involving and caring climate is preferable. Such a climate encourages young athletes to orient themselves toward a task-involved model for motivation and away from the stress-inducing ego-orientation, which will in turn garner the young person the benefits associated with a task-orientation. For example, Division I college athletes who perceived a task-involving climate on their teams reported having stronger mental skills including their use of goal setting, ability to concentrate, remain worry free, cope with adversity and peak under pressure, act with confidence, and be open to receiving feedback from coaches (Fry, Iwasaki, & Hogue, 2021). These findings would suggest that athletes with strong mental skills might also

perform better. Further, perceptions of an ego-involving climate have been linked to higher salivary cortisol responses (Hogue, Fry, & Fry, 2017). Cortisol is an important and necessary hormone, but in excess it can break down muscle tissue and interfere with the immune system.

35. Thus, the benefits associated with youth and young adult sport are not limited to whether athletes are winning competitions, where they are ranked in their sport, or what level of publicity they are getting. In fact, a focus exclusively on those things not only undermines an athlete's success in those areas but can compromise the holistic range of benefits derived from youth and young adult sport. Ultimately, athletes are more likely to reap the positive benefits associated with youth and young adult sports if they are task-involved, which places greater emphasis on effort, than if they are ego-involved, which would put greater emphasis on trappings of individual success.

36. It should be noted that the research findings described above, which highlight the relationships between goal orientations and numerous outcome variables, have been consistent for both boys and girls. In other words, within the body of research on athletes' goal orientations, results across studies reveal that task orientation is more often positively correlated with adaptive outcomes (e.g., intrinsic motivation), and ego orientation is more often negatively associated with maladaptive outcomes (e.g., worry) for both boys and girls (Fry & Moore, 2019; Roberts, 2012; Roberts, Nerstad, & Lemyre, 2018).

**EXCLUDING TRANSGENDER STUDENTS FROM PARTICIPATING IN
YOUTH AND YOUNG ADULT ATHLETICS WOULD DEPRIVE THEM AND THEIR
TEAMMATES OF A WIDE RANGE OF BENEFITS**

37. A goal of youth sport is to help young athletes have positive experiences across sport. This includes creating space for athletes to have fun, develop skills, make friends, increase their levels of physical activity, continue their participation over time, and learn valuable life

lessons (Thompson, 2010). If transgender students are arbitrarily excluded from youth sports, they are, in turn, deprived of those positive experiences and outcomes and their teammates are deprived of a genuinely optimal sport experience.

38. Athletes who participate in high school sport are more likely to finish college, and more likely to be actively engaged in planning for their future after their sport career ends (Chamberlin & Fry, 2020; Troutman & Defur, 2007). Many of the benefits to youth who participate in athletics are documented throughout life. For example, women who participated in high school sport see greater success in the business world (ESPNW & EY, 2017; Sasaki, 2020). When athletes are excluded from participating in sport, or are in a climate where they do not feel accepted or respected, they do not have the opportunity to reap these benefits.

39. In addition, arbitrarily excluding transgender students from teams undermines a task-involving climate, which, in turn, diminishes the positive outcomes for all youth and collegiate athletes. (Balaguer, Duda, & Crespo, 1999; Ommundsen, Roberts, Lemyre, & Miller, 2005). Fostering task orientation positively correlates with peer acceptance, less conflict with peers, and greater satisfaction with the coach. These outcomes help athletes have a sport experience that make them want to keep playing sport. Because these positive benefits are fostered in a task-involving environment, arbitrary exclusions can cause harm not only to the athletes who are excluded, but also to the other athletes on the team.

40. When a team, league, or organization adopts an ego-promoting philosophy, and cares only about performance outcomes, the broader benefits of sport are diminished for all involved (both with regard to their future athletic careers and lives outside of sport). As noted above, the overwhelming majority of high school athletes will never go on to compete in college, and the overwhelming majority of college athletes will never go on to compete on professional

teams. Focusing only on the highest-performing athletes or post-graduate elite athletics compromises the other critical benefits of sports for youth and young adults.

41. The climate of youth sport must be geared to include all participants, so that teams are more likely to help every athlete maximize their potential. From an educational perspective, it is optimal to encourage all athletes to do the best that they can, and to help all athletes enjoy the sport that they love.

42. For coaches of youth and young adult athletes, one important message is that, for the overwhelming majority of people, the period of time that a person participates in organized athletics is short and maximizing the benefits of that participation is essential. As Jim Thompson, Founder and former-CEO of the Positive Coaching Alliance notes: “Here’s the bottom line for parents. Your child’s experience with youth sports will come to an end, and it may happen suddenly. If you are like me, you will look back and think, ‘I wish I had enjoyed it more. I wish I hadn’t obsessed so much about how well my child was performing, or the team’s record, or whether he or she was playing as much as I wanted, or why the coach didn’t play him or her in the right position. I wish I had just enjoyed the experience more.’ Because the youth sports experience is so intense, we tend to forget how short it is and what a small amount of time parents and children get to spend together over the course of life.”

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Dated: January 24, 2022


Professor Mary D. Fry, PhD

BIBLIOGRAPHY

- Allen, J., Taylor, J., Dimeo, P, Dixon, S., & Robinson, L. (2015). Predicting elite Scottish athletes' attitudes towards doping: Examining the contribution of achievement goals and motivational climate. *Journal of Sports Sciences*, 33, 899–906.
- Ames, C. (1992a). Achievement goals, motivational climate, and motivational processes. In *Motivation in sport and exercise* (pp. 161–176). Champaign, IL: Human Kinetics.
- Ames, C. (1992b). Classrooms: Goals, Structures, and Student Motivation. *Journal of Educational Psychology*, 84(3), 261–271. <https://doi.org/10.1037/0022-0663.84.3.261>
- Balaguer, I., Duda, J. L., & Crespe, M. (1999). Motivational climate and goal orientations as predictors of perceptions of improvement, satisfaction, and coach ratings among tennis players. *Scandinavian Journal of Medicine and Science in Sports*, 9, 381-388.
- Boixadós, M., Cruz, J., Torregrosa, M., & Valiente, L. (2004). Relationships among motivational climate, satisfaction, perceived ability, and fair play attitudes in young soccer players. *Journal of Applied Sport Psychology*, 16(4), 301–317. <https://doi.org/10.1080/10413200490517977>
- Boyce, B. A., Gano-Overway, L. a., & Campbell, A. L. (2009). Perceived motivational climate's influence on goal orientations, perceived competence, and practice strategies across the athletic season. *Journal of Applied Sport Psychology*, 21(January), 381–394. <https://doi.org/10.1080/10413200903204887>
- Boyd, M., Kim, M., Ensari, N. & Yin, Z. (2014). Perceived motivational team climate in relation to task and social cohesion among male college athletes. *Journal of Applied Social Psychology*, 44, 115–123.
- Cumming, S. P., Smoll, F. L., Smith, R. E., & Grossbard, J. R. (2007). Is winning everything? The relative contributions of motivational climate and won-lost percentage in youth sports. *Journal of Applied Sport Psychology*, 19(3), 322–336. <https://doi.org/10.1080/10413200701342640>
- Duda, J. L. (2013). The conceptual and empirical foundations of Empowering Coaching TM: Setting the stage for the PAPA project. *International Journal of Sport and Exercise Psychology*, 11(4), 311–318. <https://doi.org/10.1080/1612197X.2013.839414>
- Duda, J. L., & Nicholls, J. G. (1992). Dimensions of achievement motivation in schoolwork and sport. *Journal of Educational Psychology*, 84(3), 290–299. <https://doi.org/10.1037/0022-0663.84.3.290>
- Fry, M. D., & Hogue, C. M. (2018). Psychological considerations for children and adolescents in sport and performance. Oxford Research Encyclopedia of Psychology.

- Fry, M., & Moore, E. (2018). Motivation in sport: Theory and application. In M. H. Anshel (Ed.), T. Petrie, E. Labbe, S. Petruzello, & J. Steinfeldt (Assoc. Eds.), *APA Handbook of Sport and Exercise Psychology*. Vol 1. Sport Psychology (pp. 273–299). Sport psychology. Washington DC: American Psychological Association.
- Fry, M. D., & Newton, M. (2003). Application of Achievement Goal Theory in an urban youth tennis setting. *Journal of Applied Sport Psychology*, *15*(1), 50–66. <https://doi.org/10.1080/10413200305399>
- Fry, M. D., Gano-Overway, L., Guivernau, M., Kim, M., & Newton, M. (2020). A coach's guide to maximizing the youth sport experience: Work hard, be kind. New York: Routledge.
- Fry, M. D., & Gano-Overway, L. A. (2010). Exploring the contribution of the caring climate to the youth sport experience. *Journal of Applied Sport Psychology*, *22*(3), 294–304.
- Fry, M. D., Iwasaki, S., & Hogue, C. (2021). The relationship between the perceived motivational climate in elite collegiate sport and athlete psychological coping skills. *Journal of Clinical Sport Psychology*, *15*(4), 334–350.
- Gano-Overway, L. A., Newton, M., Magyar, T. M., Fry, M. D., Kim, M.-S., & Guivernau, M. R. (2009). Influence of caring youth sport contexts on efficacy-related beliefs and social behaviors. *Developmental Psychology*, *45*(2), 329–340. <https://doi.org/10.1037/a0014067>.
- Grossbard, J. R., Cumming, S. P., Standage, M., Smith, R. E., & Smoll, F. L. (2007). Social desirability and relations between goal orientations and competitive trait anxiety in young athletes. *Psychology of Sport and Exercise*, *8*(4), 491–505. <https://doi.org/10.1016/j.psychsport.2006.07.009>
- Hall, H. K., Kerr, A. W., & Matthews, J. (1998). Precompetitive anxiety in sport: The contribution of achievement goals and perfectionism. *Journal of Sport & Exercise Psychology*, *20*(2), 194–217.
- Harwood, C. G., Keegan, R. J., Smith, J. M. J., & Raine, A. S. (2015). A systematic review of the intrapersonal correlates of motivational climate perceptions in sport and physical activity. *Psychology of Sport and Exercise*, *18*, 9–25. <https://doi.org/10.1016/j.psychsport.2014.11.005>
- Hogue, C. M., Fry, M. D., & Fry, A. C. (2017). The differential impact of motivational climate on adolescents' psychological and physiological stress responses. *Psychology of Sport and Exercise*, *30*, 118–127. <https://doi.org/10.1016/j.psychsport.2017.02.004>
- Iwasaki, S., & Fry, M. D. (2016). Female adolescent soccer players' perceived motivational climate, goal orientations, and mindful engagement. *Psychology of Sport and Exercise*, *27*, 222–231. <https://doi.org/10.1016/j.psychsport.2016.09.002>

- Jackson, S. A., & Roberts, G. C. (1992). Positive performance states of athletes: Toward a conceptual understanding of peak performance. *Sport Psychologist*, 6(2), 156–171.
- Kavussanu, M., & Roberts, G. C. (2001). Moral functioning in sport: An achievement goal perspective. *Journal of Sport & Exercise Psychology*, 23(1), 37–54.
- Kim, M., Duda, J. L., & Gano-Overway (2011). Predicting occurrence of and responses to psychological difficulties: The interplay between achievement goals, perceived ability and motivational climates among Korean athletes. *International Journal of Sport and Exercise Psychology*, 9, 31–47.
- Lochbaum, M., Cetinkalp, Z. K., Graham, K., Wright, T., & Zazo, R. (2016). Task and ego goal orientations in competitive sport: A quantitative review of the literature from 1989 to 2016. *Kinesiology*, 48, 3–29.
- Maehr, M. L., & Zusho, A. (2009). Achievement goal theory: The past, present, and future. In K.R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 77–104). New York, NY: Routledge.
- Magyar & Feltz (2003). The influence of dispositional and situational tendencies on adolescent girls' sport confidence sources. *Psychology of Sport and Exercise*, 4, 175–190.
- McCarthy, J. J. (2011). Exploring the Relationship Between Goal Achievement Orientation and Mindfulness in Collegiate Athletics. *Journal of Clinical Sport Psychology*, 5(1), 44–57.
- MacDonald, D. J., Cote, J., Eys, M., Deakin, J. (2011). The role of enjoyment and motivational climate in relation to the personal development of team sport athletes. *Sport Psychologist*, 25, 32–46.
- Newton, M., Duda, J. L., & Yin, Z. (2000). Examination of the psychometric properties of the perceived motivational climate in sport questionnaire-2 in a sample of female athletes. *Journal of Sports Sciences*, 18(4), 275–290. <https://doi.org/10.1080/026404100365018>
- Newton, M., Fry, M. D., Watson, D. L., Gano-Overway, L. A., Kim, M., Magyar, T. M., & Guivernau, M. R. (2007). Psychometric properties of the Caring Climate Scale in a physical activity setting. *Revista de Psicología Del Deporte*, 16, 67–84. Retrieved from <file:///C:/Users/zar4559/Downloads/22-22-1-PB.pdf>
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 91(3), 328–346. <https://doi.org/10.1037/0033-295X.91.3.328>
- Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Cambridge, MA: Harvard University Press.
- Olympiou, A., Jowett, S., & Duda, J. L. (2008). The psychological interface between the coach-

created motivational Climate and the coach-athlete relationship in team sports. *Sport Psychologist*, 22(4), 423–438. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=s3h&AN=35719365&lang=es&site=ehost-live&scope=site>

- Ommundsen, Y & Petersen, B.H. (1999). The role of achievement goal orientations and perceived ability upon somatic and cognitive indices of sport competition trait and anxiety. *Scandinavian Journal of Medicine and Science in Sports*, 9, 333–343.
- Ommundsen, Y., Roberts, G. C., Lemyre, P.-N., & Miller, B. W. (2006). Parental and coach support or pressure on psychosocial outcomes of pediatric athletes in soccer. *Clinical Journal of Sport Medicine: Official Journal of the Canadian Academy of Sport Medicine*, 16(6), 522–526. <https://doi.org/10.1097/01.jsm.0000248845.39498.56>
- Poux, K. N., & Fry, M. D. (2015). Athletes' perceptions of their team motivational climate, career exploration and engagement, and athletic identity. *Journal of Clinical Sport Psychology*, 9(4), 360–372. <https://doi.org/10.1123/jcsp.2014-0050>
- Roberts, G. C. (2013). Advances in motivation and sport exercise. In D. C. Roberts, G. C. & Treasure (Ed.), *Advances in motivation in sport and exercise* (3rd Ed), pp. 5–58. Champaign, IL: Human Kinetics.
- Roberts, G. C., Nerstad, G. L., & Lemyre, P. N. (2018). Motivation in sport and performance. In O. Braddick (Ed.), *Oxford Research Encyclopedia of Psychology* (pp. 1–46). Oxford University Press.
- Sarrazin, P., Roberts, G. C., Cury, F., Biddle, S., & Famose, J.-P. (2002). Exerted effort and performance in climbing among boys: The influence. *Research Quarterly for Exercise and Sport*, 73(4).
- Sasaki, J. (2020). How can winning on the playing field prepare you for success in the boardroom? EY: Building a better world. https://www.ey.com/en_gl/women-fast-forward/how-can-winning-on-the-playing-field-prepare-you-for-success-in-the-boardroom
- Schneider, R. A. Y., Harrington, M., & Tobar, D. (2017). Goal orientation and how a task or ego mentality can affect the enjoyment for college hockey players. *College Student Journal*, 51(1), 57–62.
- Seifriz, J. J., Duda, J. L., & Chi, L. (1992). The relationship of perceived motivational climate to intrinsic motivation and beliefs about success in basketball. *Journal of Sport & Exercise Psychology*, 14, 375–391.
- Stephens, D. E., & Kavanagh, B. (2003). Aggression in Canadian youth ice hockey: The role of moral atmosphere. *International Sports Journal*, 7, 109–119.
- Stuntz & Weiss (2009). Achievement goal orientations and motivational outcomes in youth

sport: The role of social orientations. *Psychology of Sport and Exercise*, 10, 255–262.

Theeboom, M., Knop, P. De, & Weiss, M. R. (1995). Motivational climate, psychological responses, and motor skill development in children's sport: A field-based intervention study. *Journal of Sport & Exercise*, 17, 294–311.

Thompson, J. (2010). *Positive coaching: Building character and self-esteem through sports*. New York: Brown & Benchmark.

Troutman, K., & Dufur, M. (2007). From high school jocks to college grads: Assessing the long-term effects of high school sport participation on females' educational attainment. *Youth & Society*, 38(4), 443-462. doi:10.1177/0044118X06290651

Tudor, M. L., & Ridpath, B. D. (2018). Does the perceived motivational climate significantly predict academic and/or athletic motivation among NCAA Division I college athletes. *Journal of Contemporary Athletics*, 12(4), 291–307.

van De Pol, P. K. C., Kavussanu, M., (2011). Achievement goals and motivational responses in tennis: Does the context matter? *Psychology of Sport & Exercise*, 12, 176–183.

White, S., & Zellner (1996). The relationship between goal orientation, beliefs about the causes of sport success, and trait anxiety among high school, intercollegiate, and recreational sport participants. *Sport Psychologist*, 10, 58–72.

Xiang, P., Bruene, A., & McBride, R. E. (2004). Using achievement goal theory to assess an elementary physical education running program. *Journal of School Health*, 74, 220–225.

EXHIBIT A

CURRICULUM VITAE

NAME: Mary D. Fry (Previously Mary D. Walling before 8/95)
DEPARTMENT: Health, Sport & Exercise Sciences
RANK: Professor

DEPARTMENT ADDRESS:

Department, of Health, Sport & Exercise Sciences
 Robinson Center, Room 161F
 1301 Sunnyside Ave.
 University of Kansas
 Lawrence, KS 66045
 (785) 864-1862(O); mfry@ku.edu (email)

EDUCATION

DEGREE	DISCIPLINE	INSTITUTION	YEAR
BS	Physical Education	Texas Wesleyan University	1984
MS	Sport Psychology/Pedagogy	University of North Carolina- Greensboro	1990
PhD	Sport & Exercise Psychology	Purdue University	1994

EXPERIENCE

RANK/POSITION	DEPARTMENT/DIVISION	INSTITUTION/ORG.	PERIOD
Professor	Health, Sport & Exercise Sci	University of Kansas	2019
Associate Professor	Health, Sport & Exercise Sci	University of Kansas	2007-2019
Associate Professor	Human & Sport Sciences	University of Memphis	1999-2007
Assistant Professor	Human Movement Sciences & Education	University of Memphis	1994-1999
Editorial Assistant	Journal of Applied Sport Psychology		1992-1994
Associate Investigator	Indiana Youth Risk Behavior Study for Disease Control	Indiana Dept. of Education/Centers	1992
Research Consultant	Grant to Study Youth Sports	National Institute for Fitness & Sport Indianapolis, IN	1991
Teaching Assistant	Health, Kinesiology & Leisure Studies	Purdue University	1990-1992
Teaching Assistant	Sport & Exercise Science	U. North Carolina-Greensboro	1989-1990

RANK/POSITION	DEPARTMENT/DIVISION.	INSTITUTION/ORG.	PERIOD
Middle School Teacher	Physical Education	Allen Middle School Greensboro, NC	1988-89
High School Teacher	Physical Education/English & Head Tennis Coach	Martin High School Arlington, TX	1987- 88
High School Teacher	Physical Education/English & Head Tennis Coach	Richland High School Fort Worth, TX	1984-87
Instructor	University of Texas-Austin	Summer Tennis Camps	1988 & 1989

Certification. Secondary Teacher Certification in English and Physical Education in the State of Texas, 1984.

HONORS/AWARDS:

Coleman Griffith Lecture, Association of Applied Sport Psychology (2021)
 Del Shankel Teaching Excellence Award (Recipient 2021; Finalist 2018, 2019)
 Budig Teaching Professorship, University of Kansas (2018)
 Outstanding Mentor, McNair Scholars Program (2017)
 KU Woman of Distinction, (2014-2015)
 Joyce Elaine Pauls Morgan HSES Teaching Award (2013)
 Budig Teaching Professorship, Nominee (2012)
 Bird Outstanding Mentor Award, Nominee (2011)
 Service Award, School of Education, University of Kansas, Nominee (2011)
 KU Keeler Professorship, University of Kansas (2010).
 Fellow, Association of Applied Sport Psychology (2009).
 Outstanding Research Article published in *Research Quarterly for Exercise & Sport* (1997).
 Presented by the Research Consortium of the American Alliance of Health, Physical
 Education, Recreation, & Dance.
 Outstanding Doctoral Dissertation, North American Society for the Psychology of Physical
 Activity (1994).
 Student Representative, CIC Big Ten Conference "Capstone of Knowledge" hosted by
 Michigan University, December, 1992.

RESEARCH PUBLICATIONS

Refereed Journal Publications

Easton, L., **Fry, M. D.**, Hogue, C. M., & Iwasaki, S. (in press). Goal orientations predict exercisers' effort and enjoyment while engaged in exercise and reasons for using a fitness tracker. *Acta Facultatis Educationis Physicae Universitatis Comenianae*.

Fry, M. D., Iwasaki, S., & Hogue, C. M. (in press). The relationship between the perceived motivational climate in elite collegiate sport and athlete psychological coping skills. *Journal of Clinical Sport Psychology*.

Hogue, C. M., **Fry, M. D.**, & Fry, A. C. (in press). The protective impact of learning to juggle in a caring, task-involving climate versus and ego-involving climate on participants' inflammation, cortisol, and psychological responses. *International Journal of Sport and Exercise Psychology*.

Iwasaki, S., **Fry, M. D.**, & Hogue, C.M. (in press). The relationship among male high school athletes' perceptions of the motivational climate, mindful engagement, and coachability. *Journal of Clinical Sport Psychology*.

Scott, C., **Fry, M.D.**, Wineinger, T., & Iwasaki, S., & Fry, M. D. (in press). Creating an optimal motivational team climate to help collegiate athletes thrive during the COVID-19 pandemic. *Journal of Sport Psychology in Action*.

Scott, C., **Fry, M. D.**, Weingartner, H., & Wineinger, T. (in press). Collegiate sport club athletes' psychological well-being and perceptions of their team climate. *Recreational Sports Journal*.

- Wineinger, T., **Fry, M. D.**, & Moore, E. W. (2021). Validation of climate and motivational measures for use in the biology laboratory setting. *Journal of Biological Education*.
- Brown, T. C., **Fry, M. D.**, Breske, M., Iwasaki, S., & Wilkinson, T. (2019). Motivational climate and athletes' likelihood of reporting concussions in a youth competitive soccer league. *Journal of Sport Behavior*, 42(1), 29-47.
- Fry, M. D.**, Reid, C., Iwasaki, S., & Thompson, J. (2019). Bridging theory, research, and practice in youth sports: Sport Psychology's Partnership with Positive Coaching Alliance to enhance youth sport. *Journal of Sport Psychology in Action*, 10, 1-10.
- Hogue, C. M. **Fry, M. D.**, & Iwasaki, S. (2019). The impact of the perceived motivational climate in physical education on adolescent greater life stress, coping appraisals, and experience of shame. *Sport, Exercise, & Performance Psychology*, 8, 273-289.
- Glover, K., & **Fry, M. D.** (2018). Helping WIN provide a winning environment for girls in their summer camps. *Journal of Sport Psychology in Action*, 9, 1-12.
- Miller, S., & **Fry, M. D.** (2018). Relationship between climate to body esteem and social physique anxiety within college physical activity classes. *Journal of Clinical Sport Psychology*, 12, 525-543.
- Wineinger, T. O. & **Fry, M. D.** (2018). The power of a caring/task-involving climate to help students find their life's passion. *Kansas Association for Health, Physical Education, Recreation, & Dance Journal*, 90 (1), 49-56.
- Breske, M. P., **Fry, M. D.**, Fry, A. C., & Hogue, C. M. (2017). The effects of goal priming on cortisol responses in an ego-involving climate. *Psychology of Sport and Exercise*, 32, 74-82.
- Brown, T. C., **Fry, M. D.**, & Moore, E. W. G. (2017). A motivational climate intervention and exercise-related outcomes: A longitudinal perspective. *Motivation Science*, 3, 337-353
- Chamberlin, J. & **Fry, M. D.** (2017). High school athletes' perceptions of the motivational climate in their off-season training programs. *Journal of Strength and Conditioning Research*, 31, 736-742.
- Fontana, M. S., & **Fry, M. D.** (2017). Creating and validating the shame in sport questionnaire. *Journal of Sport Behavior*, 40, 278-296.
- Hogue, C. M., **Fry, M. D.**, & Fry, A. C. (2017). The differential impact of motivational climates on adolescents' psychological and physiological stress responses. *Psychology of Sport and Exercise*, 30, 118-127. <http://dx.doi.org/10.1016/j.psychsport.2017.02.004>
- Fontana, M. S., **Fry, M. D.**, & Cramer, E. (2017). Exploring the relationship between athletes' perceptions of the motivational climate to their compassion, self-compassion, shame, and pride in adult recreational sport. *Measurement in Physical Education and Exercise Science*, 21, 101-111.
- Moore, E. W., G., & **Fry, M. D.** (2017). National franchise members' perceptions of the exercise psychosocial environment, ownership, and satisfaction. *Sport, Exercise, & Performance Psychology*, 6, 188-198.
- Moore, E. G. W., & **Fry, M. D.** (2017). Physical education students' ownership, empowerment, and satisfaction with PE and physical activity. *Research Quarterly for Exercise and Sport*, 88, 468-478. <https://doi.org/10.1080/02701367.2017.1372557>
- Iwasaki, S., & **Fry, M. D.** (2016). Female adolescent soccer players' perceived motivational climate, goal orientations, and mindful engagement. *Psychology of Sport & Exercise*, 27, 222-231. <http://dx.doi.org/10.1016/j.psychsport.2016.09.002>

- Claunch, J., & **Fry, M. D.** (2016). Native American football coaches' experience of a motivational climate collaboration with sport psychology researchers. *International Journal of Sport Science & Coaching*, *11*, 482-495. DOI: 10.1177/1747954116655047
- Brown, T. C., & **Fry, M. D.** (2015). Effects of an intervention with recreation center staff to foster a caring, task-involving climate. *Journal of Clinical Sport Psychology*, *9*, 41-58.
- Fontana, M., Bass, J., & **Fry, M. D.** (2015). From Smith Center to Coney Island: Examining the coaching climate in the United States sporting culture. *Journal of Contemporary Athletics*, *9*, 211-226.
- Fry, M. D.**, & Brown, T. C. (2015). A caring/task-involving climate intervention for youth sport camp leaders. *Kansas Association for Health, Physical Education, and Recreation Journal*.
- Moore, E. W. G., Brown, T. C., & **Fry, M. D.** (2015). Psychometric Properties of the Abbreviated Perceived Motivational Climate in Exercise Questionnaire. *Measurement in Physical Education and Exercise Science*, *19*(4), 186-199.
- Poux, K., & **Fry, M. D.** (2015). Athletes' perceptions of their team motivational climate, career exploration and engagement, and athletic identity. *Journal of Clinical Sport Psychology*, *9*, 360-372. <http://dx.doi.org/10.1123/jcsp.2014-0050>
- Brown, T. C. & **Fry, M. D.** (2014). College exercise class climates, physical self concept, and psychological well-being. *Journal of Clinical Sport Psychology*, *8*, 299-313.
- Brown, T. C. & **Fry, M. D.** (2014). Motivational climate, staff and members' behaviors, and members' psychological well-being at a large national fitness franchise. *Research Quarterly for Exercise and Sport*, *85*, 208-217.
- Moore, W. E. G, & **Fry, M. D.** (2014). Psychometric support for the Ownership in Exercise and Empowerment in Exercise Scales. *Measurement in Physical Education and exercise Science*, *18*, 1-17.
- Brown, T. C., & **Fry, M. D.** (2014). Evaluating the pilot of Strong Girls: A life skills/physical activity program for third and fourth grade girls. *Journal of Applied Sport Psychology*. *26*, 52-65.
- Brown, T. C. & **Fry, M. D.** (2013). Association between females' perceptions of college aerobic class motivational climates and their responses. *Women & Health*, *58*, 843-857.
- Brown, T. C., **Fry, M. D.**, & Little, T. (2013). The psychometric properties of the Perceived Motivational Climate in Exercise Questionnaire. *Measurement in Physical Education and Exercise Science* *17*(1), 17-39.
- Hogue, C. M., Pornprasertmanit, S., **Fry, M. D.**, Rhemtulla, M., & Little, T. (2013). Planned missing data designs for spline growth models in salivary cortisol research. *Measurement in Physical Education and Exercise Science*, *17*, 310-325.
- Iwasaki, S., & **Fry, M. D.** (2013). Evaluations of youth sport programs requested by sport administrators. *The Sport Psychologist*, *27*, 360-371.
- Hogue, C.M., **Fry, M. D.**, Fry, A.C., Pressman, S. D. (2013). The influence of a motivational climate intervention on participants' salivary cortisol and psychological responses. *Journal of Sport and Exercise Psychology*, *35*, 85-97.
- Fry, M. D.**, Guivernau, M., Kim, M., Newton, M., Gano-Overway, L, & Magyar, M. (2012). Youth perceptions of a caring climate, emotional regulation, and psychological well-being. *Sport, Exercise, & Performance Psychology*, *1*(1), 44-57.
- Huddleston, H., **Fry, M. D.**, & Brown, T. C. (2012). Corporate fitness members' perceptions of the environment and their intrinsic motivation. *Ravista de Psicologia del Deporte*.

- 21(1),15-23.
- Brown, T.C., & Fry, M. D. (2011). Helping members commit to exercise: Specific strategies to impact the climate at fitness centers. *Journal of Sport Psychology in Action*, 2, 70-80.
- Brown, T. C., & Fry, M. D. (2011). Strong Girls: A physical activity/life skills intervention for girls transitioning to junior high. *Journal of Sport Psychology in Action*, 2, 57-69.
- Fry, M. D. (2010). Creating a positive climate for young athletes from day 1. *Journal of Sport Psychology in Action*, 1(1), 33-41.
- Fry, M. D., & Gano-Overway, L. (2010). Exploring the contribution of the caring climate to the youth sport experience. *Journal of Applied Sport Psychology*, 22(3), 294-304.
- Dodd, R., Brown, T., & Fry, M. D. (2010). Young athlete's perceptions of their coaches' and teammates' caring and uncaring behaviors. *Kansas Association of Health Physical Education Recreation and Dance Journal*, 83(1), 38-45.
- Binkley, S. E., Fry, M. D., & Brown, T.C. (2009). The relationship of college students' perceptions of their BMI and weight status to their physical self-concept. *American Journal of Health Education*, 40, 139-145.
- Gano-Overway, L. A., Magyar, T. M., Kim, M., Newton, M., Fry, M. D., & Guivernau, M. R. (2009). Influence of caring youth sport contexts on efficacy-related beliefs and social behaviors. *Developmental Psychology*, 45, 329-340.
- Newton, M., Fry, M.D., Gano-Overway, L., Kim, M., Watson, D., & Givernau, M. (2007). Psychometric properties of the Contextual Caring Scale in a physical activity setting. *Revista de Psicología del Deporte*, 16, 67-84.
- Newton, M., Watson, D., Fry, M., Gano-Overway, L, Kim, M., & Givernau, M. (2007). The impact of caring in physical activity. *Urban Review*, 39, 281-299.
- Haneishi, K., Fry A.C., Moore C.A., Schilling B.K., Li Y., and Fry M.D. (2007). Cortisol and stress responses during a game and practice in female collegiate soccer players". *Journal of Strength and Conditioning Research*, 21, 583-588.
- Magyar, M., Kim, M., Givernau, M., Gano-Overway, L., Newton, M., & Fry, M. (2007). The influence of leader efficacy and emotional intelligence on personal caring. *Journal of Teaching in Physical Education*, 26, 310-319.
- Bone, J., & Fry, M.D. (2006). The influence of injured athletes' perceptions of social support from ATCs on athletes' beliefs about rehabilitation. *Journal of Sport Rehabilitation*, 15, 156-167.
- Fry, A.C., Ciroslan D., Fry M.D., LeRoux C.D., Schilling B.K., and Chiu L.Z.F. (2006), Anthropometric and performance variables discriminating elite junior weightlifters. *Journal of Strength and Conditioning Research*, 20, 861-866.
- Smith, S., Fry, M. D., Ethington, C., & Li, Y. (2005). The effects of athletes' perceptions of their coaching behaviors on their perceptions of the motivational climate. *Journal of Applied Sport Psychology*, 17, 1-8.
- Fry, M. D., & Newton, M. (2003). Application of achievement goal theory in an urban youth tennis setting. *Journal of Applied Sport Psychology* 15, 50-66.
- Abma, C. L., Fry, M. D., Li, Y., & Relyea, G. (2002). Differences in imagery content and imagery ability between high and low confident track and field athletes. *Journal of Applied Sport Psychology*, 13, 341-349.
- Walling, M. D., Duda, J. L., & Crawford, T. (2002). Goal orientations, outcome, and responses to youth sport competition among high/low perceived ability athletes. *International Journal of Sport Psychology*, 14, 140-156.

- Fry, M. D.** [2000]. A developmental examination of children's understanding of task difficulty in the physical domain. *Journal of Applied Sport Psychology*, 12, 180-202.
- Fry, M. D.** (2000). A developmental analysis of children's and adolescents' understanding of luck and ability in the physical domain. *Journal of Sport and Exercise Psychology*, 22, 145-166.
- Fry, A.C., Webber, J. M., Weiss, L.W., **Fry, M. D.**, & Li, Y. (2000). Impaired performances with excessive high-intensity free-weight training. *Journal of Strength and Conditioning Research*, 14, 54-61.
- Fry, M. D.**, & Lattimore, D. (2000). Fostering a positive motivational climate in physical education. *Tennessee Educational Leadership Journal*, 27, 39-43.
- Fry, M. D.**, & Fry, A. C. (1999). Goal perspectives and motivational responses of elite junior weightlifters. *Journal of Strength and Conditioning Research*, 13, 311-317.
- Newton, M., & **Fry, M. D.** (1998). Senior Olympians achievement goals and beliefs concerning success. *Journal of Aging and Physical Activity*, 6, 256-270.
- Fry, M. D.** (1998). Al Oerter: An Olympian's views as seen from a sport psychology perspective. *Strength and Conditioning*, 20, 7-14.
- Fry, M. D.** & Duda, J. L. (1997). A developmental examination of children's understanding of effort and ability in the physical and academic domains. *Research Quarterly for Exercise and Sport*, 66, 331-344.
- Walling, M. D.**, & Duda, J. L. (1995). Goals and their associations with beliefs about success in and perceptions of the purpose of physical education. *Journal of Teaching in Physical Education*, 14, 140-156.
- Walling, M. D.**, & Duda, J. L. (1995). Motivating kids: Balance learning and fun. *Sport Psychology Training Bulletin*, 4, 1-8.
- Duda, J. L., Chi, L., Newton, M. L., **Walling, M. D.**, & Catley, D. (1995). Task and ego orientation and intrinsic motivation in sport. *International Journal of Sport Psychology*, 26, 40-63.
- Walling, M. D.**, & Martinek, T. (1995). Learned helplessness in a sixth-grade physical education student: A case study. *Journal of Teaching in Physical Education*, 14, 454-466.
- Walling, M. D.**, Duda, J. L., & Chi, L. (1993). The perceived motivational climate in sport questionnaire: Construct and predictive validity. *Journal of Sport and Exercise Psychology*, 15, 172-183.

Invited Book Chapters

- Gano-Overway, L., & **Fry, M. D.** (in press). Caring climates. In L. Davis, R. Keegan, & S. Jowett (Eds.), *Social Psychology of Sport* (Second Edition). Champaign, IL: Human Kinetics.
- Fry, M. D.**, & Fontana, M. (in press). Did you hear the one about the hilarious professor? Yeah, me neither: Incorporating humor in sport psychology to enhance motivation and relieve stress. In K. Vaidya (Ed.), *Teach Exercise & Sport With a Sense of Humor: Why and How to Be a Funnier and More Effective Exercise & Sport Teacher and Laugh All the Way to Your Classroom?* Curious Academic Publishing.

- Fry, M. D., & Hogue, C. M.** (2021). Foundational psychological theories, models, and constructs. *Certified Mental Performance Consultant Essentials Resource Guide*. Association for Applied Sport Psychology.
- Fry, M. D., & Moore, E. W. G.** (2019). *Motivation in sport: Theory to application*. In M. H. Anshel (Ed.), T. Petrie, E. Labbe, S. Petruzello, & J. Steinfeldt (Assoc. Eds.), *APA handbook of sport and exercise psychology: Vol. 1. Sport psychology*. Washington DC: American Psychological Association.
- Fry, M. D., & Hogue, C. M.** (2018). Psychological considerations for children in sport and performance. In Oliver Braddick (Ed.), *Oxford Research Encyclopedia of Psychology*. New York: Oxford University Press.
- Fry, M. D.** (2014). Sport and Exercise Psychology as a Venue to Develop “Difference Makers”. In K. Vaidya (Ed.), *Exercise and Sports for the Curious: Why Study Exercise and Sports*. Curious Academic Publishing.
- Fry, M. D.** (2001). The development of motivation in children. In G. Roberts (Ed.), *Motivation in sport and exercise (2nd Ed.)*, pp. 51-78, Champaign, IL: Human Kinetics.

Book

- Fry, M. D., Gano-Overway, L., Guivernau, M., Kim, M., & Newton, M.** (2020). *A Coach’s Guide to Maximizing the Youth Sport Experience: Work Hard and Be Kind*. NY: Routledge.

PRESENTATIONS

Invited International Presentations

- Fry, M. D.** (2019). *Achievement goal perspective theory as a framework for interventions in sport and physical activity*. Autonomous University of Baja California; Ensenada, Mexico.
- Fry, M. D.** (2019). *Utilizing goal orientations as a lens to optimize athletes’ motivation*. Autonomous University of Baja California; Ensenada, Mexico.
- Fry, M. D.** (2019). *Building a caring and task-involving climate in sport through words, activities, and core values*. Autonomous University of Baja California; Ensenada, Mexico.
- Fry, M. D.** (2019). *Team building to foster positive relationships on sport teams*. Autonomous University of Baja California; Ensenada, Mexico.
- Fry, M. D.** (2016). *The power of a caring and task-involving climate in sport*. Children International; Guatemala City, Guatemala/.
- Fry, M. D.** (2005, March). *Creating a positive motivational climate in physical activity settings*. Sao Paulo, Brazil.
- Duda, J. L., & **Walling, M. D.** (1993, November). *Toward a developmental theory of motivation in sport*. University of Barcelona, Barcelona, Spain.
- Walling, M. D.** (1993, November). *The examination of Nicholls’ developmental theory of motivation in the physical domain*. University of Valencia, Valencia, Spain.
- Walling, M. D.** (1993, November). *Motivational aspects in physical education for school-age Children*. National Physical Education Institute, Lleida, Spain.
- Duda, J. L., & **Walling, M. D.** (1993, November). *A conceptual and empirical examination of the motivational climate created by coaches*. University of Barcelona, Barcelona, Spain.

Refereed Presentations at National Conferences

- Scott, C., **Fry, M. D.**, Wineinger, T. O., & Iwasaki, S. (2021). *Staying positive during the COVID-19 Pandemic: The impact of collegiate team climate*. Association for Applied Sport Psychology, Virtual.
- Wineinger, T. O., Rosen, D., & **Fry, M. D.** (2021). *The influence of a motivational intervention on participants' physiological measures of effort and muscle performance*. Association for Applied Sport Psychology, Virtual.
- Scott, C., **Fry, M. D.**, Wineinger, T., & Weingartner, H. (2020). *Collegiate sport club athletes' perceptions of the climate on their teams and indices of their psychological well-being*. Association for Applied Sport Psychology, Virtual.
- Wineinger, T. O., & **Fry, M. D.** (2020). *A sport psychology lab partners with the Women's Intersport Network (WIN) to optimize young girls' sport camp experiences*. Association for Applied Sport Psychology, Virtual.
- Fry, M. D.**, Claunch, J., Hogue, C. M., Iwasaki, S., & Peynetsa, I. (2019). *A coaching education collaboration for American Indian Youth Sport Coaches on the Zuni Reservation*. Association for Applied Sport Psychology. Portland, OR.
- Moore, E. W. G., & **Fry, M. D.** (2018). *Elementary physical education students' motivational climate perceptions predict goal orientations and physical education satisfaction*. International Society of Behavioral Nutrition and Physical Activity. Hong Kong.
- Pan, T. Y., Davis, A. M., Atchley, R. A., Forbush, K. T., Wallace, D. P., Savage, C. R., & **Fry, M.D.** (2018). *The longitudinal relationship between obesity and depression in children*. American Psychological Association, San Francisco, CA.
- Warlick, C., Krieshok, T., Frey, B., Kerr, B., . . . & **Fry, M. D.** (2018). *Does hope matter? Examining a popular positive psychology construct in a DBT intensive-outpatient community health population*. Association for Behavioral and Cognitive Therapies.
- Breske, M., **Fry, M. D.**, A., & Hogue, C. M. (2017). *The effects of goal priming on cortisol responses in an ego-involving climate*. Association for Applied Sport Psychology, Orlando, FL.
- Chamberlin, J., **Fry, M. D.**, & Iwasaki, S. (2017). *The influence of high school athletes' perceptions of the motivational climate on athletic identity and academic endeavors*. Association for Applied Sport Psychology, Orlando, FL.
- Easton, L., **Fry, M. D.**, & Iwasaki, S. (2017). *The relationship of fitness center members' goal orientations and perceptions of the motivational climate to variables related to well-being and motivational responses*. Association for Applied Sport Psychology, Orlando, FL.
- Fontana, M. & **Fry, M. D.** (2017). *Exploring the relationship between motivational climate and shame*. Association for Applied Sport Psychology, Orlando, FL.
- Fry, M. D.**, Thompson, J., Iwasaki, S., & Reid, C. (2017). *Bridging theory, research, and practice in youth sports: sport psychology's partnership with positive coaching alliance to enhance youth sport*. Association for Applied Sport Psychology, Orlando, FL.
- Glover, K., **Fry, M. D.**, & Weingartner, H. (2017). *Helping a women's intersport network provide a winning experience for girls in their summer sport camps*, Association for Applied Sport Psychology, Orlando, FL.

- Iwasaki, S., & **Fry, M. D.** (2017). *An exploration of the relationship among female adolescent athletes' perceptions of the motivational climate, goal orientation, refocusing, and peak ability*. International Society of Sport Psychology 14th World Congress, Sevilla, Spain.
- Tyler, E., Warlick, C., Cole, B., & **Fry, M. D.** (2017). *Collegiate student-athletes' perceptions of their sport team climate and level of hope*. Association for Applied Sport Psychology, Orlando, FL.
- Tyler, E., Warlick, C., Cole, B., & **Fry, M. D.** (2017). *Relationship among student-athletes' perceptions of the climate, locker room talk, and sexual behaviors*. Association for Applied Sport Psychology, Orlando, FL.
- Hogue, C. M., **Fry, M. D.**, & Fry, A. C. (2017). *Adolescents' Physiological Stress Responses to Motivational Climate in a Physical Education Setting*. Society for Physical Education and Health, Boston, MA.
- Claunch, J. & **Fry, M. D.** (2016). *Setting the stage for a motivational climate collaboration*. Association for Applied Sport Psychology, Phoenix, AZ.
- Chamberlin, J., **Fry, M. D.**, & Iwasaki, S. (2016). *High school athletes' perceptions of the motivational climate in their off-season Training Programs*. Association for Applied Sport Psychology, Phoenix, AZ.
- Easton, L., Iwasaki, S., & **Fry, M. D.** (2016). *The relationship of members' perceptions of the motivational climate to their Psychological well-being at a university medical center fitness facility*. Association for Applied Sport Psychology, Phoenix, AZ.
- Fry, M. D.**, Iwasaki, S., Vanorsby, H., & Breske, M. (2016). *Masters' swimmers' perceptions of the climate in their training facilities and their motivational responses*. Association for Applied Sport Psychology, Phoenix, AZ.
- Fry, M. D.**, Solomon, G., Iwasaki, S., Madeson, M., Vanorsby, H., Meisinger, R., & Haberer, J. (2016). *Division I athletes' perceptions of their team climate, mental skills, and mindfulness*. Association for Applied Sport Psychology, Phoenix, AZ.
- Hogue, C. M., **Fry, M. D.**, & Fry, A. C. (2016). *Physiological and psychological stress responses to a motivational climate intervention*. Association for Applied Sport Psychology, Phoenix, AZ.
- Fontana, M., & **Fry, M. D.** (2016). *Creating and validating the Shame in Sport Questionnaire*. Association for Applied Sport Psychology, Phoenix, AZ.
- Hogue, C. M., & **Fry, M. D.** (2016). *Leader observations of participant behaviors during a motivational climate intervention: A qualitative investigation*. Association for Applied Sport Psychology, Phoenix, AZ.
- Iwasaki, S., & **Fry, M. D.** (2016). *Male High School Athletes' Perceptions of Their Team Climate and Mindful Engagement*. Association for Applied Sport Psychology, Phoenix, AZ.
- Iwasaki, S., **Fry, M. D.**, Vanorsby, H., Breske, M. (2016). *Master swimmers' perceptions of the climate in their training facilities and their motivational responses*. Association for Applied Sport Psychology, Phoenix, AZ.
- Brown, T. C., M. S., **Fry, M. D.**, Breske, M., Iwasaki, S., & Wilkinson, T. (2015). *High school athletes' perceptions of their sport team climate and their willingness to report concussion symptoms*. Association for Applied Sport Psychology, Indianapolis, IN.
- Fry, M. D.**, Brown, T. C., Iwasaki, S., Breske, M., & Wilkinson, T. (2015). *Middle school athletes' perceptions of their sport team climate and their willingness to report concussion symptoms*. Association for Applied Sport Psychology, Indianapolis, IN.

- Fry, M. D., & Easton, L.** (2015). *Health in Action: Helping students design creative interventions onsite*. Kansas Alliance for Physical Education, Health, Recreation, & Dance, Wichita, KS.
- Fontana, M. S., Iwasaki, S., Hogue, C., Claunch, J., Poux, K., & **Fry, M. D.** (2014). *Initiating mental skills training with a high school freshman baseball*. Association for Applied Sport Psychology, Las Vegas, NE.
- Fry, A.C., **Fry, M. D.**, Sterczala, A. J., Chiu, L. Z. F., Schilling, B., & Weiss, L. W. (2014). *High power resistance exercise overreaching can be monitored with a training questionnaire*. National Strength and Conditioning Association, Las Vegas, NE.
- Medina, R, **Fry, M. D.**, & Iwasaki, S. (2014). *Youngsters' perceptions of the climate and their experiences in recreational exercise classes*. Association for Applied Sport Psychology, Las Vegas, NE.
- Rosen, D., & **Fry, M. D.** (2014). *Motivational climate and seniors' experiences in group exercise classes*. Association for Applied Sport Psychology, Las Vegas, NE.
- Hogue, C. M., & **Fry, M. D.** (2013). *A qualitative examination of participant reactions to a motivational climate intervention*. Association for Applied Sport Psychology, New Orleans, LA.
- Kwon, S., & **Fry, M. D.** (2013). *Mediational role of interest and intrinsic motivation between perceived caring climate and satisfaction and attitudes among physical education students*. Association for Applied Sport Psychology, New Orleans, LA.
- Moore, E. W. G., & **Fry, M. D.** (2013). *PE teachers' perspective on a motivational climate professional development session*. Association for Applied Sport Psychology, New Orleans, LA.
- Claunch, J. & **Fry, M. D.** (2013). *Transformative learning experience: Collegiate football coaches' perceptions of participating in a motivational climate intervention*. Association for Applied Sport Psychology, New Orleans, LA.
- Moore, E. W. G., & **Fry, M. D.** (2012). *Goal orientations, motivational climate, and outcomes in physical education across one semester*. Association for Applied Sport Psychology to held in Atlanta, GA.
- Kwon, S., & **Fry, M. D.** (2012). *The change of physical educators' enjoyment and intrinsic motivation of track and field through PST*. Association for Applied Sport Psychology, Atlanta, GA.
- Iwasaki, S., & **Fry, M. D.** (2012). *Physical education students' perceptions of the climate and their psychological well-being*. Association for Applied Sport Psychology, Atlanta, GA.
- Hogue, CM., **Fry, M.D.**, Fry, A.C., & Pressman, S. D. (2012). *Participant salivary cortisol and psychological responses to a motivational climate intervention*. Association for Applied Sport Psychology, Atlanta, GA.
- Fry, M. D.**, Brown, T. C., & Iwasaki, S. (2012). *Girls' self perceptions after participating in a positive life skills/physical activity program*. Association for Applied Sport Psychology, Atlanta, GA.
- Brown, T. C., & **Fry, M. D.** (2012). *Results of a caring, task-involving climate intervention at a recreation center*. Association for Applied Sport Psychology, Atlanta, GA.
- Kwon, S., & **Fry, M. D.** (2011). *The effects of athletes' self-management on their self-confidence*. Association for Applied Sport Psychology, Honolulu, HI.
- Andre, M. J., Fry, A.C., Gallagher, P. M., Vardiman, P., **Fry, M. D.** Kudrna, B., Gandy-Moody,

- N., & McCartney, M. (2011). *The effects of a pre-workout caffeine supplement on endogenous growth hormone levels*. A presentation made at the meeting of the National Strength and Conditioning Association, Las Vegas, NE.
- Hogue, C. M., Iwasaki, S., & Fry, M. D. (2011). *A case study of a physical activity/mental skills training intervention with a young athlete*. Association for Applied Sport Psychology, Honolulu, HI.
- Iwasaki, S., & Fry, M. D. (2011). *The exploration of motivational climate in a youth sport basketball camp*. Association for Applied Sport Psychology, Honolulu, HI.
- Fry, M. D. (2011). *From the Strong Girls' viewpoints: Research results from semester 1*. Association for Applied Sport Psychology, Honolulu, HI.
- Fry, M. D. (2011). *The exercise climate: An introduction to the research on examining task-involving and caring climates in the exercise domain*. Association for Applied Sport Psychology, Honolulu, HI.
- Fry, M. D., Hogue, C. M., Sauer, S. (2011). *Using digital storytelling as a creative tool in health*. American Alliance of Health, Physical Education, Recreation, & Dance, San Diego, CA.
- Kwon, S., & Fry, M. D. (2010). *Relationship of exercisers' perceptions of the motivational climate to their flow experience*. Association of Applied Sport Psychology, Providence, RI.
- Iwasaki, S., Merczek, K., & Fry, M. D. (2010). *Young athletes' experiences in a volleyball camp*. Association of Applied Sport Psychology, Providence, RI.
- Iwasaki, S., Sogabe, A., Fry, M. D., & Christensen, E. (2010, June). *Differences in aggression and social skills among judo and non-judo practitioners*. American College of Sports Medicine, Baltimore, MD.
- Hogue, C. M., Fry, M. D., & Brown, T. C. (2010). *Incorporating team building activities in a summer day camp for children: Lessons learned*. Association of Applied Sport Psychology, Providence, RI.
- Brown, T. C., & Fry, M. D. (2010). *Caring climate intervention for sport skills and fitness camp leaders*. Association of Applied Sport Psychology, Providence, RI.
- Brown, T. C., & Fry, M. D. (2010). *Teaching life skills in a physical activity after-school program*. American School Health Association, Kansas City, MO.
- Moore, E. W., & Fry, M. D. (2009). *The effect of a caring and task-involving climate on student empowerment and ownership in physical activity classes*. Association for Applied Sport Psychology, Salt Lake City, UT.
- Kwon, S., & Fry, M. D. (2009). *Members' perceptions of their fitness club climate and their exercise flow*. Association for Applied Sport Psychology, Salt Lake City, UT.
- Hogue, C. M., Fry, M. D., & Dodd, R. (2009). *Athletes' perceptions of the climate at their training centers and their motivational responses*. Association for Applied Sport Psychology, Salt Lake City, UT.
- Fry, M. D. (2009). *From theory to practice: Creating positive and caring environments in the real world*. Association for Applied Sport Psychology, Salt Lake City, UT.
- Brown, T. C., & Fry, M. D. (2009). *Students' perceptions of their exercise class environment and their psychological well-being*. Association for Applied Sport Psychology, Salt Lake City, UT.
- Marshall, K., Stephens, L., Grindle, V., Fry, M. D., & Li, Y. (2009). *Mental imagery and EEG*

- activity in elite and novice collegiate soccer players.* Association for Applied Sport Psychology to be, Tampa, FL.
- Brown, T. C., & Fry, M. D. (2009). *Participants' perceptions of a caring and positive climate in their exercise classes.* American Alliance of Health, Physical Education, Recreation, & Dance, Tampa, FL.
- Fry, M. D., Dodd, R. K., & Brown, T. C. (2008). *Young athletes' perceptions of their coaches' and teammates' caring and uncaring behaviors.* Association for Applied Sport Psychology, St. Louis, MO.
- Binkley, S.E., & Fry, M. D. (2007). *The relationship of college students' perceptions of their BMI and weight status to their physical self-concept.* Association for Applied Sport Psychology, Louisville, KY.
- Smith, H., Fry, M.D., Li, Y., & Weiss, L. (2006). *The relationship of anxiety and self-confidence to treadmill exercise tolerance tests performance by sedentary obese women.* Association for the Advancement of Applied Sport Psychology, Miami, FL.
- McCarty, L., Fry, M.D., & Curly, C. (2006). *The relationship of a caring climate to motivational responses and psychological well-being in youth baseball.* Association for the Advancement of Applied Sport Psychology, Miami, FL.
- Gano-Overway, L. A., Newton, M., Magyar, AM., Fry, M. D., Kim, M., & Guivernau, M. (2006). *Caring, self-regulatory efficacy, empathic efficacy, and prosocial/antisocial behaviors in a physical activity setting.* Association for the Advancement of Applied Sport Psychology, Miami, FL.
- Fry, A.C., Haneishi, K., Moore, C.A., Schilling, B.K., Li, Y., & Fry, M.D. (2006). *Cortisol and stress responses during a game and practice in female collegiate soccer players.* National Conference on Student Assessment, Washington, D.C.
- Bricker, J. B., & Fry, M. D. (2005). *The influence of injured athletes' perceptions of social support from their certified athletic trainers on athletes' beliefs about rehabilitation.* Association for the Advancement of Applied Sport Psychology, Vancouver, British Columbia, Canada.
- Magyar, M., Guivernau, M., Gano-Overway, L., Newton, M., Fry, M.D., Kim, M., & Watson, D. (2005). *Exploring the relationship between the caring climate and achievement goal theory among underserved youth in physical activity.* American Alliance of Health, Physical Education, Recreation & Dance, Chicago, IL.
- Fry, M.D., & Newton, M. (2004, September). *The development of the Caring Climate Questionnaire.* Association for the Advancement of Applied Sport Psychology, Minneapolis, MN.
- Smith, S., Fry, M.D., & Ethington, C. (2004, September). *The effect of female athletes' perceptions of their coaches' behaviors on their perceptions of the motivational climate.* Association for the Advancement of Applied Sport Psychology, Minneapolis, MN.
- McCay, K., & Fry, MD. (2004, September). *The examination of goal perspective theory in relationship to measures of psychological well-being.* Association for the Advancement of Applied Sport Psychology, Minneapolis, MN.
- McCay, K., & Fry, M.D. (2004, March). *Predictors of adolescent depression: The role of physical activity and body image.* Society of Behavioral Medicine, Baltimore, MD.
- Henry, H., & Fry, M.D. (2003, October). *Corporate fitness members' perceptions of the*

- motivational climate, their intrinsic motivation, and perceptions of being valued by their employer.* Association for the Advancement of Applied Sport Psychology, Philadelphia, PA.
- Fry, M.D.,** Pittman, L., McCay, K., & Wendell, M. (2003, October). *A qualitative examination of underserved 4th grade girls' views about physical education.* Association for the Advancement of Applied Sport Psychology, Philadelphia, PA.
- Fry, M. D.,** Abma, C., Wood, J., & Melland, B. (2002, October). *The effects of an after-school physical activity and life skills program on 4th graders' self concept, motivational perspectives, and fitness levels.* Association for the Advancement of Applied Sport Psychology, Tucson, AZ.
- Abma, C., & **Fry, M. D.** (2002, October). *The effects of an imagery intervention on the trait confidence levels of female college volleyball players.* Association for the Advancement of Applied Sport Psychology, Tucson, AZ.
- Duda, J.L., Smith, M., & **Fry, M. D.** (2002, June). *An examination of learned helpless responses among young children engaged in physical tasks.* North American Society for the Psychology of Sport and Physical Activity, Baltimore, MD.
- Newton, M., **Fry, M.D.,** & Bernhardt, P. (2001, October). *Examination of the interactive relationship of goal orientations, perceptions of the motivational climate, and perceived ability in youth tennis players.* Association for the Advancement of Applied Sport Psychology, Orlando, FL.
- Abma, C. & **Fry, M. D.** (2001, May). *A qualitative examination of underserved 8th grade female students' attitudes about physical education.* 10th World Congress of Sport Psychology held in Skiathos, Greece.
- Lattimore, D., **Fry, M. D.,** & Balas, C. (2000, October). *Students' perceptions of the motivational climate and their motivational responses in physical education.* Association for the Advancement of Applied Sport Psychology, Nashville, TN.
- Fry, M. D.,** Lattimore, D., & Balas, C. (2000, October). *A developmental examination of children's accuracy in judging their physical ability in physical education.* Association for the Advancement of Applied Sport Psychology, Nashville, TN.
- Fry, M.D.,** & Newton, M. (1999, September). *Goal orientations, perceptions of the motivational climate, and motivational responses of urban youth tennis players.* Association for the Advancement of Applied Sport Psychology, Banff, Canada.
- Fry, M. D.,** Lattimore, D., & Balas, C. (1999, September). *A developmental analysis of conceptions of effort and physical ability among underserved youth.* Association for the Advancement of Applied Sport Psychology, Banff, Canada.
- Harber, M. P., **Fry, M. D.,** & Fry, A. C. (1998). *Sources of stress identified by elite collegiate weightlifters.* A paper presented at the annual meeting of the National Strength and Conditioning Association, Nashville, TN.
- Fry, M. D.,** Fry, A. C., & Newton, M. (1997, September). *Sources of stress identified by elite junior weightlifters.* Association for the Advancement of Applied Sport Psychology, San Diego, CA.
- Newton, M., **Fry, M. D.,** & Sandberg, J. (1997). *Goal orientations and purposes of sport and beliefs concerning success among senior Olympians.* North American Society for the Psychology of Sport and Physical Activity, Denver, CO.
- Fry, M. D.** (1997, March). *Symposium: Goal perspectives in physical education and sport:*

- Theory into practice*. American Alliance for Health, Physical Education, Recreation, and Dance, St. Louis, MO.
- Fry, M. D.** (1996, October). *Children's understanding of luck and ability: A developmental analysis*. Association for the Advancement of Applied Sport Psychology, Williamsburg, VA.
- Fry, M. D.** (1996, October). *The motivational climate in sport and physical education: An introduction to theory and research*. Association for the Advancement of Applied Sport Psychology, Williamsburg, VA.
- Fry, M. D., & Fry, A. C.** (1996, June). *Goal perspectives and motivational responses of elite junior weightlifters*. National Strength and Conditioning Association, Atlanta, GA.
- Fry, M. D., & Alexander, C.** (1996, June). *Children's understanding of task difficulty: A developmental analysis*. North American Society for the Psychology of Sport and Physical Activity, Cleveland's House, Canada.
- Duda, J. L., & Walling, M. D.** (1995, October). *Views about the Motivational climate and their self perceptions/affective correlates: The case for young elite female gymnasts*. Association for the Advancement of Applied Sport Psychology, New Orleans, LA.
- Newton, M. L., & Walling, M. D.** (1995, October). Goal orientations and beliefs about the causes of success among senior Olympic games participants. North American Society for the Psychology of Sport and Physical Activity, Asilomar, CA.
- Walling, M. D.** (1994, October). *Developmental differences in children's views regarding physical competence*. Association for the Advancement of Applied Sport Psychology, Lake Tahoe, NV.
- Walling, M. D., & Duda, J. L.** (1994, June). *Children's understanding of effort and ability in the physical domain*. North American Society for the Psychology of Sport and Physical Activity, Clearwater Beach, FL.
- Walling, M. D., Duda, J. L., Newton, M., & White, S.** (1993, October). *The Task and Ego Orientation in Sport Questionnaire: Further analysis with youth sport participants*. Association for the Advancement of Applied Sport Psychology, Montreal, CANADA.
- Walling, M. D., & Duda, J. L.** (1993, March). *Goals and their associations with beliefs about success in and perceptions of the purpose of physical education*. American Alliance for Health, Physical Education, Recreation, and Dance, Washington, DC.
- Walling, M. D.** (1993, February). *Children's conceptions of effort and ability in the physical domain: A dissertation in progress*. Midwest Sport Psychology Symposium, Miami University, Oxford, OH.
- Walling, M. D., Duda, J. L., & Crawford, T.** (1992, October). *The relationship between goal orientations and positive attitudes toward sport and exercise among young athletes*. Association for the Advancement of Applied Sport Psychology, Colorado Springs, CO.
- Walling, M. D., Duda, J. L., & Crawford, T.** (1992, June). *The psychometric properties of the perceived motivational climate in sport questionnaire: Further investigation*. North American Society for the Psychology of Sport and Physical Activity, Pittsburgh, PA.
- Walling, M. D., Crawford, T., Duda, J. L., & Wigglesworth, J.** (1992, April). *Are we having fun yet and will we want to play again?: The interrelationships between goal perspectives and other motivational variables in youth sport athletes*. American Alliance for Health, Physical Education, Recreation, and Dance, Indianapolis, IN.
- Walling, M. D., & Catley, D.** (1992, April). *Jack and Jill in physical education class: Do they*

think their instructor treats them differently? American Alliance for Health, Physical Education, Recreation, and Dance, Indianapolis, IN.

- Walling, M. D., & Catley, D.** (1992, February). *Sex role stereotyping among college instructors and students' perceptions of instructor gender bias*. Midwest Sport Psychology Symposium, Purdue University, West Lafayette, IN.
- Walling, M. D., Catley, D., & Taylor, A.** (1991, June). *The interrelationships between goal perspectives, perceived competence, and indices of intrinsic motivation*. North American Society for the Psychology of Sport and Physical Activity, Asilomar, CA.
- Walling, M. D.** (1991, April). *Learned helplessness: A case study of a sixth-grade physical education student*. American Alliance for Health, Physical Education, Recreation and Dance, San Francisco, CA.

Webinar

- Fry, M. D., & Hogue, C. M. (2019). *Theories and Models in Sport Psychology: A Review*. Association for the Advancement of Applied Sport Psychology.

State/Regional Presentations

- Gray, R., & Fry, M. D. (2020). *Employing a buddy system to foster physical activity among college students with a physical disability*. Midwest Sport Psychology Symposium, Illinois State University.
- Wineinger, T., & Fry, M. D. (2020). A collaboration between a sport psychology lab with a youth sport organization: Helping WIN create an optimal sport experience. Midwest Sport Psychology Symposium, Illinois State University.
- Fry, M. D.** (2018). *Three ideas for incorporating sport psychology into practice and competition*. Greenbush Coaches' Workshop.
- Fry, M. D.** (2018). *Three more ideas for incorporating sport psychology into practice and competition*. Greenbush Coaches' Workshop.
- Fry, M. D.** (2017). *Sport Psychology: Setting a Positive Tone for the Team* (Sessions A & B, repeated). Greenbush Fall Coaches' Workshop.
- Fry, M. D.** (2016). *KU Graduate Programs in Health, Sport & Exercise Science*. Morehouse College Graduate Program Fair (February, 2016).
- Fry, M. D.** (2016, Fall). *Keys to Helping Athletes Develop Strong Mental Skills: The Role of Sport Psychology*. Keynote for Greenbush Coaching Conference, Eudora, KS.
- Fry, M. D.** (2016, Spring). *Working with and bringing out the best in difficult athletes*. Greenbush Coaching Conference, Eudora, KS.
- Fry, M. D.** (2015). *Bringing out the Best in Every Swimmer: The Contribution of Sport Psychology*. Keynote delivered to US Master Swim at their National Conference; Kansas City, KS.
- Fry, M. D.** (2015). *Caring Climates for Physical Activity Settings*. University of Milwaukee, Wisconsin.
- Fry, M. D.** (2015). *Creating a Caring Climate to Maximize Athletes' Potential On and Off the Field*. Keynote presented at the Positive Coaching Alliance Trainers' Institute.
- Fry, M. D.** (2015). *Maximizing Athletes' Potential On and Off the Field*. Keynote delivered to X's and O's Coaching Education Workshop, Emporia State University, Emporia, KS.
- Fry, M. D.** (2015). *Setting the Stage for Coaches to Optimize Athletes' Motivation*. Big XII invited lecture at Texas Christian University; Fort Worth, TX.

- Fry, M. D.,** Moore, E., W., G., Iwasaki, S., Fontana, M., Hogue, C., Claunch, J., & McGhee, R. (2012). *Building Mentally Strong Athletes: Ideas for Incorporating Mental Skills Training with Sport Teams*. Kansas Alliance for Health, Physical Education, Recreation, & Dance in Lawrence, KS.
- Fry, M. D.** (2012). *Strong Girls: Hearing About the Benefits of a Physical Activity/Positive Life Skills Program from the Leaders and Kids*. Kansas Alliance for Health, Physical Education, Recreation, & Dance in Lawrence, KS.
- Moore, E. W., & **Fry, M. D.** (2010). *Kids don't care what you know until they know that you care: Tips for building caring environments*. Kansas Alliance for Health, Physical Education, Recreation & Dance, Wichita, KS.
- Brown, T., **Fry, M. D.**, & Hogue, C. (2010). *Positive life skills for every walk of life*. Kansas Alliance for Health, Physical Education, Recreation & Dance, Wichita, KS.
- Fry, M. D.**, Brown, T., Moore, E. W., Hogue, C., Sauer, S., & Beyer, J. (2010). *Team time: Team building activities for any group to use and process*. Kansas Alliance for Health, Physical Education, Recreation & Dance, Wichita, KS.
- Williamson, K., & **Fry, M. D.** (2009). *Bringing out the best in your athletes: Making sport fun again while enhancing your team's competitive edge*. Kansas Alliance for Health, Physical Education, Recreation & Dance, Pittsburg, KS.
- Moore, W. E., & **Fry, M. D.** (2009). *Are we building character or characters?: Strategies for promoting integrity among young athletes*. Kansas Alliance for Health, Physical Education, Recreation & Dance held in Pittsburg, KS.
- Brown, T. C., & **Fry, M. D.** (2009). *Ideas to implement in a youth physical activity life skills program*. Kansas Alliance for Health, Physical Education, Recreation and Dance held in Pittsburg, KS.
- Fry, M. D.**, Dodd, R., Brown, T. C. (2008). *Getting them interested and coming back: Creating a positive and caring environment in exercise settings*. Kansas Association of Health, Physical Education, Recreation and Dance, Emporia, KS.
- Fry, M. D.** (2005). *Creating a Positive Climate and Optimizing Motivation in Physical Education & on Sport Teams*. An invited presentation for the Lutheran Schools Midsouthern Regional Conference held in Memphis, TN.

SUPPORT

EXTERNAL FUNDING	AGENCY/SOURCE	AMOUNT	PERIOD
Creating Optimal Climate for Youth With Congenital Heart Disease	American Council on Exercise	\$2400	2021-2022
Climate Free Throw Intervention	Association for Applied Sport Psychology	\$4980	2021-2022
Strong Girls	Association for Applied Sport Psychology	\$4625	2019-2020
Rock Chalk, Zuni	Running Strong for American Indian Youth	\$5000	2017-2018
KU PCA Initiative	Positive Coaching Alliance/	\$75,000	2017-2020

David and Margaret Shirk Physical Education Programs Fund			
Strong Girls: A positive life skills intervention for 3 rd -5 th girls	Kohl's Cares for Kids	\$4000	2011
Students' salivary stress responses when juggling in two distinct motivational climates	Association of Applied Sport Psychology	\$2800	2010-11
Effects of resistance exercise and a Pre-workout dietary supplement on Physiological adaptations	Labrada	\$5000	2010
Strong Girls: A positive life skills physical activity intervention for elementary school girls	Association of Applied Sport Psychology	\$3220	2009-10
Fostering & maintaining motivation among urban youth tennis players	United States Tennis Association	\$10,000	1997-98
EXTERNAL PROPOSALS NOT FUNDED	AGENCY/SOURCE	AMOUNT	PERIOD
Children's International Guatemala & US Collaboration	ASportsUnited: International Sports Programming Initiative	\$224,953	2012
Dare to Care: Tackling Childhood Obesity	Albert Foundation	\$46,000	2013
Strong Girls: A positive life skills/physical activity program	Live-Well Lawrence-Kansas Health Foundation	\$5000	2011
Strong Girls: A positive life skills/physical activity program for girls	Payless Foundation	\$15, 000	2011
Strong Girls: A positive life skills/ Physical activity program for children	Sprint Foundation	\$168, 000	2011
SUPPORT INTERNAL FUNDING	AGENCY/SOURCE	AMOUNT	PERIOD
Research Excellence Initiative" A Collaboration to Train Biology Lab Instructors to Create a Caring & Task Involving Climate	University of Kansas; College of Liberal Arts & Sciences	\$30, 000 (under review)	2019-2020

Strong Girls: A community life skills/physical activity research and service project for elementary girls in Lawrence.	University of Kansas KU SOE Academic Year Research Support	\$8000	2011
Examining the motivational climate in a national fitness company.	University of Kansas Faculty Research Grant	\$5000	2010
Strong Girls: A physical activity and life skills intervention for faculty adolescent girls.	University of Kansas Research Grant	\$6000	2009
A team building/mental skills intervention for children enrolled in a summer camp.	University of Kansas New Faculty Research Grant	\$8000	2008
The relationship between young athletes' perceptions of a caring climate on their sport teams to their motivational responses	University of Memphis Faculty Research Grant	\$6000	2005
Effect of a strength training intervention for underserved elementary students	University of Memphis Faculty Research Grant	\$4000	2000-02
An examination of black females' perceptions of physical activity	Center for Research on Educational Policy, University of Memphis	\$5000	2000
Children's perceptions of ability and their motivational responses in physical education class.	Center for Research on Educational Policy, University of Memphis	\$3800	1999
The motivational implications of students' understanding of effort and ability in the physical domain.	University of Memphis Faculty Research Grant	\$4000	1995
Children's understanding of luck and ability, and task difficulty.	University of Memphis Faculty Research Grant	\$3000	1994
Developmental differences in children's conceptions of ability, effort, and task difficulty in the physical domain.	Purdue Foundation Grant	\$9,900 (per year for 2 years)	1992-94

Memberships in Professional Organizations

American Psychological Association (2017-present)
 American Alliance for Health, Physical Education, Recreation, and Dance (1988-2017).
 Association for Applied Sport Psychology, Member (1991-present).
 Kansas Alliance for Health, Physical Education, Recreation, & Dance (2008-present).
 North American Society for the Psychology of Sport and Physical Activity, Member (1988-2000).
 Indiana Association for Health, Physical Education, Recreation, and Dance, Member (1993-1994).
 Tennessee Association for Health, Physical Education, Recreation, and Dance, Member (1994-2000).

Teaching Responsibilities:**Undergraduate**

EXSS 3307 Psychosocial Aspects of Sport [UMemphis]
 EXSS 3450 Psychological Aspects of Exercise [UMemphis]*
 EXSS 4605 Internship in Exercise & Sport Science [UMemphis]
 EXSS 4999 Senior Project in Health, Physical Education, & Recreation [UMemphis]*
 HSES 385 Psychological Aspects of Exercise [KansasU]*
 HSES 440 Applied Sport Psychology [KansasU]*

Graduate

EXSS 7173 Sport and Exercise Psychology [UMemphis]*
 EXSS 6903 Developmental Perspectives in Youth Sport [UMemphis]*
 EXSS 7133 Current Readings: Motivation in Physical Activity Settings [UMemphis]*
 EXSS 7907 Special Topics: Applied Sport Psychology [UMemphis]*
 HSES 798 Special Course: Creating a Positive Environment in Physical Activity Settings [KansasU]*
 HSES 798 Special Course: Sport Psychology Within Youth Sport [KansasU]*
 HSES 798 Special Course: Advanced Sport Psychology [KansasU]**
 HSES 804 Sport Psychology [KansasU]**
 HSES 806 Stress Management [KansasU]*
 HSES 823 Behavior Modification [KansasU]
 HSES 892 Psychological Foundations of Sport and Physical Activity [KansasU] *
 HSES 982 Research Ethics [KansasU]

*Courses I developed.

Community Presentations

Fry, M. D. (November, 2017). *Lead campus participation in celebration of World Kindness Day.*

Fry, M. D. (June, 2016). *Mental Skills: A Key Ingredient for Excellence in Cross Country.* Workshop for Eudora High School Cross Country Team; Eudora, KS.

Fry, M. D. (2016). *Creating a Caring and Task-Involving Climate in CI's Game On Program.* A presentation for CI Employees at the International Headquarters Office in Kansas City, KS.

Fry, M. D. (2016). *Team Building: The Potential for Children International.* Workshop for Children International Employees at the National Headquarters office in

Kansas City, KS.

- Fry, M. D.** (2015). *Activities and Strategies to Help Children and Adolescents Thrive in Physical Activity Settings*. Topeka Parks and Recreation Conference; Topeka, KS.
- Fry, M. D.** (2015). *Fostering Wellness at the Worksite*. Live Well Lawrence; Lawrence, KS.
- Fry, M. D.** (2011, Nov.). Guest panelist for KU Alternative Breaks, University of KS
- Fry, M. D.** (2011, Nov.). Guest speaker for Multicultural Education, University of KS.
- Fry, M. D.** (2011, Nov.). Guest speaker for Coaching Football Class, University of KS.
- Fry, M. D.** (2011, Oct.). Guest speaker for KU Bowling Team, University of KS.
- Fry, M. D.** (2011, April). Guest speaker for Positive Psychology Class, University of KS.
- Fry, M. D.** (2011, March). Guest speaker for Coaching Softball Class, University of KS.
- Fry, M.D.** (2011, Feb.). Guest speaker for Coaches Meeting for Sunflower Soccer Association, Topeka, KS.
- Fry, M. D.** (2010). Guest speaker for Healthy Musicians Class (2-hour workshop), University of KS.
- Fry, M. D.** (2009). Guest speaker for Life Skills Class at Atchison Community High School, KS.
- Fry, M. D.** (2005, Feb.). Caring communities within physical activity settings. An invited presentation to a Memphis Chapter of the Philanthropic Educational Organization.
- Fry, M. D.** (2001-present). Coordinate mental skills and physical activities for youngsters (i.e., cancer patients & their siblings) at Target House in Memphis, TN. Have conducted approximately 12 1.5-2 hour sessions.
- Fry, M. D.** (2002, July 17th). The role of sport psychology in the prevention of and rehabilitation after injury. A presentation for coaches attending the Memphis Interscholastic Athletic Association Conference.
- Fry, M. D.** (May, 2002). Presented stress management session for Cancer Support Group at Pentecostal Church in Memphis, TN.
- Fry, M. D.** (2001-present). Coordinate mental skills and physical activities for youngsters (i.e., cancer patients & their siblings).
- Fry, M. D.** (2000 & 2001, March-April). Coordinator for Short Putts to Spring Workshops for the MidSouth Junior Golf Association. Presenter for 2 of the 5 workshops on team building skills.
- Fry, M. D.** (1996). Optimizing arousal levels in tennis. A presentation to the Women's tennis team at The University of Memphis.
- Fry, M. D.** (1995, October). *Mental skills training in track and field*. A presentation to the Women's track and cross country teams at The University of Memphis.
- Walling, M. D.** (1995, February). *Maximizing your children's motivation in swimming: An educational sport psychology perspective*. A presentation to the Booster Club parents of the University of Memphis Swim Club.
- Walling, M. D.** (1995, February). *Fostering effort and enjoyment with your tennis players: A sport psychology perspective*. An invited talk which was part of a workshop sponsored by the USTA, the National Umpires Association and the Memphis City Schools for high school tennis coaches.
- Walling, M. D.** (1994). *Sport psychology with a developmental twist*. An invited presentation to the Sport Psychology Colloquium, Department of Psychology, University of Memphis.
- Walling, M. D.** (1993, October). *The influence of parents on young gymnasts' levels of stress and motivation*. An invited presentation sponsored by the United States Gymnastics Federation, Indianapolis, IN.

Walling, M. D.(1992, October). *The mechanics of sport psychology: What we do and how it impacts you and your family.* Presentation to the Purdue Mechanical Engineering Advisory Board Spouses.

Walling, M. D. (1991, July). *Stress Management.* Invited presentation sponsored by the National Institute for Fitness and Sport.

Walling, M. D., & Newton, M. (1991, October). *Sport Psychology for the Weekend Athlete.* Invited presentation sponsored by the Eli Lilly Corporation, Indianapolis, IN.

Departmental/University Service

KU Faculty Research Grant Review Committee (2021-2023)

Wolfe Teaching Award, School of Education (2021)

KU Title IX Committee (2020)

Kansas Women's Leadership Institute, Net-Walk Mentor Participant (2016-2017).

KU Certificate in Sport Committee (2017-2018).

KU Center for Undergraduate Research, Advisory Board (2016-2018).

KU Calendar Committee (2016-2018; Chair, 2017-2019).

SOE Scholarship & Awards Committee (2013-2019).

SOE Convocation Volunteer (2009-present).

HSES Faculty Search Committees (2009, 2010, 2012, 2013, 2014, 2015).

HSES Scholarship & Awards Committee (2010-2013), University of Kansas.

HSES Personnel Committee (2011-present), University of Kansas.

HSES Graduate Curriculum Committee (2008-2014), University of Kansas.

SOE Diversity Committee (2013-2016), University of Kansas.

SOE Technology Committee (2011-2013), University of Kansas.

SOE Governance Committee (2011-2013), University of Kansas.

SOE Personnel Committee (2007-2010), University of Kansas.

University of Kansas, Dean of the School of Education 5-year Review Committee (2014).

President's Tenure & Promotions Appeal Committee. (2007-2009). The University of Memphis.

HSS Community Affairs Committee (2004-2006). The University of Memphis.

Coordinator of Achievement Motivation Seminar (2003). The University of Memphis, Dept. HMSE.

PETE Unit Head, Dept. of HMSE, University of Memphis (2001-2003).

HMSE Tenure and Promotion Committee (1999-2000; Chair 2000-2001), The University of Memphis.

HMSE Coordinator for the Science Olympiad sponsored by The University of Memphis for high school honor science students in the Western portion of TN (1995-1999).

Dean's Council for Teacher Education (1994-1995), University of Memphis.

HMSE Material Resources Committee (1994-1995; 1998-2000, 2002; 2000-2001, Chair), University of Memphis.

HMSE Ad Hoc Committee on Internships (1994-1995), University of Memphis.

HMSE Recruitment Committee (1995-1996).

HMSE Physical Education Teacher Education Unit (1994-present; Unit Head-2001-2002), University of Memphis.

HMSE Ad Hoc Committee on Proposing a PhD Program (1995-1997).

HMSE Undergraduate Council (1994-95 & 1997-1998)

HMSE Academic Council (1996-1998).

HMSE Graduate Studies and Research Council (1995-2001; chair from 1996-1998)

College of Education Graduate Council (1996-1998).

Graduate Coordinator for the Department of Human Movement Sciences and Education, (1996-1998).

Service to National Organizations

Creating a Caring Climate Within and Across an Athletic Program, Positive Coaching Alliance Workshop (2020).

Subject Matter Expert for the Certification Exam Committee, Association of Applied Sport Psychology (2018).

Member of Ad-Hoc Committee to Study Future of AASP, Association of Applied Sport Psychology (2012-2015).

Member of the Social Psychology Section Committee, Association for the Advancement of Applied Sport Psychology (AAASP). Appointed for a 3-year-term, 1996-99; 2001-2003.

Member of AAASP Dissertation Award Committee (1998 & 2002).

Member of Editorial Board for *Physical Activity Today* (American Alliance for Health, Physical Education, Recreation and Dance publication), 1997-2001.

Member of Sport Psychology Program Area Review Committee for the 1996 Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity (NASPSPA).

Executive Board Member, Association for the Advancement of Applied Sport Psychology, (2004-2006).

Member of Program Review Committee, American Alliance of Health, Physical Education, Recreation & Dance (2009- 2017); Chaired committee in 2010.

Member of Program Review Committee, Association for Applied Sport Psychology (2008-present).

Reviewing/Editing Responsibilities

Associate Editor (2009-2012); Editorial Board Member (2000-2009; 2013-present) and Reviewer (1992-1999). *Journal of Applied Sport Psychology*.

Associate Editor. *Sport Psychology in Action* (2008-present).

Editorial Board Member. *Sport, Exercise, and Performance Psychology* (2011-present; American Psychological Association Journal).

Sport & Exercise Psychology Section Editor (2003-2006) and Reviewer (1994-present). *Research Quarterly for Exercise and Sport*.

Co-editor with David R. Black of Abstracts Column. *Peer Facilitator Quarterly* (1993-1994).

Reviewer. *Education and Treatment of Children* (1993-1995).

Reviewer. *Journal of Health Education* (1993-1995).

Reviewer. *The Sports Psychologist* (1997-present).

Reviewer. *International Journal of Sport Psychology*. (1997-present).

Reviewer. *Journal of Sport and Exercise Psychology* (1993-present).

Reviewer. *Journal of Strength and Conditioning* (1998-present).

Reviewer & Editorial Board Member. *Journal of Strength and Conditioning Research* (Reviewer, 1996-present; Editorial Board Member, 1996-1998).

Contributor to Community/National Forum

- Fry, M. D., & Brown, T. C.** (2021-present). Co-Directors of Strong Girls, an after-school physical activity and lifeskill program for adolescent girls. University of Kansas.
- Fry, M. D.** (Fall, 2017). *Participating in a Positive Sport Climate Reaps Many Benefits for Young People*. Column written for the National Dropout Prevention Coalition-Newsletter.
- Fry, M. D.** (2017). *The Power of the Positive*. Contributor to the Positive Coaching Alliance Video.
- DeAngelis, T. (2016) *Psychologists' research points ways to keep youth athletes in sports*. American Psychological Association Monitor Newsletter [KU Sport & Exercise Psychology Lab featured]
- Fry, M.D.** (2003). *Coaches' rant can bench kids for life*. Invited guest column in the Viewpoint Section of the Commercial Appeal, April 7, 2003.
- Fry, M.D.** (2003, March). *Strategies for creating a task-involving climate with underserved youth*. An invited presentation to the Dept. of EXSS at the University of Mississippi.
- Fry, M.D.** (2002). Presenter of workshop entitled: *The Climate Counts: Techniques and Strategies for Fostering a Task-Involving Motivational Climate*.
- Fry, M. D., & Newton, M. L.** (1997, December). *TARGETing success in volleyball: Creating a positive motivational climate*. Invited speaker at the American Volleyball Coaches Association (AVCA) National Convention preceding the NCAA Final Four Tournament in Spokane, WA.
- Fry, M. D.** (1996, April). Invited speaker at Colonial Junior High's Career Day.
- Fry, M. D.** (February, 1995 & October, 1996). Invited guest on Eddie Cantler's talk-show, "The Trainer's Corner" seen on the Library Channel, Memphis, TN.
- Walling, M. D.** (1995). Choosing quality youth sport programs for children: The critical role of parents. *Journal of Kinetic Arts, 1* (5).

Applied Sport Psychology Experiences

- Fry, M. D. (2008-present). Mental Skills Interventions with high school & university athletes.
- Fry, M. D. (2013-2018). Mental Skills Intervention with a high school baseball team.
- Fry, M. D. (2009-2011). Mental Skills Intervention with a youth baseball team.
- Fry, M. D. (2008-2010). Mental Skills Intervention with a Division 1 collegiate volleyball team.
- Fry, M.D. (2006-2007). Mental Skills Intervention with a high school basketball team.
- Fry, M. D. (2006). Mental Skills Intervention with a Division 1 cross country team.
- Fry, M.D. (2005-2006). Mental Skills activities with a high school golfer.
- Fry, M.D. (2003). Mental Skills Activities provided to the Dolphins, a youth synchronized swim program in Memphis.
- Fry, M.D. (2001-2007). Mental Skills Games and Activities Sessions provided to residents of Target House (i.e., long-term treatment patients at St. Jude Hospital).
- Fry, M. D. (2001, Spring). The Strength Club. An after-school mental skills training program for elementary-aged children.
- Fry, M. D. (1996, Spring). Consultation with members of a Division 1 collegiate Track and Field Team.

Walling, M. D. (1994, December). Member of Sport Psychology Coaching Staff for the Talent Opportunity Program (TOP) Camp sponsored by the United States Gymnastics Federation (USGF). Tulsa, OK

Walling, M. D. (1992, October). *Effective Goal Setting in Volleyball*. Presentation to the West Lafayette High School Volleyball Team.

Walling, M. D. (1992, April). *Stress Management in Sport*. Presentation to the Women's Crew Team, Purdue University.

Walling, M. D. (1992). Consultation with High School Tennis Player Over a Season.

Chair, Graduate Student Advisory Council, Department of Health, Kinesiology, and Leisure Studies at Purdue University, 1991-1992.

WEST VIRGINIA LEGISLATURE
2021 REGULAR SESSION

Exhibit 3

ENROLLED

Committee Substitute

for

House Bill 3293

BY DELEGATES HANNA, BRIDGES, CLARK, ELLINGTON,
HORST, JENNINGS, LONGANACRE, MAZZOCCHI, TULLY,
PHILLIPS AND BURKHAMMER

[Passed April 9, 2021; in effect ninety days from
passage.]

EXHIBIT

tabbles

WV-34

Enr CS for HB 3293

1 AN ACT to amend the Code of West Virginia, 1931, as amended, by adding thereto a new section,
2 designated §18-2-25d, relating to designation of athletic teams or sports sponsored by
3 any public secondary school or state institution of higher education according to biological
4 sex; providing legislative findings; defining “biological sex”, “female”, and “male”; providing
5 for designation of athletic teams as “males, men, or boys”, “females, women, or girls”, or
6 “coed or mixed”; prohibiting biological males from participating on athletic teams or sports
7 designated for biological females where competitive skill or contact is involved; clarifying
8 that eligibility of any student to participate on athletic teams or sports designated for
9 biological males is not restricted; providing cause of action for student aggrieved by
10 violation of this section; requiring identity of minor student related to such action to remain
11 anonymous; requiring promulgation of rules by the State Board of Education; and requiring
12 proposal of legislative rules by the Higher Education Policy Commission and Council for
13 Community and Technical College Education.

Be it enacted by the Legislature of West Virginia:

ARTICLE 2. STATE BOARD OF EDUCATION.

§18-2-25d. Clarifying participation for sports events to be based on biological sex of the athlete at birth.

1 (a) The Legislature hereby finds:

2 (1) There are inherent differences between biological males and biological females, and
3 that these differences are cause for celebration, as determined by the Supreme Court of the
4 United States in *United States v. Virginia* (1996);

5 (2) These inherent differences are not a valid justification for sex-based classifications that
6 make overbroad generalizations or perpetuate the legal, social, and economic inferiority of either
7 sex. Rather, these inherent differences are a valid justification for sex-based classifications when
8 they realistically reflect the fact that the sexes are not similarly situated in certain circumstances,
9 as recognized by the Supreme Court of the United States in *Michael M. v. Sonoma County*,

Enr CS for HB 3293

10 *Superior Court* (1981) and the Supreme Court of Appeals of West Virginia in *Israel v. Secondary*
11 *Schools Act. Com'n* (1989);

12 (3) In the context of sports involving competitive skill or contact, biological males and
13 biological females are not in fact similarly situated. Biological males would displace females to a
14 substantial extent if permitted to compete on teams designated for biological females, as
15 recognized in *Clark v. Ariz. Interscholastic Ass'n* (9th Cir. 1982);

16 (4) Although necessarily related, as concluded by the United States Supreme Court in
17 *Bostock v. Clayton County* (2020), gender identity is separate and distinct from biological sex to
18 the extent that an individual's biological sex is not determinative or indicative of the individual's
19 gender identity. Classifications based on gender identity serve no legitimate relationship to the
20 State of West Virginia's interest in promoting equal athletic opportunities for the female sex; and

21 (5) Classification of teams according to biological sex is necessary to promote equal
22 athletic opportunities for the female sex.

23 (b) Definitions. - As used in this section, the following words have the meanings ascribed
24 to them unless the context clearly implies a different meaning:

25 (1) "Biological sex" means an individual's physical form as a male or female based solely
26 on the individual's reproductive biology and genetics at birth.

27 (2) "Female" means an individual whose biological sex determined at birth is female. As
28 used in this section, "women" or "girls" refers to biological females.

29 (3) "Male" means an individual whose biological sex determined at birth is male. As used
30 in this section, "men" or "boys" refers to biological males.

31 (c) Designation of Athletic Teams. —

32 (1) Interscholastic, intercollegiate, intramural, or club athletic teams or sports that are
33 sponsored by any public secondary school or a state institution of higher education, including a
34 state institution that is a member of the National Collegiate Athletic Association (NCAA), National

Enr CS for HB 3293

35 Association of Intercollegiate Athletics (NAIA), or National Junior College Athletic Association
36 (NJCAA), shall be expressly designated as one of the following based on biological sex:

37 (A) Males, men, or boys;

38 (B) Females, women, or girls; or

39 (C) Coed or mixed.

40 (2) Athletic teams or sports designated for females, women, or girls shall not be open to
41 students of the male sex where selection for such teams is based upon competitive skill or the
42 activity involved is a contact sport.

43 (3) Nothing in this section shall be construed to restrict the eligibility of any student to
44 participate in any interscholastic, intercollegiate, or intramural athletic teams or sports designated
45 as “males,” “men,” or “boys” or designated as “coed” or “mixed”: *Provided*, That selection for a
46 team may still be based on those who try out and possess the requisite skill to make the team.

47 (d) Cause of Action. —

48 (1) Any student aggrieved by a violation of this section may bring an action against a
49 county board of education or state institution of higher education alleged to be responsible for the
50 alleged violation. The aggrieved student may seek injunctive relief and actual damages, as well
51 as reasonable attorney’s fee and court costs, if the student substantially prevails.

52 (2) In any private action brought pursuant to this section, the identity of a minor student
53 shall remain private and anonymous.

54 (e) The State Board of Education shall promulgate rules, including emergency rules,
55 pursuant to §29A-3B-1 *et. seq.* of this code to implement the provisions of this section. The Higher
56 Education Policy Commission and the Council for Community and Technical College Education
57 shall promulgate emergency rules and propose rules for legislative approval pursuant to §29A-
58 3A-1 *et. seq.* of this code to implement the provisions of this section.

Enr CS for HB 3293

The Joint Committee on Enrolled Bills hereby certifies that the foregoing bill is correctly enrolled.

.....
Chairman, House Committee

.....
Chairman, Senate Committee

Originating in the House.

In effect ninety days from passage.

.....
Clerk of the House of Delegates

.....
Clerk of the Senate

.....
Speaker of the House of Delegates

.....
President of the Senate

The within this the.....
day of, 2021.

.....
Governor

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/6304768>

Cortisol and Stress Responses During a Game and Practice in Female Collegiate Soccer Players

Article in *The Journal of Strength and Conditioning Research* · May 2007

DOI: 10.1519/R-20496.1 · Source: PubMed



CITATIONS
116

READS
1,472

6 authors, including:



Kanae Haneishi
Valley City State University

3 PUBLICATIONS 116 CITATIONS

SEE PROFILE



Andrew C. Fry
University of Kansas

361 PUBLICATIONS 14,732 CITATIONS

SEE PROFILE



Mary Fry
University of Kansas

91 PUBLICATIONS 2,441 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



The Effect of Accentuated Eccentric Loading on Jump Shrug Performance [View project](#)



The Differential Effect of Motivational Climate on Adolescents' Psychophysiological Stress & Motivational Responses [View project](#)

CORTISOL AND STRESS RESPONSES DURING A GAME AND PRACTICE IN FEMALE COLLEGIATE SOCCER PLAYERS

KANAE HANEISHI, ANDREW C. FRY, CHRISTOPHER A. MOORE, BRIAN K. SCHILLING, YUHUA LI, AND MARY D. FRY

Human Performance Laboratories, The University of Memphis, Memphis, Tennessee 38152.

ABSTRACT. Haneishi, K. A.C. Fry, C.A. Moore, B.K. Schilling, Y. Li, and M.D. Fry. Cortisol and stress responses during a game and practice in female collegiate soccer players. *J. Strength Cond. Res.* 21(2):583–588. 2007.—The purpose of this study was to compare the cortisol responses from a regular season game and a typical practice session in female National Collegiate Athletic Association Division I collegiate soccer players. Eighteen players were assigned to 2 groups, 10 starters and 8 nonstarters, depending on their playing time. Salivary cortisol concentration, as well as competitive sport anxiety (somatic and cognitive anxiety, self-confidence), was monitored before and after 1 regular season game and 1 typical practice session. Although salivary cortisol levels increased postgame for both starters (+250%) and nonstarters (+140%), they increased to a greater extent for the starters. Practice salivary cortisol did not significantly change ($p > 0.05$). Cognitive and somatic anxiety was greater pre- and postgame when compared with the pre- and postpractice scores, respectively. These data clearly demonstrate the psychological and physiological differences between soccer competition and practice in collegiate women. It appears that both physiological and psychological variables combine to contribute to the large stress hormone response to an actual competitive game.

KEY WORDS. cognitive anxiety, somatic anxiety, self-confidence, stress, competition

INTRODUCTION

Soccer is a worldwide sport becoming increasingly popular among women, especially at the high school and college levels in the U.S.A. (16). However, there is a paucity of research in the literature regarding the physiology of soccer. More specifically, research on the stress of soccer, including the study of the physiological demands of starters and nonstarters during both game and practice conditions, is rather limited (7). Further investigation of this particular population is needed for the effective dissemination of scientifically based training knowledge specific to the sport.

The glucocorticoid cortisol is often used as both an acute and chronic indicator of training stress (8). After training or intense exercise, there is an acute increase in circulating cortisol levels (10, 11, 20). Previous studies have also reported significant increases in cortisol concentrations during sport competition (11, 12, 26, 28), as well as before sport competition (27). Increased cortisol response prior to sport competition has been documented as an anticipatory response and appears to be higher in winners than in losers (12, 13). In terms of sex-specific responses, there seems to be no significant difference in cortisol concentration between men and women (23). Moreover, cortisol, compared with androgens, may be a

more appropriate hormonal parameter of stress in women because it is less influenced by the menstrual cycle (2).

Cortisol is often assessed utilizing blood serum assay techniques. However, salivary cortisol measurement is a relatively simple and easy procedure, which has been shown to be an effective indicator of the plasma-free cortisol concentration (21, 22, 29, 30, 34). Pearson-product moment correlations between salivary and serum cortisol have been reported in the range of $r = 0.60$ – 0.97 (17, 19, 31). In addition to ease of data collection and sample preparation, salivary cortisol measurement is relatively stress free due to the lack of venipuncture (6), thus reducing the potential for artificially high values due to an anticipatory effect.

To more effectively understand the stress that athletes experience in soccer, psychological as well as physiological factors associated with the game must be considered. Generally, the stress response associated with game play is much higher than during practice. Filaire and colleagues (12) support this statement, noting that true competition induces greater hormonal response compared with laboratory exercise. To more fully understand factors contributing to the stress hormone response, inventories of psychological stress may be utilized. The Sport Anxiety Scale (SAS) is a competitive sport trait anxiety scale with 2 cognitive trait anxiety scales, 1 for worry and 1 for concentration disruption, as well as a somatic anxiety scale (31). The Competitive Sport Anxiety Inventory-2 (CSAI-2) is a self-report competitive sport state anxiety inventory composed of somatic and cognitive state anxiety scales, plus a self-confidence scale (25). The CSAI-2 has previously been used with physiological parameters, such as hormone concentration and heart rate, to assess psycho-physiological stress (11, 26).

The primary purposes of this study were to (a) compare the psycho-physiological stress responses during a competitive game and a regular practice session, (b) determine differences in these responses between starting and nonstarting female collegiate soccer players, and (c) examine relationships between physiological and psychological stress indicators. Considering the cortisol and psychological stress response subsequent to training, it was hypothesized that (a) the physical and psychological stress during a game would be higher than during practice, (b) the stress responses would be greater in starters vs. nonstarters during a game but that they would be similar for a practice, and (c) salivary cortisol would be correlated with somatic and cognitive state anxiety in a positive linear relationship. The specific demands of starters and nonstarters during game play may result in

TABLE 1. Detailed description of the practice.

Time (h)	Activity
1509	Warm-up jogging twice across field
1510	Stretching (calves and quadriceps)
1514	Warm-up running drills (forward-backward, cutting, side step)
1517	Stretching (calf and groin)
1519	Warm-up drills (calf raises and jump exercises)
1522	Instructions from coach
1529	Cross and shoot from the right training game
1541	Cross and shoot from the left training game
1559	3-on-3 half field game
1615	Recovery
1620	6-on-6 game
1635	End-of-game drill
1639	Cross ball shoot drill
1648	Shooting drill with postplay
1654	End of practice

a unique stress response due to the discrepancies in playing time between the 2 groups.

METHODS

Experimental Approach to the Problem

The present study utilized a collegiate women's soccer team competing in an National Collegiate Athletic Association (NCAA) Division I soccer league in the U.S.A. All players were monitored during 1 game and at 1 typical practice. Measures of psycho-physiological stress were assessed on 4 occasions, before and after 1 regular practice, and before and after 1 regular season game just prior to the conference tournament. This game was considered to be of high importance because the outcome could have directly affected the team's postseason standing. The practice session, which involved typical intensity, included warm-up, ball drills, and scrimmage for about 2 hours (1500–1700). The average temperature of the practice day was 25°C, with 35% relative humidity. See Table 1 for a detailed description of the practice. The regular season game was held at 1900–2100. The team was defeated by 1 point, which was scored in the 70th minute of the game (0–1). The average game day temperature was 21°C, with 30% relative humidity.

All individuals participated in a familiarization session for salivary sample collection 3 days before the first data collection. The independent variables in the 3-way repeated analysis of variance (ANOVA) were condition (game and practice), time (pre and post), and subjects (starters and nonstarters). The dependent variables were cortisol concentration, state somatic and cognitive anxiety, and state self-confidence values. Values of competitive trait anxiety are presented for descriptive purposes only.

Subjects

Twenty women from an NCAA Division 1 soccer team (age = 18–24 years) participated as subjects in this study.

All subjects were free of orthopedic injury and disease and gave both written and oral consent to participate in the study as required by the institutional review board. All subjects also completed a medical/health history and a menstrual history questionnaire. The subjects were assigned to 2 groups, 10 starters and 8 nonstarters, based on their playing time in the game (starters = 86.4%; nonstarters = 8.3% mean total game time). Descriptive statistics of the subjects can be found in Table 2. The ANOVA examining athletes responses to the trait SAS revealed no significant differences in playing status for somatic anxiety ($X \pm SD$; starters = 15.0 ± 4.2 ; nonstarters = 16.7 ± 7.3), worry (starters = 22.1 ± 4.3 ; nonstarters = 20.7 ± 8.9), or concentration disruption (starters = 17.1 ± 3.6 ; nonstarters = 14.2 ± 5.2).

Cortisol Analyses

Salivary samples were obtained at 4 occasions from each subject: 30 minutes before the competitive game (pre-game), 10 minutes after the competitive game (postgame), immediately before the regular practice (prepractice), and immediately after the regular practice (postpractice). Salivary samples were collected and stored in small plastic containers. When appropriate, subjects chewed paraffin to facilitate salivary flow. All salivary samples were frozen at -80°C until assayed. All specimens and reagents were thawed only once and were allowed to reach room temperature ($\sim 25^{\circ}\text{C}$) before analysis. Salivary concentrations of cortisol were determined from 25- μl saliva samples using the DSL-10-671000 ACTIVE cortisol enzyme immunoassay (Diagnostic Systems Laboratories, Webster, TN). The intra-assay variance was 5.6%, and the sensitivity of the assay was $0.3036 \text{ nmol}\cdot\text{L}^{-1}$.

Psychological Analyses

The SAS was administered during body composition assessment. The SAS is a 21-item measure that has 3 scales: a somatic trait anxiety scale (9 items) and 2 cognitive trait anxiety scales (1 for worry [7 items] and 1 for concentration disruption [5 items]) (31). Athletes respond using a 4-point scale ranging from 1 (not at all) to 4 (very much so). Smith, Smoll, and Schutz (31) have reported evidence for the validity and reliability of the measure. The CSAI-2 was completed each time salivary samples were collected. The CSAI-2 is a self-reported psychometric inventory of anxiety states consisting of 27 items and is composed of somatic and cognitive state anxiety subscales plus a self-confidence scale. Each scale has 9 items, and athletes respond to the items using a 4-point scale ranging from 1 (not at all) to 4 (very much so). Scores on items within each scale were summed to arrive at mean scale scores. Higher scores on cognitive and somatic anxiety subscales indicate higher levels of anxiety, whereas higher score on the self-confidence scale indicates higher levels of self-confidence (25).

Body Composition

For physical characteristics of the subjects, body composition (body mass index, lean body mass, fat mass, and

TABLE 2. Descriptive characteristics of the subjects ($X \pm SD$).*

Group	n	Age (y)	Height (m)	Weight (kg)	% fat	BMI ($\text{kg}\cdot\text{m}^{-2}$)	LBM (kg)	Fat mass (kg)
Starters	10	20.2 ± 2.0	1.66 ± 7.70	58.3 ± 7.3	16.6 ± 4.8	21.1 ± 1.5	48.5 ± 6.2	9.7 ± 3.3
Nonstarters	8	20.5 ± 1.7	1.66 ± 4.60	64.6 ± 5.8	19.1 ± 2.5	23.4 ± 1.0	51.5 ± 5.2	13.1 ± 1.9

* BMI = body mass index; LBM = lean body mass.

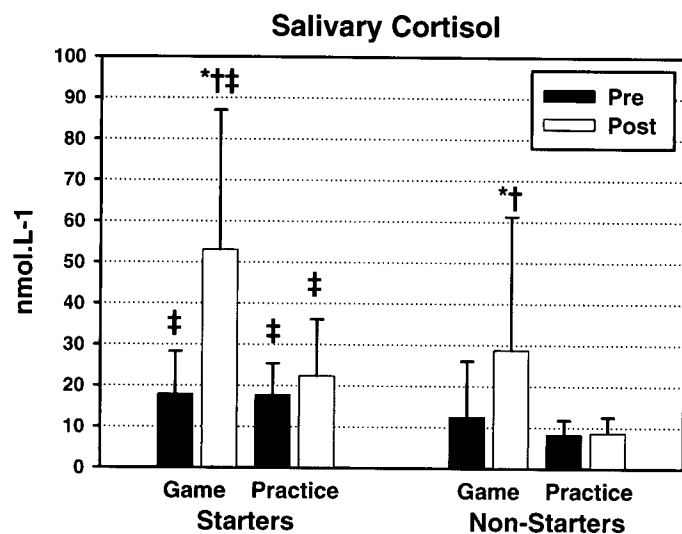


FIGURE 1. Salivary cortisol concentrations ($X \pm SD$; $\text{nmol}\cdot\text{L}^{-1}$) in response to a competitive game and a typical practice for both starters ($n = 10$) and nonstarters ($n = 8$) on a female collegiate soccer team. * Different from pregame, † Different from postpractice, ‡ Different from nonstarters ($p \leq 0.05$).

percent of body fat), heights, and weights were measured. Body composition was measured via a 3-skinfold (triceps, suprailiac, and thigh) method taken using a skin caliper and consistently recorded on the right side of the subject's body. Body density was calculated by a generalized skinfold equation formula (14). Percent of body fat was converted from the body density by the equation of Brozek and colleagues (5). The same experienced technician performed all measurements throughout the study. The physical characteristics may be found in Table 2.

Statistical Analyses

All data are expressed as $X \pm SD$. Three-way repeated measures ANOVA (condition [game vs. practice] \times status [starter vs. nonstarter] \times time [pre vs. post]) with Tukey posthoc procedures were used to determine the mean differences of cortisol concentration, somatic state anxiety, cognitive state anxiety, and state self-confidence. The effect size was calculated by mean differences divided by square root mean square error after the ANOVA. A correlation coefficient (Pearson's r) was used to determine the relationship between cortisol concentration and CSAI-2 measurements. In all cases, the level of significance was $p \leq 0.05$.

RESULTS

Cortisol

A significant interaction was observed for cortisol responses ($p < 0.05$; effect size [ES] = 1.54), indicating that

starters and nonstarters both exhibited increases post-game ($\text{nmol}\cdot\text{L}^{-1}$; starters, pregame = 18.0 ± 10.3 , postgame = 53.1 ± 33.9 ; nonstarters, pregame = 12.5 ± 13.6 , postgame = 28.8 ± 32.5 ; see Figure 1). The postgame cortisol values of starters and nonstarters together was also greater after the game vs. practice (ES = 1.52; starters, prepractice = 8.3 ± 3.5 ; postpractice = 22.4 ± 13.8 ; nonstarters, prepractice = 17.7 ± 7.7 , postpractice = 8.7 ± 3.8 ; see Figure 1). A main effect difference also indicated that starters had greater cortisol concentrations than nonstarters ($p < 0.05$).

Competitive Sports Anxiety

Table 3 lists the results for somatic and cognitive anxiety and self-confidence. Somatic state anxiety ($p < 0.05$; ES = 1.04) and cognitive state anxiety ($p < 0.05$; ES = 0.53) was greater for the pre- and postgame measures compared with practice for all subjects. A significant 3-way interaction (condition \times status \times time) was present for self-confidence ($p < 0.05$). Tukey posthoc tests indicated that for self-confidence values, starters were greater than nonstarters (ES = 1.37); at prepractice, starters were less than nonstarters (ES = 0.87); at postpractice, starters were less than nonstarters (ES = 1.25); nonstarters at pregame were greater than nonstarters at postgame (ES = 1.92); and nonstarters at postgame were less than nonstarters at postpractice (ES = 2.81).

Relationships Between Sports Anxiety and Cortisol Concentration

Only 1 significant relationship emerged between the CSAI-2 scales with cortisol concentration. Salivary cortisol was positively and significantly related to cognitive anxiety at prepractice ($r = 0.70$) for starters only.

DISCUSSION

One of the key findings of this study is the acute salivary cortisol response of female collegiate soccer athletes both during an actual competitive game and after typical practice. Briefly, when compared with the nonstarters, starters exhibited greater cortisol concentrations than those classified as nonstarters at all sample times. Additionally, the postgame cortisol response for all players was greater than postpractice values. This indicates that both the independent variables of condition (game vs. practice) and status (starter vs. nonstarter) influence the acute cortisol responses for these athletes. It has been long established that cortisol is increased in an intensity-dependent manner in response to an exercise stimulus (10). Of particular interest is the greater cortisol response of approximately 250% to a game compared with practice. This is in agreement with McKay and colleagues (26) who reported similar effects of competition compared with practice rounds in salivary cortisol responses in elite golfers. Filaire and

TABLE 3. Somatic anxiety, cognitive anxiety and self-confidence results ($X \pm SD$; $p < 0.05$).

Group	Condition	Somatic		Cognitive		Self-confidence	
		Pre	Post	Pre	Post	Pre	Post
Starters	Game	18.2 ± 5.0*	18.6 ± 6.1*	19.9 ± 4.1*	21.9 ± 4.2*	23.0 ± 2.5	22.1 ± 5.4†
	Practice	15.3 ± 4.7	16.6 ± 3.5	19.7 ± 4.5	18.2 ± 4.0	22.8 ± 5.3	22.7 ± 5.0
Nonstarters	Game	18.6 ± 5.3*	19.7 ± 5.3*	20.7 ± 7.9*	21.2 ± 6.4*	23.9 ± 4.4†	17.8 ± 3.8
	Practice	13.2 ± 4.5	13.8 ± 5.3	17.3 ± 7.0	17.9 ± 7.8	25.5 ± 7.1†	26.7 ± 7.2††

* Different from practice values.

† Different from nonstarters post game.

‡ Different from starters post practice.

coworkers (12) reported that real competition induces a greater hormonal response compared with laboratory exercise. Furthermore, recent studies have also reported large increases in cortisol during triathlon competition (32), wrestling matches (18), women's handball and volleyball matches (12), weightlifting competition (28), judo competition (11), and endurance competition lasting 6 hours (20), although none of these acute cortisol responses were as great as in the present study. This is because soccer is a sport that requires high levels of both aerobic and anaerobic abilities. The total distance covered by a male player averages about 10 km in 90 minutes, which is about 6.6 km per hour, and sprints once about every 30–90 seconds (16). Because of these physiological demands and the 90-minute duration of a soccer match, the stress hormone response to competition is greater than for many other sports. Kraemer and others (17) reported that starting collegiate male soccer players exhibited significant increases in resting serum cortisol concentrations after the middle of an 11-week season. The greater amount of physical stress in starters was attributed to their greater playing time. Similarly, we found a greater salivary cortisol response in starters compared with the response of nonstarters. These results indicate that in the present study, starters were under higher stress compared with nonstarters, supporting the findings of previous research.

The soccer athletes in the present study exhibited greater somatic and cognitive state anxiety during game conditions vs. practice, whereas self-confidence was decreased for nonstarters postgame and increased postpractice. Athletes in other sports have also exhibited significant game effects for cognitive and somatic state anxiety and self-confidence in elite golfers (26) and in judo players (11). Somatic state anxiety is related to the perception of physiological response to the psychological stress (12). The current findings indicate that the subjects perceived greater psychological stress as measured by somatic anxiety during the game than during the practice. Cognitive anxiety, which is associated with fear about the consequences of failure, is indicated by affirmative responses to such items as "I am concerned about performing poorly" (24). Our subjects reported higher cognitive anxiety during the game than during the practice. These results suggest that less or no playing time during the game contributes to the decrease of confidence level among these soccer athletes, at least during a losing game. Interestingly, the nonstarters showed higher confidence levels before practice and after practice compared with the starters. These anxiety and self-confidence values appear similar to previous values reported for collegiate and elite female soccer athletes (24).

Trait anxiety can influence state anxiety responses, so it is important to note that there were no significant differences in trait anxiety among the starters and nonstarters. Collectively, anxiety appeared to be augmented due to game conditions, whereas self-confidence may have been influenced by how much the athletes were able to contribute to the competitive outcome.

When evaluating the outcomes of this study, a number of mechanisms could have contributed to the results. Ambient environmental conditions are known to influence hormonal responses to physical activity. However, both the game and practice were held in comparable conditions and, as such, are not likely to have influenced the results. Cortisol is well documented to be released to the circulation in a diurnal fashion. However, the times of both

the game (1900–2100) and the practice (1500–1700) are not times when baseline cortisol differs (19). Therefore, we do not believe that the time of day influenced the differences observed in the cortisol response. All the subjects in the present study were women, although we speculate that this did not contribute to the hormonal response observed. Vervoorn and colleagues (33) suggested that cortisol is an appropriate hormone to monitor with female athletes because of the possible influence of the menstrual cycle on androgen values. In our subject pool, there was 1 player who had an irregular menstrual cycle and 3 players who took oral contraceptives. These subjects, however, exhibited similar salivary cortisol levels when compared with other players. Changes in the plasma volume during vigorous exercise can contribute to altered hormonal concentrations. It should be noted though, that the magnitude of salivary cortisol increase was extremely large (approximately 250%), and although plasma volume shifts were not measured in the present study, it is not physiologically possible that plasma volume shifts could account for the entire increase in salivary cortisol. There may have been some effect of carbohydrate ingestion on salivary cortisol during the soccer game due to sports drink consumption (average 1.9 cups per player), whereas all players drank only water during the practice session. Although all players were permitted to drink ad libitum, it is possible that fluid ingestion differed between the game and practice sessions. This could conceivably explain some of the differences in the salivary cortisol responses between the 2 conditions, although no difference in ingestion rates was noted by any of the research team or coaches. It is also possible that the salivary cortisol measure was not sensitive enough to the practice stresses because it is sampling several biocompartments away from the source of the cortisol. Previous studies have reported that carbohydrate supplementation can decrease cortisol responses compared with a placebo beverage during running and walking exercise (29). However, negligible influence of carbohydrate supplementation has been reported in cortisol responses after cycling exercise until fatigue (4) and soccer-specific exercise (3). Considering that carbohydrate intake may have diminished the cortisol response during the game, it is possible that the cortisol increase was underestimated in the present study. Regardless, this would not alter the final conclusions.

Of particular interest to this study is the role of game-related stress on the salivary cortisol response. Because competition typically creates a psychologically stressful environment, an anticipatory rise in cortisol has been reported precompetition (27). In contrast, there was no significant difference found in the present study between the pregame and the prepractice levels, indicating that we did not find an anticipatory salivary cortisol response to competition. The values of salivary cortisol in this study, however, exhibited much higher levels than mean baselines of salivary cortisol concentrations previously reported (1). An anticipatory response to both the game and practice may have caused the higher levels of salivary cortisol at pregame and prepractice than baseline values previously reported. It has also been reported that higher cortisol levels (11) and lower negative mood states (13) result for winners when compared with losers. It is possible that the salivary cortisol levels observed in the present study would have been different if our subjects had won the game (9).

No significant correlations were observed between salivary cortisol and competitive state anxiety, with the ex-

ception of a relationship ($r = 0.70$) between salivary cortisol and cognitive anxiety at prepractice for the starters. Overall, this finding supports the concept that perceived psychological responses, such as somatic and cognitive anxiety, and actual physiological responses, such as hormone response and heart rate, affect performance independently (15). In previous reports, salivary cortisol, heart rate, and somatic anxiety during competition or practice in elite golfers were not significantly correlated, indicating that somatic anxiety and neuroendocrine responses were not related (26). Likewise, no relationship has been observed between psychological (CSAI-2) and physical measures of anxiety (heart rate and blood pressure) when monitored prior to, during, and after pegboard competition (15). In contrast, Filaire and colleagues (11) reported the positive relationship between salivary cortisol and somatic and cognitive sport anxiety during judo competition. The perceived psychological arousal is related to the attention paid to affective-autonomic arousal and interferes with performance when attention is directed toward arousal, not toward task. In contrast, actual physiological arousal interferes with performance only at levels where such a response is distracting from the task at hand (15). It is clear that more research is necessary to understand these 2 components of arousal (15, 26).

Two self-confidence results were not expected and raised interesting questions. The nonstarters had a 6.2 point drop in their confidence levels from pre- to postgame. It is unclear whether this difference may have been due in part to the nonstarters' contributing less to the outcome of the game or because some of the athletes did get playing time and were disappointed in their performance. Again, more research is needed to clarify this topic. Also noteworthy is the mean confidence level for the starters; it only dropped 1 point from pre- to postgame, but the variability of the responses doubled, suggesting that some athletes may have reported low confidence after the game while others reported higher confidence.

Although competitive sport anxiety alone, which exhibited significantly greater values during the game compared with practice, did not appear to affect a change in salivary cortisol, the combination between competitive sport anxiety and the competitive soccer game resulted in a significant increase in salivary cortisol. We hypothesized a higher exercise stress during the game than during practice. Thus, we expected higher values of salivary cortisol and cognitive and somatic anxiety during the game than during practice. Although there was not a significant relationship between salivary cortisol to cognitive somatic anxiety or self-confidence, the combination of anxiety and 90 minutes of competitive soccer play resulted in elevated salivary cortisol, particularly in the starters. Thus, we propose a paradigm of what appears to be contributing to the results in our study for the starters. Figure 2 illustrates the combination of psychological and physiological stressors to the resulting salivary stress hormone response for the starters. We speculate that within the scope of the present study, there was a constant psychological contribution to the stress hormone response because our pregame and prepractice values were somewhat higher than have been previously reported.

In conclusion, the stresses of the actual game situation are considerably greater than the typical practice. To summarize, we reported a greater salivary cortisol response during the competitive game compared with a typical practice in female collegiate soccer players. Addition-

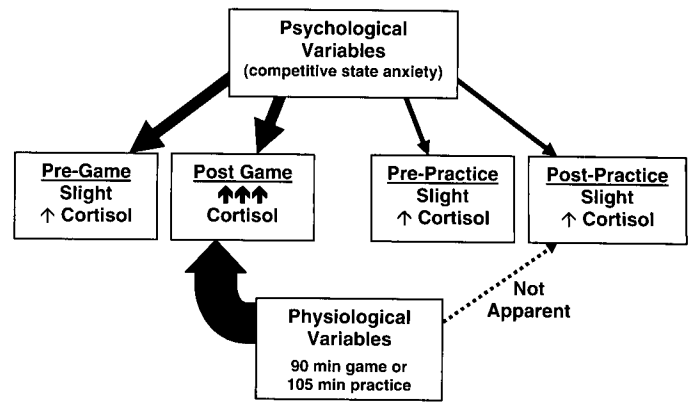


FIGURE 2. Suggested paradigm for physiological and psychological (anxiety) variables contributing to the salivary cortisol response to a competitive game and a typical practice for starters on a women's collegiate soccer team. The size of the arrows indicates either the degree of the contribution or the magnitude of the cortisol response.

ally, competitive anxiety was greater during a game compared with practice. Interestingly, we were not able to demonstrate a relationship between the hormonal and psychological variables within the scope of this study. Future study is needed to understand the physiological and psychological stresses for both starters and nonstarters during an entire soccer season.

PRACTICAL APPLICATIONS

Considering the greater psycho-physiological stress during a competitive soccer game compared with a typical practice session may permit coaches and athletes to more fully appreciate the total stresses accompanying actual competition. Although practice itself can be quite stressful, it appears to typically be less stressful when compared with an actual game. When these stresses are extended across an entire competitive season, the coach must appreciate the importance of rest and recovery as part of the planned training program. Conceivably, when season-long competitive stresses are accumulated, it may be beneficial to increasingly play additional players to aid in the recovery of the regular starting players. Ideally, this may permit all players to retain their optimal competitive fitness levels further into the season of play.

REFERENCES

1. AARDAL, E., AND A.C. HOLM. Cortisol in saliva: Reference ranges and relation to cortisol in serum. *Eur. J. Clin. Chem. Clin. Biochem.* 33:927-932. 1995.
2. BANFI, G., M. MARINELLI, G.S. ROI, AND V. AGAPE. Usefulness of free testosterone/cortisol ratio during a season of elite speed skating athletes. *Int. J. Sports Med.* 14:373-379. 1993.
3. BISHOP, N.C., A.K. BLANNIN, P.J. ROBSON, N.P. WALSH, AND M. GLEESON. The effects of carbohydrate supplementation on immune responses to a soccer-specific exercise protocol. *J. Sports Sci.* 17:787-796. 1999.
4. BISHOP, N.C., A.K. BLANNIN, N.P. WALSH, AND M. GLEESON. Carbohydrate beverage ingestion and neutrophil degranulation responses following cycling to fatigue at 75% VO_2max . *Int. J. Sports Med.* 22:226-231. 2001.
5. BROZEK, J., F. GRANDE, J. ANDERSON, AND A. KEYS. Densitometric analysis of body composition: Revision of some quantitative assumptions. *Ann. NY Acad. Sci.* 110:113-140. 1963.
6. CHERNOW, B., H.R. ALEXANDER, R.C. SMALLRIDGE, W.R. THOMPSON, D. COOK, D. BEARDSLEY, M.P. FINK, C.R. LAKE, AND J.R. FLERCHER. Hormonal responses to graded surgical stress [Abstract]. *Arch. Intern. Med.* 147:1273-1278. 1987.
7. DAVIS, J.A., AND J. BREWER. Applied physiology of female soccer players. *Sports Med.* 16:180-189. 1993.
8. DRUCKER, S., AND M.I. NEW. Disorders of adrenal steroidogenesis. *Pediatr. Clin. North Am.* 34:1055-1066. 1987.

9. ELIAS, M. Serum cortisol, testosterone, and testosterone-binding globulin responses to competitive fighting in human males. *Aggress. Behav.* 7: 215-224. 1981.
10. FEW, J.D. Effect of exercise on the secretion and metabolism of cortisol in man. *J. Endocrinol.* 62:341-353. 1974.
11. FILAIRE, E., M. SAGNOL, C. FERRAND, F. MASO, AND G. LAC. Psychophysiological stress in judo athletes during competitions. *J. Sports Med. Phys. Fit.* 41:263-268. 2001.
12. FILAIRE, E., C. LE SCANFF, P. DUCHE, AND G. LAC. The relationship between salivary adrenocortical hormones changes and personality in elite female athletes during handball and volleyball competition. *Res. Q. Exerc. Sport* 70:297-302. 1999.
13. GONZALEZ-BONO, E., A. SALVADOR, M.A. SERRAN, AND J. RICARTE. Testosterone, cortisol, and mood in a sports team competition. *Horm. Behav.* 35:55-62. 1999.
14. JACKSON, A.S., AND POLLOCK, M.L. Practical assessment of body composition. *Phys. Sport Med.* 13:76-90. 1985.
15. KARTEROLIOTIS, C., AND D.L. GILL. Temporal changes in psychological and physical components of state anxiety. *J. Sport Psych.* 9:261-274. 1987.
16. KIRKENDALL, D.T. Physiology of soccer. In: *Exercise and Sport Sciences*. D.T. Kirkendall, ed. Philadelphia: Williams and Wilkins, 2000. pp. 875-884.
17. KRAEMER, W.J., D.N. FRENCH, N.J. PAXTON, K. HAKKINEN, J.S. VOLEK, W.J. SEBASTIANELLI, M. UTUKIAN, R.U. NEWTON, M.R. RUBIN, A.L. GOMEZ, J.D. VESCOVI, N.A. RATAMESS, S.J. FLECK, J.M. LYNCH, AND H.G. KNUTTGEN. Changes in exercise performance and hormonal concentrations over a Big Ten soccer season in starters and nonstarters. *J. Strength Cond. Res.* 18:121-128. 2004.
18. KRAEMER, W.J., A.C. FRY, M.R. RUBIN, T. TRIPLETT-MCBRIDE, E. SCOTT, L. GORDON, P. KOZIRIS, J.M. LYNCH, J.S. VOLEK, D.E. MEUFFELS, R.U. NEWTON, AND S.J. FLECK. Physiological and performance responses to tournament wrestling. *Med. Sci. Sports Exerc.* 33:1367-1378. 2001.
19. LAC, G. Saliva assays in clinical and research biology. *Pathol. Biol.* 49: 660-667. 2001.
20. LAC, G., AND P. BERTHON. Changes in cortisol and testosterone levels and T/C ratio during an endurance competition and recovery. *J. Sports Med. Phys. Fit.* 40:139-144. 2000.
21. LAC, G., N. LAC, AND A. ROBERT. Steroid assays in saliva: A method to detect plasmatic contaminations. *Arch. Int. Physiol. Biochim. Biophys.* 101:257-262. 1993.
22. LAUDAT, M.H., S. CERDAS, C. FOURNIER, D. GUIBAN, B. GUILHAUME, AND J.P. LUTON. Salivary cortisol measurement: A practical approach to assess pituitary-adrenal function. *J. Clin. Endocrinol. Met.* 66:343-348. 1988.
23. MACKINNON, L.T., S.L. HOOPER, S. JONES, R.D. GORDON, AND A.W. BACHMANN. Hormonal, immunological, and hematological responses to intensified training in elite swimmers. *Med. Sci. Sports Exerc.* 29:1637-1645. 1997.
24. MARTENS, R., D. BURTON, R.S. VEALEY, L.A. BUMP, AND D.E. SMITH. Development and validation of the competitive state anxiety inventory-2. In: *Competitive Anxiety in Sport*. R. Martens, R.S. Vealey, and D. Burton, eds. Champaign, IL: Human Kinetics, 1990. pp. 117-190.
25. MARTENS, R., R.S. VEALEY, AND D. BURTON. Development and validation of the sport competition anxiety test 1. In: *Competitive Anxiety in Sport*. R. Martens, R.S. Vealey, and D. Burton, eds. Champaign, IL: Human Kinetics, 1990. pp. 11-32, 1990.
26. MCKAY, J.M., S.E. SELIG, J.S. CARLSON, AND T. MORRIS. Psychophysiological stress in elite golfers during practice and competition. *Aust. J. Sci. Med. Sport* 29:55-61. 1997.
27. PASSELERGUE, P., AND G. LAC. Saliva cortisol, testosterone and T/C ratio variations during a wrestling competition and during the post-competitive recovery period. *Int. J. Sports Med.* 20:109-113. 1999.
28. PASSELERGUE, P., A. ROBERT, AND G. LAC. Salivary cortisol and testosterone variations during an official and a simulated weight-lifting competition. *Int. J. Sports Med.* 16:298-303. 1995.
29. PEAKE, J., G. WILSON, L. MACKINNON, AND J.S. COOMBES. Carbohydrate supplementation and alterations in neutrophils, and plasma cortisol and myoglobin concentration after intense exercise. *Eur. J. Appl. Physiol.* 93: 672-678. 2005.
30. READ, G.F., R.F. WALKER, D.W. WILSON, AND K. GIFFITHS. Steroid analysis in saliva for the assessment of endocrine function. *Ann. NY Acad. Sci.* 595:260-274. 1990.
31. SMITH, R.E., F.L. SMOLL, AND R.W. SCHUTZ. Measurement and correlates of sport-specific cognitive and somatic trait anxiety: The sport anxiety scale. *Anxiety Res.* 2:263-280. 1990.
32. URHAUSEN, A., AND W. KINDERMANN. Behavior of testosterone, sex hormone binding globulin (SHBG), and cortisol before and after a triathlon competition. *Int. J. Sports Med.* 8:305-308. 1987.
33. VERVOORN, C., A.A. QUIST, L.J.M. VERMULST, W.B.M. ERICH, W.R. DE VRIES, AND J.H.H. THJISSEN. The behavior of the plasma free testosterone/cortisol ratio during a season of elite rowing training. *Int. J. Sports Med.* 12:257-263. 1991.
34. VINING, R.F., R.A. MCGINLEY, J.J. MAKSVYTIS, AND K.Y. HO. Salivary cortisol: A better measure of adrenal cortical function than serum cortisol. *Ann. Clin. Biochem.* 20:329-335. 1983.

Acknowledgments

The authors thank Brooks Monaghan and Jodi Grant for their assistance with subject recruitment and data collection during the course of this investigation.

Address correspondence to Dr. Andrew C. Fry, afry@memphis.edu.

Copyright of Journal of Strength & Conditioning Research is the property of Alliance Communications Group and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/12492726>

Examination of the psychometric properties of the Perceived Motivational Climate in Sport Questionnaire – 2 in a sample of female athletes

Article in *Journal of Sports Sciences* · May 2000

DOI: 10.1080/026404100365018 · Source: PubMed

CITATIONS

555

READS

3,698

3 authors, including:



Maria Newton

University of Utah

84 PUBLICATIONS 2,642 CITATIONS

[SEE PROFILE](#)



Joan L. Duda

University of Birmingham

433 PUBLICATIONS 26,355 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Development and evaluation of a novel intervention for rehabilitation following whiplash injury [View project](#)



Development and validation of the coach's task presentation scale: A quantitative self-report instrument [View project](#)

This article was downloaded by: [Ingenta Content Distribution - Routledge]

On: 15 February 2011

Access details: Access Details: [subscription number 791963552]

Publisher Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Journal of Sports Sciences

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713721847>

Examination of the psychometric properties of the Perceived Motivational Climate in Sport Questionnaire - 2 in a sample of female athletes

Maria Newton; Joan L. Duda; Zenong Yin

Online publication date: 09 December 2010

To cite this Article Newton, Maria , Duda, Joan L. and Yin, Zenong(2010) 'Examination of the psychometric properties of the Perceived Motivational Climate in Sport Questionnaire - 2 in a sample of female athletes', Journal of Sports Sciences, 18: 4, 275 – 290

To link to this Article: DOI: 10.1080/026404100365018

URL: <http://dx.doi.org/10.1080/026404100365018>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.



Examination of the psychometric properties of the Perceived Motivational Climate in Sport Questionnaire-2 in a sample of female athletes

MARIA NEWTON,¹ JOAN L. DUDA^{2*} and ZENONG YIN³

¹Department of HPHP, University of New Orleans, New Orleans, LA 70148, USA, ²School of Sport and Exercise Sciences, The University of Birmingham, Edgbaston, Birmingham B15 2TT, UK and ³Health and Kinesiology Programs, Division of Education, University of Texas at San Antonio, San Antonio, TX 78249, USA

Accepted 5 December 1999

We undertook two studies to determine the validity and reliability of the revised Perceived Motivational Climate in Sport Questionnaire (PMCSQ-2). In Study 1, 201 female athletes (mean age 16.4 years) were administered the initial version of the PMCSQ-2 and a measure of reported tension and pressure experienced in sport. Exploratory principal component analysis suggested that the PMCSQ-2 contained two higher-order scales (Task-Involving and Ego-Involving climates), each with three subscales (Task: Cooperative Learning, Effort/Improvement, Important Role; Ego: Intra-Team Member Rivalry, Unequal Recognition, Punishment for Mistakes). In Study 2, 385 female volleyball players (mean age 15.2 years) completed the PMCSQ-2, the Intrinsic Motivation Inventory and a measure of Team Satisfaction. Confirmatory factor analysis was applied to six competing models. The oblique six-factor model and oblique hierarchical model provided comparable fit to the data. Acceptable fit was reached based on model respecification. Across Studies 1 and 2, internal consistency was found to be acceptable for the higher-order scales and subscales (with the exception of the Intra-Team Member Rivalry subscale). We found evidence for the concurrent validity of the instrument.

Keywords: achievement goals, anxiety, intrinsic motivation, motivational climate.

Introduction

A central focus of sport participation is to promote skill development and enhance the participants' perceptions of competence, satisfaction and long-term motivation. Current social cognitive approaches to achievement motivation propose that variation in such achievement behaviours, perceptions and affective responses are linked to one's achievement goals (Nicholls, 1984, 1989; Ames and Archer, 1988; Elliott and Dweck, 1988). Two primary goal perspectives have been identified: task involvement and ego involvement. These perspectives represent different manners in which individuals construe their competence and perceive themselves to be successful in achievement contexts (Nicholls, 1989). When task-involved, individuals experience success when they try hard and improve their skill at an activity.

In this case, feelings of competence stem from personal improvement and task mastery through exerted effort. In contrast, ego-involved individuals tend to make judgements about subjective success through social comparison processes. The focus here is to demonstrate more competence. Consequently, when ego-involved, a person feels successful if his or her performance compares favourably with others or if he or she performs similarly with less effort.

It has been suggested that the adoption of a task- or ego-involved goal perspective while engaging in an achievement activity is a function of one's dispositional tendencies (or degree of task and ego orientation) and the characteristics of the achievement (Nicholls, 1989; Ames, 1992). With respect to the former, initial assessments of goal orientations were targeted towards the academic setting (see Nicholls, 1989). The Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda, 1989; Chi and Duda, 1995) and the Perceptions

* Author to whom all correspondence should be addressed.

of Success Questionnaire (Roberts *et al.*, 1998) were subsequently developed to measure individual differences in the proneness for task- and ego-involved goal states in athletic contexts (Duda and Whitehead, 1998).

Early efforts to assess situational goal structures (also referred to as the motivational climate) were undertaken in the educational realm. Ames and Archer (1988) identified theoretical distinctions between what they termed a 'mastery' and a 'performance' climate in the classroom. The distinctions were based on differential evaluative classroom practices, the presence and extent of social comparison, the rewards and punishments distributed, and the quality of the interpersonal relationships being fostered in each motivational climate.

Recent research has tried to draw upon the model developed by Ames and her colleagues (Ames, 1984, 1992; Ames and Archer, 1988) and determine its utility in delineating similar dimensions of the motivational climate in the sport domain. Seifriz *et al.* (1992) developed the Perceived Motivational Climate in Sport Questionnaire (PMCSQ) to assess athletes' perceptions of the prominent motivational climate goal structures created by their coach. Congruent with classroom-based research, exploratory factor analysis of the PMCSQ revealed two major facets of the motivational climate operating on adolescent male basketball teams. Specifically, a perceived performance (or Ego-Involving) climate and a perceived mastery (or Task-Involving) climate were identified.

Close inspection of the items loading on the Ego-Involving motivational climate dimension indicated that this environment was characterized by the players perceiving they were punished when they made a mistake, that the coach primarily recognized and reinforced the better players, and that intra-team member rivalry was present on the team. In contrast, a Task-Involving climate was characterized by the perceptions that trying hard and improving were valued and that every member of the team had an important role to play.

Walling *et al.* (1993) tested more stringently the psychometric characteristics of the PMCSQ. Data gathered from adolescent males and females involved in a multi-sport amateur competition were subjected to confirmatory factor analysis. The *a priori* model consisted of the 21 items of the PMCSQ differentially loading on either the perceived Task-Involving factor or the perceived Ego-Involving factor. Four primary indices of fit were calculated to determine the suitability of the model. After the measurement errors among indicators within a scale were allowed to covary, the two-factor model fit indices were: chi-square/degrees of freedom ratio = 2.02, adjusted goodness of fit

index = 0.798, root mean square residual = 0.091. The two-factor model, however, contained considerable unexplained variance, particularly when measurement errors were not set free.

Both Seifriz *et al.* (1992) and Walling *et al.* (1993) reported results that offered preliminary support for the reliability and concurrent validity of the PMCSQ. Specifically, the Task-Involving and Ego-Involving scales were found to be internally consistent in both studies ($\alpha = 0.80-0.82$ and $0.80-0.84$, respectively). In the study of Seifriz *et al.* (1992), athletes who perceived a highly task-involving motivational climate tended to experience greater enjoyment and overall intrinsic motivation, and were more likely to believe that effort would lead to success in sport, than athletes who felt that the coach created a team atmosphere that did not reflect a mastery or task goal perspective. Walling *et al.* (1993) reported positive associations between perceptions of a task-involving climate and team satisfaction and perceptions of an ego-involving climate and performance worry. These findings were consonant with theoretical predictions (Nicholls, 1989; Ames, 1992).

Although initial testing of the PMCSQ had supported its psychometric and concurrent validity (see Duda and Whitehead, 1998), Seifriz *et al.* (1992) and Walling *et al.* (1993) have indicated that the measure could be improved. In particular, it has been proposed that the PMCSQ might be strengthened by conceptualizing the motivational climate in a hierarchical manner with subscales underlying the higher-order Task-Involving and Ego-Involving scales. This suggestion was in line with Ames' initial conceptual framework that viewed task-involving and ego-involving motivational climates as composites of several underlying dimensions or characteristics of the larger environment (Ames, 1984, 1992; Ames and Archer, 1988).

In the present work, two studies were conducted to examine the development of a multi-dimensional, hierarchically structured measure of the perceived motivational climate in sport. Based on the conceptual framework of Ames (1984, 1992; Ames and Archer, 1988) and the nature of the content of the original PMCSQ items (Seifriz *et al.*, 1992), the aims of Study 1 were to expand the original questionnaire and to develop a hierarchical measure of the motivational climate in sport, called the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2). We also explored the first version of the PMCSQ-2's factor structure and examined its concurrent validity and reliability. Based on the results of Study 1, the aims of Study 2 were to further refine the PMCSQ-2, examine its factor structure (using confirmatory factor analysis), and determine the instrument's internal reliability and concurrent validity.

Study 1

Methods

Participants

A total of 201 female volleyball and basketball players from 21 high school and collegiate teams in the USA volunteered to participate in the study. Specifically, the participants were recruited from 12 high school basketball teams, two college basketball teams, six college volleyball teams and one high school volleyball team. The only demographic information requested was the players' age (mean = 16.4 ± 2.2 years; range = 13–23 years).

Assessments and procedure

Data collection was performed at least one-quarter of the way into the competitive season to ensure that a motivational climate had been established on the teams sampled. In a classroom setting before a team practice, those players who consented to participate were asked to complete the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2) and a sport-specific measure of reported anxiety in sport. This latter variable was assessed via the Pressure/Tension subscale of the Intrinsic Motivation Inventory (McAuley *et al.*, 1989). The principal investigator, a trained assistant or a team manager administered the questionnaires. In each case, a detailed administration protocol was followed. The players were encouraged to answer the questionnaire items honestly and to ask questions if needed. The coach of each team was asked to leave the room while the questionnaires were being completed, which took about 20 min.

Item development for the PMCSQ-2 was based on the situational structures suggested to underlie the task-involving and ego-involving climate dimensions outlined in previous classroom and sport research (Ames, 1984, 1992; Ames and Archer, 1988; Seifriz *et al.*, 1992; Walling *et al.*, 1993). More specifically, the task-involving climate structures targeted were the degree to which effort was emphasized, the extent to which personal improvement was reinforced, the belief that each member had an important role on the team, and the perception that mistakes were viewed as part of the learning process. Items reflecting an emphasis on cooperation and cohesion within the team were added based on previous work that has linked task-oriented goals with an emphasis on cooperation and the belief that working with others leads to success (Chambliss, 1989; Duda and Nicholls, 1992). The inclusion of such items was also compatible with the hypothesized link between a task-involving atmosphere and cooperative groupings proposed by Ames (1992). In contrast, the

three ego-involving climate dimensions included the extent to which rivalry between players was promoted, unequal recognition of players was exhibited, and that mistakes were punished.

Beyond what was contained in the original PMCSQ (Seifriz *et al.*, 1992; Walling *et al.*, 1993), 300 additional items were generated to assess the hypothesized underlying dimensions of the motivational climate. A panel of experts evaluated the face validity of the 300 items. This consisted of classifying each item onto one of the proposed characteristics of the motivational climate as well as rating each item (on a 5-point Likert scale, with 1 = poor fit, 5 = very good fit) on how well it captured the targeted structure. Items were retained only when there was 100% agreement among the panel and it was rated as a 'good fit' or 'very good fit'. This resulted in a final pool of 42 items, which were then integrated with the 21 items of the original PMCSQ to form the 63-item PMCSQ-2.

When completing the PMCSQ-2, participants were asked to think about what it was like playing for their particular team over the course of the season. More specifically, they were requested to contemplate what the atmosphere was usually like on their team. Each item was preceded by the stem 'On this team . . .'; participants responded using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

To examine the concurrent validity of this first version of the PMCSQ-2, the Pressure/Tension subscale of the Intrinsic Motivation Inventory (McAuley *et al.*, 1989) was also administered. Responses were indicated using a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). In line with previous work (McAuley *et al.*, 1989; Duda *et al.*, 1995), the internal consistency of the Pressure/Tension subscale ($\alpha = 0.71$) was found to be acceptable.

Results

Exploratory evaluation of the factor structure and internal reliability of the PMCSQ-2

Psychometric evaluation of the 63-item Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2) began by assessing the internal consistency of the seven hypothesized subscales. Items which had low corrected item-total correlations (below 0.40) and which reflected poorly on the total scale consistency were deleted. This resulted in the elimination of nine items.

Principal component exploratory factor analysis, with both varimax and oblique rotations and without specification of the number of retained factors, was conducted on the remaining 54 items. Eleven factors with eigenvalues greater than 1.0 emerged. Items that

failed to load on a particular factor at a value of 0.40 were deleted. Principal component analyses were performed (varimax and oblique rotations) on the remaining items. A 30-item, six-factor solution emerged. The oblique rotation failed to converge, and thus the varimax rotation was retained.

The six factors that were revealed were conceptually similar to the climate dimensions suggested by Ames (1992) and Seifriz *et al.* (1992). However, the retained solution resulted in the deletion of the 'mistakes are part of learning' climate structure and collapsing of the proposed effort and improvement scales into one factor. More specifically, the dimensions found to underlie a Task-Involving motivational climate were labelled Effort/Improvement, Important Role, and Cooperative Learning. Those structures comprising an Ego-Involving climate were labelled Intra-Team Member Rivalry, Unequal Recognition, and Punishment for Mistakes. The six-factor solution accounted for 61.3% of the response variance.

Internal consistency. The internal consistency of each resulting subscale and the proposed higher-order Task-Involving and Ego-Involving scales was examined by Cronbach's coefficient alpha (Cronbach, 1951). Both higher-order scales demonstrated adequate internal consistency (Task-Involving climate, $\alpha = 0.87$; Ego-Involving climate, $\alpha = 0.89$). Two of the three subscales assessing facets of a Task-Involving motivational climate, namely Effort/Improvement ($\alpha = 0.83$) and Important Role ($\alpha = 0.77$), exhibited adequate consistency; the third subscale, Cooperative Learning ($\alpha = 0.66$), was found to possess marginal internal consistency. Similarly, two of the three subscales of an Ego-Involving motivational climate were found to possess acceptable internal consistency: Unequal Recognition, $\alpha = 0.93$; Punishment for Mistakes, $\alpha = 0.80$. The coefficient alpha observed for the Intra-Team Member Rivalry subscale was marginally acceptable ($\alpha = 0.66$).

Concurrent validity of the PMCSQ-2. Simple correlations were computed between the Pressure/Tension subscale of the Intrinsic Motivation Inventory and the six subscales and two hypothesized higher-order factors of the PMCSQ-2. Based on previous work examining the link between motivational climate and performance-related worry (Seifriz *et al.*, 1992; Walling *et al.*, 1993), we hypothesized that a positive relationship would emerge between perceptions of an Ego-Involving motivational climate and the experience of anxiety in sport. We further predicted that positive relationships would emerge between the three dimensions of an Ego-Involving motivational climate (Intra-Team Member Rivalry, Unequal Recognition, and Punishment for

Mistakes) and perceptions of Pressure/Tension. These predictions are also based on the tenets of goal perspective theory, which suggest that situations that focus on the adequacy of individuals' ability and the comparison of competence between athletes, tend to be particularly anxiety-provoking (Nicholls, 1989). Perceptions of a Task-Involving team atmosphere (and its three underlying dimensions) were predicted not to be associated with reported Pressure/Tension.

Consistent with our hypotheses, the results indicated that Pressure/Tension was not significantly related to the perception of an overall Task-Involving motivational climate or any of the task-involving subscales. In line with our predictions, scores on the Pressure/Tension subscale were positively and significantly related, but in a small way, to the total Ego-Involving climate scale ($r = 0.28$, $P < 0.001$) score and the specific structures of Intra-Team Member Rivalry ($r = 0.21$, $P < 0.001$), Unequal Recognition ($r = 0.17$, $P < 0.01$) and Punishment for Mistakes ($r = 0.30$, $P < 0.001$). These latter findings suggest that other factors (such as individual differences in trait anxiety) contribute to the prediction of Pressure/Tension in sport, besides perceptions of the motivational atmosphere.

Discussion

In Study 1, we tried to extend previous work on the Perceived Motivational Climate in Sport Questionnaire (Seifriz *et al.*, 1992; Walling *et al.*, 1993) and to develop a multi-dimensional, hierarchically structured questionnaire designed to assess perceptions of the overriding dimensions comprising the motivational climate in the athletic domain. Principal component analysis revealed that the PMCSQ-2 captured six dimensions of the motivational climate; these were labelled Effort/Improvement, Important Role, Cooperative Learning, Intra-Team Member Rivalry, Unequal Recognition, and Punishment for Mistakes.

Deviations from the proposed dimensions underlying the motivational climate did emerge. Notably, the effort and improvement components collapsed to form one dimension termed Effort/Improvement. Possibly, the distinction between effort and improvement is not clearly demarcated in athletes' perceptions of what is emphasized on their team. To improve in the athletic setting, one must try hard, and the present results suggest that coaches emphasize this interconnection in their interaction with athletes.

Additionally, items comprising the Improvement and Cooperation scales merged to form one dimension named Cooperative Learning. This may have been because, in team sports in particular, one reason for cooperating with one's team-mates is to improve the execution of a particular play or skill. As with effort

and improvement, the concepts of learning and collaborating with one's team-mates seem to be inextricably linked when interpreting the dominant goal structures on athletic teams.

It should be noted that findings for the cooperation dimension might have been influenced by the nature of the sample. Only females were recruited to the study. It is possible that, because of potential sex-based variability in socialization experiences, performance expectations, and previous interactions with coaches and team-mates, males have a different interpretative framework when perceiving the critical facets underlying the motivational climate on athletic teams. Thus, a somewhat different constellation of motivational climate dimensions might have emerged if the sample had been all males. This possibility should be explored in future research.

Finally, in Study 1, the proposed 'mistakes are part of learning' dimension did not emerge as a viable factor. The results suggest that the athletes did not distinguish such a dimension of the overriding climate operating on their teams. It is possible that the items developed to tap this structure (e.g. 'On this team, the coach understands that mistakes are part of learning') did not adequately capture this facet of the motivational climate for the volleyball and basketball players in this sample. Alternatively, the coaches in this sample may not have been particularly adept at conveying to their athletes the concept that mistakes are part of the learning process. That Punishment for Mistakes emerged as a factor might also have contributed to this finding. It might be that athletes' concern with the negative ramifications associated with making a mistake results in a less apparent identification of the conditions when mistakes are framed as potential opportunities to learn and improve.

In Study 1, preliminary support was provided for the internal consistency of the PMCSQ-2. The two proposed higher-order factors, Task-Involving climate and Ego-Involving climate, exhibited good internal consistency. Adequate consistency was also reported for the subscales of the PMCSQ-2, with the exception of the Cooperative Learning and Intra-Team Member Rivalry subscales. This may have been due to the small number of items ($n = 3$) contained in each of these subscales.

Preliminary evidence for the concurrent validity of the PMCSQ-2 was also obtained. In line with our hypotheses, athletes who perceived an overall Ego-Involving climate – and, more specifically, felt as if some players received all the attention and accolades, that the coach tended to pit player against player on the same team in a rivalrous manner, and that they would be punished if they made errors – tended to report greater pressure and tension while playing and practising volleyball and basketball. It may be that the social

comparative nature of the dimensions, which comprise an Ego-Involving climate, function to impel athletes to attend to their perceived competence in a more ego-involved manner (Dweck and Leggett, 1988; Treasure and Roberts, 1998). We can understand how being encouraged to outdo one's own team-mates, feeling the looming threat of punishment for undesirable performance, and experiencing an environment entailing differential treatment may be stressful for high- and low-ability athletes.

In summary, the findings of Study 1 offer preliminary support for the validity and reliability of the PMCSQ-2. Building on these findings, the aims of Study 2 were to further refine the PMCSQ-2 and further explore its content structure, reliability and validity.

Study 2

Methods

Participants

The participants were 385 female volleyball players recruited from 45 teams participating in a national junior volleyball competition on the West Coast of the USA. The players were aged 14–18 years (mean = 15.2 ± 1.7 years). Participants were recruited from 45 teams in three age-group divisions: 14 years and under, 16 years and under, and 18 years and under.

Assessments and procedure

In a group setting between or after games in a dining area at the tournament site, participants were asked to complete a multi-section inventory consisting of the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2), an abbreviated sport-specific version of the Intrinsic Motivation Inventory (McAuley *et al.*, 1989) and a four-item measure of Team Satisfaction (Walling *et al.*, 1993). Ensuring that the team's motivational climate was firmly established, data collection took place towards the end of a competitive season. The inventory took approximately 20 min to complete. About 50% of the coaches were present during administration of the questionnaire. Such coaches were given a different survey to complete in a location that was removed from the athletes, to prevent intrusion and possible biasing of the participants' responses.

The 30-item PMCSQ-2 that emerged in Study 1 was adapted and expanded slightly for use in Study 2. One item from Study 1 ('On this team, the players are a "tight-knit" group') was inadvertently dropped from the measure. Because of the limited number of items, two additional items were generated for the Important Role subscale ('On this team, the coach believes that all the

players are crucial to the success of the team' and 'On this team, each player feels as if they are an important team member'). Similarly, two items were developed for the Cooperative Learning subscale ('On this team, the players really "work together" as a team' and 'On this team, the players help each other to get better and excel'). These changes resulted in a 33-item measure (see Appendix for items). When completing the revised PMCSQ-2, the athletes were asked to think about playing for their particular team over the course of the season and recall what it is usually like on this team. Each item was preceded by the stem 'On this team . . .'; participants responded using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

The players were asked to complete the Effort/Importance, Pressure/Tension and Enjoyment/Interest subscales of the Intrinsic Motivation Inventory (McAuley *et al.*, 1989). Responses were indicated on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). The Cronbach coefficient alphas in this study indicated that the subscales were internally consistent (Pressure/Tension, $\alpha = 0.76$; Enjoyment/Interest, $\alpha = 0.85$), although the value exhibited by the Effort/Importance subscale was marginal ($\alpha = 0.67$).

A four-item measure of the athletes' reported enjoyment of being a member of their team, termed Team Satisfaction, was also administered (Walling *et al.*, 1993). An example item is 'I enjoy playing on this team'. Participants responded to the items on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The computed alpha coefficient ($\alpha = 0.87$) suggested that the measure was internally consistent.

Data analysis

To further operationalize the underlying construct of the PMCSQ-2, measurement models of linear structural equations were applied to questionnaire data collected in Study 2 after a strategy of data analysis, namely model-generating, suggested by Joreskog and Sorbom (1993). The model-generating approach is designed to test a tentative, initial model followed by assessment of model fit 'in relation to what is known about the substantive area, the quality of the data, and the extent to which various assumptions are satisfied' (Joreskog and Sorbom, 1993, p. 120). If the results of the assessment indicate a lack of fit based on empirical or substantive evidence, the model should be modified within a class of models appropriate for the substantive problem. The goal of *post-hoc* fitting or model respecification is to identify a model or models that can provide both a statistically acceptable fit and a substantively meaningful interpretation of the data. However, any respecification of models without substantive justification should be avoided in all cases (Bollen, 1989).

A measurement sub-model of the LISREL program (Joreskog and Sorbom, 1993) was used to establish the dimensionality or factor structure of the PMCSQ-2, which had not been done in stringent construct validity tests in previous work. However, because our understanding of the factor structure of the PMCSQ-2 was limited, the specifications of parameter estimation in the original models in Study 2 were based on the factor loading patterns of the PMCSQ-2 from the explanatory factor analysis in Study 1. Six competing models were hypothesized:

- an orthogonal two-factor model (Model 1) with two first-order factors (Task-Involving and Ego-Involving climate);
- an oblique two-factor model (Model 2) with two first-order factors (Task-Involving and Ego-Involving climate);
- a six-factor orthogonal model (Model 3) with six first-order factors (Important Role, Cooperative Learning, Effort/Enjoyment, Intra-Team Member Rivalry, Recognition, and Punishment);
- an oblique six-factor model (Model 4) with six first-order factors (Important Role, Cooperative Learning, Effort/Enjoyment, Intra-Team Member Rivalry, Recognition, and Punishment);
- an orthogonal hierarchical model (Model 5) with two orthogonal sets of first-order factors (Important Role, Cooperative Learning, and Effort/Enjoyment in set 1, a Task-Involving Climate; and Intra-Team Member Rivalry, Recognition, and Punishment in set 2, an Ego-Involving Climate) and two orthogonal second-order factors (Task-Involving and Ego-Involving climate);
- an oblique hierarchical model (Model 6) with six first-order factors (Important Role, Cooperative Learning, Effort/Enjoyment, Intra-Team Member Rivalry, Recognition, and Punishment) and two second-order factors (Task-Involving and Ego-Involving climate).

The six original models tested in the present study followed *a priori* that: (a) responses to the PMCSQ-2 could be explained by the hypothesized construct; (b) items related to one factor will have non-zero loadings on this factor and zero loadings on the other factors; (c) the hypothesized factors are oblique (i.e. correlated); and (d) the errors of measurement are specific and random. Data analysis was conducted using LISREL 8 (Joreskog and Sorbom, 1993). The parameters were estimated by analysing the covariance matrix with the maximum likelihood estimation method. Assessment of model fit was conducted using various types of overall fit indices for the hypothesized construct model and individual parameter fit,

as suggested by Bollen (1989), Joreskog and Sorbom (1989) and Kelloway (1998).

Chi-square (χ^2) tests the absolute fit of the hypothesized model with the population covariance matrix. It is well known that this index is sensitive to sample size and data distribution (Joreskog and Sorbom, 1989). However, the difference in χ^2 between two nested models (which has χ^2 distribution with degrees of freedom, d.f.) can be used to assess improvement in the more restricted model. In this study, several other indices were used in combination to assess model fit. The goodness-of-fit index is based on a ratio of the sum of the squared discrepancies between the observed and population variance. The adjusted goodness-of-fit index adjusts the goodness-of-fit index for degrees of freedom in the hypothesized model. A discrepancy between these two indices suggests that trivial or non-significant parameters are specified in the model. The normed fit index and non-normed fit index indicate the amount of improvement in fit over a baseline independent model, with the non-normed fit index being adjusted to the number of degrees of freedom in the model. The comparative fit index was also proposed by Bentler (1990) to assess improvement in fit of the hypothesized model compared with a completely independent model.

These indices range from 0 to 1, with a value of 0.90 or more as a conventional cut-off for indicating a good model fit. However, some researchers (Bollen, 1989; Kelloway, 1998) have suggested that relying on a single criterion with the 0.90 cut-off as an acceptance standard is somewhat arbitrary and unsubstantiated. For example, Hu and Bentler (1999) reported that, when using a single index as the criterion in model evaluation, the cut-off for acceptable fit should be 0.95 or higher. A different perspective on this issue is that the focus should instead be on evaluating multiple indices and identifying the better-fitting model among competing models. This was the approach adopted in the current research.

The parsimony normed fit index and parsimony goodness-of-fit index were designed to conduct the cost-benefit trade-off of fit and degrees of freedom. Since they rarely exceed a value of 0.90, a value above 0.70 usually represents an acceptable parsimonious model. These indices are used to compare two competing theoretical models for identifying the highest level of parsimony fit (Kelloway, 1998). Root mean square error of approximation indicates that amount of unfitted residuals between the implied and observed covariance matrices. Values less than 0.10 are interpreted as a reasonable fit, whereas values below 0.05 indicate very good fit of the data (Steiger, 1990). The use of root mean square error of approximation in fit assessment is becoming more popular given its

unique characteristics as a fit index (Steiger, 1990; Fan *et al.*, 1999).

In addition, the estimate and squared multiple correlation for individual variables (each questionnaire item) and hypothesized subscales (e.g. the six subscales of the PMCSQ-2) were used to assess whether each item or subscale was measured adequately. A *t*-value associated with each estimate was calculated by dividing its unstandardized estimate by its standard error. A value greater than 1.96 indicates the parameter was significantly different from zero. Squared multiple correlation measures the variance explained by the model in each observed variable.

Finally, two empirical indices of poor model fit were used to identify problematic parameter specification in the six original models. Fitted residuals indicate the difference between the covariance matrix of the hypothesized models and the covariance matrix of observed data. A standardized residual was calculated by dividing the fitted residual by its asymptotic standard error. A parameter estimate may be considered problematic if a standardized residual exceeds an absolute value of 2.59 (Joreskog and Sorbom, 1989). The modification index calculates the decrease in model χ^2 that could otherwise be gained if a parameter is allowed to be estimated. Modification indices above 5.00 are normally treated as statistically large enough for consideration in model respecification (Kelloway, 1998).

Results

Confirmatory factor analysis

Assessment of overall model fit. The overall fit indices for the hypothesized models are presented in Table 1. Overall, all indices of fit, as well as the difference in χ^2 , indicated that the data fit was better in oblique models (Models 2, 4 and 6) than in orthogonal models (Models 1, 3 and 5). Furthermore, Models 4 and 6 fitted the data better than Model 2. The parsimony normed fit index and parsimony goodness-of-fit index also suggested that Models 4 and 6 were more parsimonious than the rest. Closer study of all fit indices indicated that the root mean square error of approximation was below 0.08 only in the case of Models 4 and 6, indicating a reasonable fit for these two models. The remainder of the indices were all outside the ranges of the commonly accepted standards of fit. This lack of support for model fit was unexpected, since these models were developed based on factor loading patterns from Study 1 and previous studies (Seifritz *et al.*, 1992).

In a recent study, Fan *et al.* (1999) found that certain fit indices are highly dependent on sample size and less sensitive to model mis-specification. However, the

Table 1. Comparison of indices of fit among the proposed and respecified measurement models

Model	χ^2	d.f.	$\Delta\chi^2$	Δ d.f.	GFI	AGFI	RMSEA	NFI	NNFI	CFI	PNFI	PGFI
1	2052	495			0.70	0.66	0.11	0.58	0.61	0.64	0.54	0.62
2	1949	494	103.04***	1	0.71	0.67	0.10	0.60	0.64	0.66	0.56	0.62
2a	1756	491	192.34***	3	0.73	0.69	0.098	0.64	0.68	0.71	0.59	0.64
2b												
2c	1553	430			0.74	0.70	0.098	0.64	0.68	0.71	0.59	0.64
2d	1334	346			0.76	0.71	0.10	0.66	0.70	0.72	0.61	0.64
3	1848	495			0.73	0.70	0.096	0.62	0.66	0.69	0.58	0.64
4	1286	480	562.28***	15	0.81	0.78	0.071 ^a	0.72	0.79	0.80	0.67	0.70
4a	1157	477	128.86***	3	0.83	0.80	0.064 ^a	0.76	0.82	0.84	0.69	0.71
4b	1058	474	99.00***	3	0.85	0.82	0.059 ^a	0.78	0.85	0.86	0.70	0.71
4c	880.4	416			0.86	0.83	0.057 ^a	0.80	0.87	0.88	0.71	0.72
4d	695.9	337			0.88	0.85	0.054 ^a	0.82	0.89	0.90	0.73	0.73
5	1409	489			0.80	0.77	0.074 ^a	0.71	0.77	0.79	0.66	0.70
6	1328	488	80.61***	1	0.81	0.78	0.072 ^a	0.73	0.79	0.81	0.67	0.70
6a	1200	485	127.96***	3	0.83	0.80	0.065 ^a	0.75	0.82	0.83	0.69	0.72
6b	1104	482	95.72***	3	0.84	0.82	0.060 ^a	0.77	0.84	0.86	0.70	0.72
6c	920.2	424			0.86	0.83	0.058 ^a	0.79	0.86	0.87	0.72	0.73
6d	711.5	341			0.88	0.85	0.054 ^a	0.82	0.89	0.90	0.74	0.74

Abbreviations: χ^2 = chi-squared, d.f. = degrees of freedom, $\Delta\chi^2$ = χ^2 difference between two nested models; Δ d.f. = degrees of freedom associated with $\Delta\chi^2$, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, RMSEA = root mean square error of approximation, NFI = normed fit index, NNFI = non-normed fit index, CFI = comparative fit index, PNFI = parsimony normed fit index, PGFI = parsimony goodness-of-fit index.

Note: Model 1 is the orthogonal two-factor model; Model 2 is the oblique two-factor model; Model 3 is the oblique six-factor model; Model 4 is the oblique six-factor model; Model 5 is the orthogonal hierarchical model; Model 6 is the oblique hierarchical model. In Models 2a, 4a and 6a, error covariance between items 13 and 29 and between items 14 and 28 were freed. In Models 2b, 4b and 6b, items 24 and 32 were cross-loaded. In Models 2c, 4c and 6c, items 24 and 32 were eliminated from the model. In Models 2d, 4d and 6d, items 6, 12 and 24 were excluded from the model.

^a Upper limit of 90% confidence interval for the root mean square error of approximation was <0.10; *** $P < 0.001$.

root mean square error of approximation was shown to be the most resistant to mis-specified models and the least sensitive to the influence of estimation method and sample size among common fit indices in a Monte Carlo simulation study (Fan *et al.*, 1999). Therefore, in the current study, the observed acceptable low root mean square error of approximation, together with the relatively low sample size (given the number of items), suggests a weak but at least reasonable fit for Models 4 and 6.

Assessment of individual parameter estimates. Assessments of fit for individual variables (see Table 2) for Models 4 and 6 indicated that all factor loadings were at least 0.40, with *t*-values above 1.96 (the parameter estimate divided by the standard error). This suggested that each item was adequately measured. The coefficients of determination (squared multiple correlations) ranged from 0.17 to 0.70, with *t*-values above 1.96, in Models 4 and 6. These results further suggest that each questionnaire item contributed significantly to the assessment of its underlying construct (Joreskog and Sorbom, 1989).

Indices related to the adequacy of the measurement model for the second-order factors are presented in Table 3. The parameter estimates for the Task-Involving climate subscales were acceptable. The *t*-values ranged from 6.74 to 7.00, which are greater than the 1.96 criterion used for statistical significance. Furthermore, the squared multiple correlations suggested that each of the three subscales was correctly specified onto a second-order factor.

Similar and acceptable results were found for the Unequal Recognition subscale of the Ego-Involving dimension of the motivational climate. It should be noted, however, that the *t*-value was statistically significant but low. The adequacy indicators for Punishment for Mistakes and Intra-Team Member Rivalry suggest that the subscales need to be refined. Specifically, the relatively low factor loading and squared multiple correlation for the Punishment for Mistakes subscale suggest that measurement of the construct could be improved. With respect to the Intra-Team Member Rivalry subscale, the *t*-value was relatively low (although statistically significant), the standard error was greater than optimal, and the squared multiple correlation indicated that a significant proportion of the variance was unaccounted for by the construct.

Respecification of the PMCSQ-2 measurement models. Since we are still at an early stage in the development of the PMCSQ-2, the unsatisfactory model fit prompted the inspection of the fitted standardized residuals. The questionnaire items with the largest unfitted standardized residuals (>2.59 in absolute value) were

items 8, 13, 14, 16, 24, 28, 29 and 32, with values ranging from 5.99 to 9.82. A closer examination of these items led to the following observations.

First, it appeared that items 8 and 16, items 13 and 29, and items 14 and 28 had very large modification indices, ranging from 40.7 to 96.4 (equivalent to χ^2 drop in the model). These values indicate that the error covariance between these pairs should be allowed to correlate. Since the item content in these pairs was similar [e.g. ‘the coach has his/her own favourites’ (item 13) and ‘the coach favours some players more than others’ (item 29)], their measurement errors (i.e. error variance) can be closely correlated (Pedhazur and Pedhazur Schmelkin, 1991). Estimation of error covariance associated with these item pairs can help to control for non-random disturbance in the hypothesized models.

Secondly, large modification values indicated that item 24 should be assigned to the Intra-Team Member Rivalry subscale (modification indices of 42.6 in Model 4 and 28.1 in Model 6) as well as the Punishment for Mistakes subscale (modification indices of 49.2 in Model 4 and 47.1 in Model 6), and that item 32 should be assigned to the Cooperative Learning subscale (modification indices of 39.9 in Model 4 and 41.2 in Model 6). The wording of item 24 (‘if you want to play in a game you must be one of the best players’) suggested the item also touched upon a potentially within-team rivalrous aspect of team sport participation and did not refer overtly to punishment for mistakes, and thus can also be assigned to the Intra-Team Member Rivalry subscale. On the other hand, item 32 was initially added to the Important Role subscale to increase the number of items in the subscale without determination of its face validity. It is apparent that the item can also be interpreted as an aspect of Cooperative Learning, since this item taps the value placed on being ‘an important team member’. Although these findings do make conceptual sense, it should be emphasized that the cross-loading of questionnaire items on more than one factor violates the criterion of exclusive association rule in questionnaire development. The avoidance of such cross-loading in further refinements of the PMCSQ is warranted.

Based on the above empirical and substantive analysis of model fit, the three original oblique models were respecified as follows: in Model 2a, Model 4a and Model 6a, the error covariances between items 8 and 16, items 13 and 29, and items 14 and 28 were allowed to be correlated. In Model 2b, Model 4b and Model 6b, item 24 was allowed to cross-load on the Unequal Recognition, Punishment for Mistakes, and Intra-Team Member Rivalry subscales, and item 32 was allowed to cross-load on both the Important Role and Cooperative

Table 3. Maximum likelihood estimates for the second-order factors of the hierarchical model (standardized factor loading/standard error/*t*-value)

PMCSQ-2 subscales	Task-Involving	Ego-Involving
Cooperative Learning	0.85/0.12/6.74	
Important Role	0.85/0.13/6.80	
Effort/Improvement	0.85/0.12/7.00	
Punishment for Mistakes		0.46/0.07/6.27
Unequal Recognition		0.84/0.19/4.60
Intra-Team Member Rivalry		0.74/0.15/4.92

Learning subscales. In Model 2c, Model 4c and Model 6c, both items 24 and 32 were deleted from the hypothesized models to adjust for factor cross-loading. In Model 2d, Model 4d and Model 6d, the Intra-Team Member Rivalry subscale was eliminated from the model to adjust for its weak scale consistency, which was below commonly accepted standards for basic research.

The results of *post-hoc* fit are displayed in Table 1. Of the nested models, Models 2a, 4a and 6a had significant improvement over their original oblique model, as shown by the difference in χ^2 and the sizeable drop in the root mean square error of approximation in Models 4a and 6a. Only slight changes, however, were observed in the rest of the fit indices.

In Model 4b, item 24 had a loading of 0.22 (standard error, SE = 0.091, $t = 2.42$) on Unequal Recognition, 0.29 (SE = 0.09, $t = 3.27$) on Punishment for Mistakes and 0.40 (SE = 0.13, $t = 3.05$) on Intra-Team Member Rivalry. Item 32 had a loading of 0.53 (SE = 0.073, $t = 7.27$) on Cooperative Learning and 0.28 (SE = 0.073, $t = 3.81$) on the Important Role subscale. In Model 6b, item 24 had a loading of 0.19 (SE = 0.11, $t = 1.74$) on Unequal Recognition, 0.39 (SE = 0.68, $t = 5.73$) on Punishment for Mistakes and 0.37 (SE = 0.11, $t = 3.28$) on Intra-Team Member Rivalry. Item 32 had a loading of 0.52 (SE = 0.088, $t = 5.98$) on Cooperative Learning and 0.27 (SE = 0.078, $t = 3.52$) on the Important Role subscale. Significant improvement in fit (difference in χ^2) over the previous model supported cross-loading of items 24 and 32 on multiple factors. This lent support for proceeding to the next set of models.

In Models 2c, 4c and 6c, all fit indices improved further owing to the elimination of the two cross-loaded items. While the root mean square of approximation in Models 4c and 6c dropped below 0.06, the non-normed fit index and comparative fit index approached 0.90, and the parsimony normed fit index and parsimony goodness-of-fit index were above 0.70. Finally, the

elimination of the Intra-Team Member Rivalry subscale provided the best fit over all previous models in Models 2d, 4d and 6d. At this point, Models 4d and 6d had reached a reasonable fit, in which the root mean square error of approximation dropped to 0.054, the comparative fit index reached the acceptable standard of 0.90, and the goodness-of-fit index and non-normed fit index approached 0.90. The parsimonious normed fit index and parsimonious goodness-of-fit index also approached the mid-0.70's, suggesting a high degree of parsimony.

In summary, the *post-hoc* fitting produced acceptable fit in Model 4d and Model 6d based on a combination of studying the empirical evidence of model fit and substantive interpretation of problematic fits. The findings from the model respecification exercise suggest that the dimensionality of items 24 and 32, as well as the viability of the Intra-Team Member Rivalry subscale, should be investigated further. On the other hand, interpretation and generalization of the findings from the *post-hoc* fitting should be performed with caution, since the process of model respecification unduly increases the Type I error rate. Cross-validation of the revised PMCSQ-2 with new data is imperative to verify the *post-hoc* results.

Internal consistency

Cronbach's alphas were calculated for both the second-order factors and each subscale (Cronbach, 1951). The second-order Task-Involving ($\alpha = 0.88$) and Ego-Involving ($\alpha = 0.87$) scales proved to be internally consistent. All three Task-Involving subscales – Cooperative Learning ($\alpha = 0.74$), Important Role ($\alpha = 0.79$) and Effort/Improvement ($\alpha = 0.77$) – were also found to be internally consistent. In terms of the Ego-Involving subscales, Unequal Recognition ($\alpha = 0.86$) and Punishment for Mistakes ($\alpha = 0.82$) were internally consistent, but the Intra-Team Member Rivalry subscale once again exhibited low internal consistency ($\alpha = 0.54$). Its items demonstrated consistently high factor loadings and stability in Study 1 and Study 2, and appears to represent a meaningful component of the conceptual construct. Therefore, this subscale was included in subsequent analyses. We recommend, however, that the psychometric attributes of the Intra-Team Member Rivalry subscale should be assessed further.

Inter-factor correlations

Table 4 presents the correlations provided by confirmatory factor analysis between the subscales and second-order factors of the PMCSQ-2 for Model 4 and Model 6. All correlations among and between the subscales were significant and in the expected

Table 4. Correlations between hypothesized factor dimensions for the six-factor solution and hierarchical models

	1	2	3	4	5	6	7	8
1. Cooperative Learning	1.00	-0.14	-0.46	0.70	-0.39	0.74		
2. Punishment for Mistakes	-0.27	1.00	0.44	-0.24	0.60	-0.23		
3. Unequal Recognition	-0.50	0.44	1.00	-0.64	0.59	-0.52		
4. Important Role	0.71	-0.30	-0.55	1.00	-0.37	0.74		
5. Intra-Team Member Rivalry	-0.39	0.35	0.63	-0.43	1.00	-0.41		
6. Effort/Improvement	0.69	-0.29	-0.53	-0.76	-0.42	1.00		
7. Task Climate	0.80	-0.34	-0.62	0.88	-0.49	0.86	1.00	
8. Ego Climate	-0.56	0.49	0.90	-0.61	0.71	-0.60	-0.69	1.00

Note: All correlations are significant at $P < 0.05$. Correlation coefficients for the six-factor model are above the diagonal and coefficients for the hierarchical model are below the diagonal.

direction. Correlations of 0.80–0.88 were found between the Task-Involving scale and the Cooperative Learning, Important Role, and Effort/Improvement subscales. The Ego-Involving scale related significantly and positively with its three subscales ($r = 0.49$ – 0.90).

Concurrent validity of the PMCSQ-2. To examine the concurrent validity of the PMCSQ-2, simple correlations were calculated between the dimensions of motivational climate and the indices of intrinsic motivation and Team Satisfaction (Table 5). Mean scale scores for each individual subscale (e.g. Important Role) and both second-order factors were used in the analysis. Based on goal perspective theory and the work of Seifriz *et al.* (1992), we hypothesized that perceptions of a Task-Involving motivational climate would be positively associated with interest in, and enjoyment of, volleyball and that perceptions of an Ego-Involving motivational climate would correspond positively with the experience of Pressure/Tension. We further hypothesized that the Task-Involving dimensions of Effort/Improvement and Cooperative Learning would be positively associated

with Enjoyment/Interest in volleyball. All three dimensions of an Ego-Involving goal structure were predicted to be positively related to Pressure/Tension.

The literature suggests that a positive but weak relationship should emerge between a Task-Involving motivational climate and perceptions of exerted Effort/Importance (Seifriz *et al.*, 1992). A positive relationship was also predicted between the subscale of Effort/Improvement and exerted Effort/Importance. No significant relationships between scores on the Effort/Importance subscale and perceptions of an Ego-Involving climate or the three underlying dimensions were expected.

Finally, in line with the results of Walling *et al.* (1993), we hypothesized that team satisfaction would be positively associated with the perception of a Task-Involving climate and its dimensions and inversely related to the perception of an Ego-Involving motivational climate and its respective subscales.

As can be seen in Table 5, a clear pattern of results emerged that supported the hypotheses and offer support for the concurrent validity of the PMCSQ-2.

Table 5. Correlations between perceived motivational climate and the underlying dimensions with indices of intrinsic motivation

Perceived motivational climate	Intrinsic Motivation			
	Effort/Importance	Pressure/Tension	Enjoyment/Interest	Team Satisfaction
Task-Involving				
Important Role	0.25***	-0.24***	0.52***	0.41***
Cooperative Learning	0.21***	-0.26***	0.42***	0.31***
Effort/Improvement	0.20***	-0.19***	0.47***	0.38***
	0.24***	-0.17**	0.45***	0.37***
Ego-Involving				
Intra-Team Member Rivalry	-0.12**	0.40***	-0.31***	-0.20***
Punishment for Mistakes	-0.10*	0.24***	-0.17***	-0.14**
Unequal Recognition	-0.02	0.40***	-0.14**	-0.08
	-0.16**	0.31***	-0.41***	-0.25***

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

In general, team members who perceived a Task-Involving climate on their team were more likely to be intrinsically motivated. In contrast, the perception of an Ego-Involving motivational climate was negatively related to the adaptive facets of intrinsic motivation and positively associated with the perception of Pressure/Tension.

All predictions were substantiated for the relationship that emerged pertaining to the task climate subscales. The Task-Involving climate dimensions of Effort/Improvement and Cooperative Learning correlated positively with the Enjoyment/Interest facet of intrinsic motivation. The three subscales of an Ego-Involving motivational climate were positively related to Pressure/Tension. Weak but positive associations were found between the motivational climate dimension of Effort/Improvement and the perceived effort displayed and importance placed on volleyball. Although the Ego-Involving climate subscales were significantly and negatively related to Effort/Importance, the strength of the associations was minimal.

Additionally, in line with our hypotheses, Team Satisfaction was positively related to the perception of a Task-Involving team climate. The Important Role, Cooperative Learning, and Effort/Improvement subscales were similarly and positively associated with Team Satisfaction. In contrast, the more a player perceived an Ego-Involving motivational climate on their team and, in particular, a climate that endorsed unequal Recognition among players, the less Team Satisfaction they reported.

Discussion

The aim of Study 2 was to test more stringently the validity of the PMCSQ-2. Of particular interest were two distinct yet related questions, the first of which was how best to conceptualize the motivational climate. Six competing models, in which the respective components were considered independent or correlated, were assessed: a two-subscale, a six-subscale and a hierarchical representation of the climate. Our second question dealt with how well the PMCSQ-2 measured the motivational climate as conceptualized in the models.

Confirmatory factor analysis was used first to test the validity of the six models in relation to the PMCSQ-2. Overall, the data provided a weak but reasonable fit to Model 4 (the six-factor solution) and Model 6 (the hierarchical solution). This assessment was reached based on the unique characteristics of the root mean square error of approximation; that is, this index is most resistant to model mis-specification and least influenced by sample size (Fan *et al.*, 1999). Psychometric support for Models 1 and 2 (the two-factor model) was not forthcoming.

The parsimony of model fit was slightly higher in Model 6d (respecified hierarchical model) than Model 4d (respecified six-factor model), although both the original Models 4 and 6 fitted the data similarly. Thus, based on these results, there is justification for endorsing a hierarchical model.

Psychometrically, the maximum likelihood estimates for the second-order factors (see Table 3) suggest that the subscales were correctly assigned to the higher-order factors. Additionally, the correlation between the higher-order factors (Task-Involving and Ego-Involving) and their respective subscales were significant and positive (see Table 4). Overall, these findings substantiate the utility of conceptualizing the motivational climate in a hierarchical manner.

Theoretically, goal perspective theory (Nicholls, 1989) and the work of Ames (1992) state that two dominant goal structures exist in achievement settings. These goal structures are theoretically presumed to influence differential manners in which individuals judge their ability. Early efforts at assessment and measurement of goal structures focused naturally on the general qualities of the two types of motivational climates (e.g. Seifriz *et al.*, 1992). The more recent development of subscales, however, is no less linked to the premise that task and ego goal structures are one factor which 'sets the stage' for an emphasis on a task or ego conception of ability in that setting. That is, the hypothesized hierarchical model (assumed to underpin the PMCSQ-2) remains true to the tenets of goal perspective theory, yet advances how the motivational climate is conceptualized.

We expected the internal consistency of the two higher-order scales and six subscales to be acceptably high; that prediction was partially supported. The Task-Involving higher-order scale and its three subscales exhibited acceptable internal consistency. The Ego-Involving higher-order scale and two of its subscales (Punishment for Mistakes and Unequal Recognition) were similarly internally consistent.

Consistent with Study 1, the Intra-Team Member Rivalry subscale proved to be problematic in terms of internal consistency. That the participants were female volleyball players may have influenced this finding. Coaches, and the female athletes themselves, may be less likely to provide and participate fully in rivalrous training drills and interactions.

The concurrent validity of the PMCSQ-2 was also supported in Study 2. In line with our predictions, the Effort/Importance component of intrinsic motivation was positively associated with perceptions of a Task-Involving motivational climate and the specific dimension of Effort/Improvement. Significant relationships were also found between Effort/Importance and the Cooperative Learning and Important Role subscales

and athletes' overriding perceptions of a Task-Involving team climate. Equally important, from a practical viewpoint, were the negative and significant findings in relation to Effort/Importance and perceptions of an Ego-Involving Motivational climate. This association was minimal, however. Clearly, a cornerstone of athletic development is trying one's best. The present results suggest that the promotion of a Task-Involving climate on a team is more productive in fostering this facet of motivation. These findings also suggest that a perceived Ego-Involving climate is not necessarily detrimental to the effort exerted and importance placed on sport by female athletes.

We also hypothesized that enjoyment of, and interest in, volleyball would correlate positively with a Task-Involving climate and the Effort/Improvement and Cooperative Learning subscales (Seifriz *et al.*, 1992). These predictions were supported. In addition, however, Enjoyment/Interest was positively associated with the view that all players had an Important Role on the team and inversely related to the perception of an Ego-Involving motivational climate (and scale scores on the three underlying dimensions, particularly the Unequal Recognition component). Previous research has reported that a major source of satisfaction and enjoyment in sport is the opportunity to master skills and improve in one's sport (Smith *et al.*, 1983, 1995; Scanlan *et al.*, 1989). Thus, motivational climates that do not reinforce the salience of self-referenced skill improvement – and, in contrast, support a concern about the comparative adequacy of one's competence – would be less enjoyable for athletes.

In line with predictions and previous research (Seifriz *et al.*, 1992; Study 1), athletes who perceived a more Ego-Involving motivational climate (and the three underlying facets of such an atmosphere) were likely to report greater feelings of Pressure/Tension while playing their sport. An Ego-Involving motivational atmosphere appears conducive to athletes feeling as though they must prove continuously their athletic worth in relation to other players. It also appears to be the environment in which poor performance and errors lead to reprimand by the coach. Such an atmosphere produces stress, perhaps in particular among individuals with low perceived ability.

Finally, in agreement with previous work (Walling *et al.*, 1993; Treasure and Roberts, 1998) and the current hypotheses, perceptions of a Task-Involving motivational climate correlated positively with Team Satisfaction, while perceptions of an Ego-Involving atmosphere were inversely related to Team Satisfaction. The long-term ramifications of these findings are unknown. It is logical to assume that athletes who are satisfied with their teams would be more likely – if possible – to continue participating with those teams

in the years to come. Future studies should examine the inter-dependencies between the perceived motivational climate, satisfaction with one's team-mates and persistence.

Conclusions

Ames (1984), Ames and Archer (1988), Epstein (1989) and Walling *et al.* (1993) have argued that the motivational climate is multi-faceted. Those dimensions include how success or achievement is defined, the bases and nature of recognition and evaluation, the typical responses to errors, and the ways in which individuals are expected to act and interact within and between groups. The two studies presented here provide initial support for the multi-dimensional hierarchical structure of the 33-item self-report Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2).

Future research should examine the factorial structure and internal consistency of the PMCSQ-2 among both male and female athletes in a variety of sports. The internal consistency and general adequacy of the Intra-Team Member Rivalry subscale might be improved by increasing the number of items in the subscale and refining the vernacular used in the language of the items. The current results suggest that this subscale is psychometrically suspect, but appears to be a viable component of a larger ego-involving atmosphere.

To validate the measure further, studies should examine the relationship between overt coaching behaviours and responses to the PMCSQ-2 (Duda, in press). In accordance with the work of Treasure and Roberts (1998), we also suggest that the long-term motivational ramifications of participating on a Task-Involving or Ego-Involving team should be examined. In particular, examining how perceptions of the motivational climate interact with, are impacted by, and influence dispositional goal orientations over time might yield important insights into the socialization of individual differences in goal perspectives and the interplay of situationally emphasized and dispositional goals on achievement patterns (Ntoumanis and Biddle, 1998).

References

- Ames, C. (1984). Competitive, cooperative, and individualistic goal structures: A cognitive motivational analysis. In *Research on Motivation in Education: Student Motivation*, Vol. 1 (edited by R. Ames and C. Ames), pp. 177–208. New York: Academic Press.
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, *84*, 261–271.

- Ames, C. and Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation. *Journal of Educational Psychology*, **80**, 260–267.
- Bentler, P.M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, **107**, 238–246.
- Bollen, K.A. (1989). *Structural Equations with Latent Variables*. New York: John Wiley.
- Chambliss, D. (1989). The mundanity of excellence: An ethnographic report on stratification and Olympic swimmers. *Sociology Theory*, **7**, 70–86.
- Chi, L. and Duda, J.L. (1995). Multi-group confirmatory factor analysis of the Task and Ego orientation in Sport Questionnaire. *Research Quarterly for Exercise and Sport*, **66**, 91–98.
- Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychological Bulletin*, **88**, 296–334.
- Duda, J.L. (1989). The relationship between task and ego orientation and perceived purpose of sport among male and female high school athletes. *Journal of Sport and Exercise Psychology*, **11**, 318–335.
- Duda, J.L. (in press). Goal perspective research in sport: Pushing the boundaries and clarifying some misunderstandings. In *Advances in Motivation in Sport and Exercise* (edited by G. Roberts). Champaign, IL: Human Kinetics.
- Duda, J.L. and Nicholls, J.G. (1992). Dimensions of achievement motivation in schoolwork and sport. *Journal of Educational Psychology*, **84**, 1–10.
- Duda, J.L. and Whitehead, J. (1998). Measurement of goal perspectives in the physical domain. In *Advances in Sport and Exercise Psychology Measurement* (edited by J.L. Duda), pp. 21–48. Morgantown, WV: Fitness Information Technology.
- Duda, J.L., Chi, L., Newton, M., Walling, M.D. and Catley, D. (1995). Task and ego orientation and intrinsic motivation in sport. *International Journal of Sport Psychology*, **22**, 1–23.
- Dweck, C.S. and Leggett, E.L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, **95**, 256–273.
- Elliott, E.S. and Dweck, C.S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, **54**, 5–12.
- Epstein, J. (1989). Family structures and student motivation: A developmental perspective. In *Research on Motivation in Education*, Vol. 3 (edited by C. Ames and R. Ames), pp. 228–239. New York: Academic Press.
- Fan, X., Thompson, B. and Wang, L. (1999). Effects of sample size, estimation methods, and model specification on structural equation modeling fit indexes. *Structural Equation Modeling*, **6**, 56–83.
- Hu, L. and Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, **6**, 1–55.
- Joreskog, K.G. and Sorbom, D. (1989). *LISREL VII: A Guide to the Program and Applications*, 2nd edn. Chicago, IL: SPSS Inc.
- Joreskog, K.G. and Sorbom, D. (1993). *LISREL 8: Structural Equation Modeling with the SIMPLIS Command Language*. Chicago, IL: Scientific Software International.
- Kelloway, E.K. (1998). *Using LISREL for Structural Equation Modeling: A Researcher's Guide*. Thousand Oaks, CA: Sage.
- McAuley, E., Duncan, T.E. and Tammen, V.V. (1989). Psychometric properties of the Intrinsic Motivation Inventory in a competitive sport setting: A confirmatory factor analysis. *Research Quarterly for Exercise and Sport*, **60**, 48–58.
- Nicholls, J.G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, **91**, 328–346.
- Nicholls, J.G. (1989). *The Competitive Ethos and Democratic Education*. Cambridge, MA: Harvard University Press.
- Ntoumanis, N. and Biddle, S. (1998). The relationship between competitive anxiety, achievement goals, and motivational climates. *Research Quarterly for Exercise and Sport*, **69**, 176–187.
- Pedhazur, E.J. and Pedhazur Schmelkin, L. (1991). *Measurement, Design, and Assessment: An Integrated Approach*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Roberts, G.C., Treasure, D.C. and Balague, G. (1998). Achievement goals in sport: The development and validation of the Perception of Success Questionnaire. *Journal of Sports Sciences*, **16**, 337–347.
- Scanlan, T., Stein, G.L. and Ravizza, K. (1989). An in-depth study of former elite figure skaters: II. Sources of enjoyment. *Journal of Sport and Exercise Psychology*, **11**, 65–83.
- Seifriz, J.J., Duda, J.L. and Chi, L. (1992). The relationship of perceived motivational climate to intrinsic motivation and beliefs about success in basketball. *Journal of Sport and Exercise Psychology*, **14**, 375–391.
- Smith, R.E., Zane, N.W., Smoll, F.L. and Cappel, D.B. (1983). Behavioral assessment in youth sports: Coaching behaviors and children's attitudes. *Medicine and Science in Sports*, **15**, 208–214.
- Smith, R.E., Smoll, F.L. and Barnett, N.D. (1995). Reduction of children's sport performance anxiety through social support and stress reduction training for coaches. *Journal of Applied Developmental Psychology*, **16**, 125–142.
- Steiger, J.H. (1990). Structural modeling evaluation and modification: An interval approach. *Multivariate Behavioral Research*, **25**, 173–180.
- Treasure, D.C. and Roberts, G.C. (1998). Relationship between female adolescents' achievement goal orientations, perceptions of the motivational climate, beliefs about success and sources of satisfaction. *International Journal of Sport Psychology*, **29**, 211–230.
- Walling, M.L., Duda, J.L. and Chi, L. (1993). The Perceived Motivational Climate in Sport Questionnaire: Construct and predictive validity. *Journal of Sport and Exercise Psychology*, **15**, 172–183.

Appendix: Perceived Motivational Climate in Sport Questionnaire-2

Directions: Please think about how it has felt to play on your team throughout this season. What is it usually like on your team? Read the following statements carefully and respond to each in terms of how you view the typical atmosphere on your

team. Perceptions naturally vary from person to person, so be certain to take your time and answer as honestly as possible. Circle the number that best represents how you feel.

Note: Each item is responded to on a 5-point Likert-type scale (1 = strongly disagree; 5 = strongly agree).

1. On this team, the coach wants us to try new skills.
2. On this team, the coach gets mad when a player makes a mistake.
3. On this team, the coach gives most of his or her attention to the stars.
4. On this team, each player contributes in some important way.
5. On this team, the coach believes that all of us are crucial to the success of the team.
6. On this team, the coach praises players only when they outplay team-mates.
7. On this team, the coach thinks only the starters contribute to the success of the team.
8. On this team, players feel good when they try their best.
9. On this team, players are taken out of a game for mistakes.
10. On this team, players at all skill levels have an important role on the team.
11. On this team, players help each other learn.
12. On this team, players are encouraged to outplay the other players.
13. On this team, the coach has his or her own favourites.
14. On this team, the coach makes sure players improve on skills they're not good at.
15. On this team, the coach yells at players for messing up.
16. On this team, players feel successful when they improve.
17. On this team, only the players with the best 'stats' get praise.
18. On this team, players are punished when they make a mistake.
19. On this team, each player has an important role.
20. On this team, trying hard is rewarded.
21. On this team, the coach encourages players to help each other.
22. On this team, the coach makes it clear who he or she thinks are the best players.
23. On this team, players are 'psyched' when they do better than their team-mates in a game.
24. On this team, if you want to play in a game you must be one of the best players.
25. On this team, the coach emphasizes always trying your best.
26. On this team, only the top players 'get noticed' by the coach.
27. On this team, players are afraid to make mistakes.
28. On this team, players are encouraged to work on their weaknesses.
29. On this team, the coach favours some players more than others.
30. On this team, the focus is to improve each game/practice.
31. On this team, the players really 'work together' as a team.
32. On this team, each player feels as if they are an important team member.
33. On this team, the players help each other to get better and excel.

**Exhibit 6**

FAIRNESS AND ENJOYMENT IN SCHOOL SPONSORED YOUTH SPORTS

Warren Whisenant and Jeremy S. Jordan

University of Miami, USA

Abstract The purpose of this study was to expand upon research in organizational justice by introducing the construct into a school sponsored sports setting from a sociological perspective. Three dimensions of organizational justice – distributive justice, procedural justice, and interpersonal justice – were assessed to determine if the fairness of coaches, as perceived by their student athletes ($N = 259$), was associated with the sports the students' enjoyed participating in the most or the least. Two research questions answered by this study were: 1) do fairness perceptions differ between the sport the students enjoy the most and the sport they enjoy the least, and 2) did those perceptions influence the students' desire to continue participating in those referent sports. The findings indicated that perceptions of each of the three dimensions differed between the referent sports selected by the student athletes, and those differences were significant ($p < .001$). The findings also suggested that a linear relationship existed between each dimension and their intent to continue playing the referent sports.

Key words • organizational justice • sports

Research directed at the relationship between student athletes and their coaches is important in that the behavior of coaches may impact the players' desire to continue playing sports. An important component of that relationship is the level of fairness used by coaches when making decisions which impact athletes. While most organizational justice research has been drawn from management and psychology literature, this study attempts to sever, what Sage (1997) referred to as 'intellectual boundaries' which may have in the past cast doubt on the relevance of framing organizational justice studies in the realm of sociological research. With the primary focus of Sociology being on the interaction between social relationships and the attitudes and behaviors derived from those relationships (Schaefer, 2004), coach/player interactions fall well within the domain of sociology research.

Few changes have occurred in the structure and purpose of school sponsored sports over the past century (Sage, 1998). Sports have been promoted as an integral part of the educational experience when the physical wellness attributes of sport participation are combined with the intellectual acquisition which occurs in the classroom (Kanaby, 2003). Sport exposes students to the dynamics of organizational culture which in turn influence the sociological outcomes of sport participation. Supporters of sports in the schools have summarized the numerous

benefits derived from participation (NFHS, 2003) as supporting the overall academic mission of the schools (higher grades, better attendance, lower dropout rates, fewer discipline problems), providing practical life skills learning (self-discipline, teamwork, and self-confidence), and promoting success in life after graduation. Participation in interscholastic sports has also been found to increase the likelihood of lifelong participation in sports as an adult as well as positively correlated with income earnings as an adult (Curtis et al., 1999, 2003).

While the adults who control school sponsored sports see athletic participation as a critical component of the educational process, Sage (1997) notes Coleman's perspective, 'that high school athletics is more important as a value among high school students than intellectual achievements' (p. 325). Students take a more pragmatic view of sport participation. Research has consistently demonstrated that participation is driven by one or more of three dominant factors: the student athletes' craving to hone and exploit their physical skills; the need for social interaction and support from significant individuals in their lives; and the desire to have fun (Butcher et al., 2002; Weiss, 2000; Weiss et al., 2001). Lumpkin et al. (2003) propose that students often drop out of sports when they no longer have fun participating, due to issues associated with their perceptions of fairness fostered within the schools' athletic programs. As such, a better understanding of the factors which influence the climate of fairness in athletics, framed within the context of organizational justice, can assist in moderating fairness perceptions, thus potentially reducing dropout rates.

Organizational Justice

The concept of justice has received much attention in the social sciences over the last 40 years (Colquitt, 2001). This area of research has attempted to determine the criteria used by individuals when developing perceptions of justice (fairness) and the influence these perceptions have on various attitudes and behaviors. Recent work by Colquitt and colleagues (Colquitt, 2001; Colquitt et al., 2001) established that organizational justice is most likely composed of separate constructs, three of which are distributive justice, procedural justice, and interpersonal justice. Distributive justice is defined as the perceived fairness of outcomes received by an individual (Adams, 1965), similar to other allocation theories which suggest outcomes should be distributed equally to all members (Deutsch, 1975; Lerner, 1975). Procedural justice is centered on the processes used to determine the outcomes (Leventhal, 1980; Thibaut and Walker, 1975). Interpersonal justice was initially introduced by Bies and Moag (1986), who suggested that interpersonal justice was based on the treatment and quality of information received by an individual in a work setting. Greenberg (1990), Colquitt (2001), and Colquitt et al. (2001) demonstrated that interpersonal justice is based on the extent to which an individual is treated with respect, dignity and in a polite manner by personnel representing the organization or who occupy decision-making positions.

Organizational justice research in the social sciences has demonstrated that the aforementioned constructs collectively and individually influence an individual's perceptions of fairness. Research has also shown a relationship between percep-

tions of fairness and numerous employee attitudes and behaviors such as job satisfaction (Martin and Bennett, 1996), organizational commitment (Sweeney and McFarlin, 1993), citizenship behaviors (Moorman, 1991), as well as turnover and absenteeism (Masterson et al., 2000). There has been discussion that these relationships might also be evident within a sport context (Chelladurai, 1999; Greenberg et al., 1985; Jordan et al., 2004). However, there have been only a limited number of attempts to study the influence of organizational justice in sport.

Organizational Justice and Sport

The first application of organizational justice theory in a sport setting was by Greenberg et al. (1985) who theorized distributive and procedural justice principles could influence the perceived fairness of outcomes and processes used in sport and games. The authors suggested that the structures, processes, and dynamics of sport would provide a context to study the influence of organizational justice on the attitudes and behaviors of sport participants. Additionally, they suggested that this line of inquiry would expand the overall understanding of organizational justice not only within the domain of sport, but for other types of organizations as well.

Currently, organizational justice research in sport has begun to examine the influence of multiple justice constructs on individual perceptions of fairness. Jordan et al. (2004) proposed that relationships between justice constructs and employee attitudes and behaviors evident in non-sport organizations might be applicable in a team sport setting. These authors suggested that improving player perceptions of fairness might lead to increased satisfaction, commitment and desire to continue participating in the sport. An initial attempt to study the influence of justice constructs on the attitudes of players found a relationship between organizational justice (distributive, procedural, and interpersonal justice) and high school student-athletes' level of commitment to a particular sport (Whisenant, 2005). Players who had positive perceptions of the three justice constructs demonstrated higher levels of commitment and were more likely to continue their participation in their referent sport. Whisenant and Jordan (2006) found that a positive relationship also existed between organizational justice perceptions and team performance. The present study is an extension of this line of research which has studied the influence of organizational justice among players in school sponsored sports. The first objective was to determine if the justice dimensions differed between the sport the students enjoyed the most and the sport the students enjoyed the least. The second objective was to determine the extent to which each of the justice dimensions influenced the students' desire to continue participating in those same referent sports.

Methodology

The subjects for the study were student athletes from six high schools in Texas. Parental consent forms were sent home with approximately 1400 student athletes.

The following day, those students who were granted permission to participate in the study by their parents gathered during their regularly scheduled time period allocated for sports to complete the questionnaire. To minimize the likelihood that the responses of the students might be influenced by their coaches, coaches were denied entry into the testing area.

The instrument used to collect the fairness data was based upon the Justice Measure developed by Colquitt (2001). To ensure the students considered all of their sports when making their referent selections to answer the fairness questions, the athletes were first asked to identify all the sports they had played that year in high school. The students were then asked to identify the sport they enjoyed playing the most. They were then instructed to use that sport as the referent sport when responding to the fairness statements. The students were then instructed to turn the questionnaire over and similarly complete the survey using the sport they enjoyed playing the least that year as their referent sport. The average of the multiple responses within each of the sections was then used to determine the level of perceived fairness within each dimension with higher scores indicating more positive perceptions of fairness. The students were also asked if they intended to continue their participation in the referent sport during the next season. A Likert-type scaled response of 1 to 10, with 10 being strongly agree and 1 being strongly disagree was used to assess intent to continue participation.

Paired Samples Statistics were used to compare the mean responses of each of the three dimensions for the analyses addressing the first research question. Pearson's correlation coefficient was used to answer the second research question. An alpha level of .05 was used for all analyses. The measure instrument developed by Colquitt was found to have a reliability ranging from .90 to .93 (Colquitt and Shaw, 2005), the reliability coefficients for this study produced an alpha of .77.

Results

Parental approval for participation was given to 630 students. Of those students, 41 percent ($n = 259$) provided data on both sports. Student demographics are provided in Table 1. The sex of the participants – boys 59 percent and girls 41 percent – closely aligned with national participation rates. The ethnic composition of the sample was as follows: 33 percent Black/African American; 36 percent Hispanic; 29 percent White; and 2 percent indicated an ethnicity other than the three previously mentioned. This demographic was representative of the state's student population. The majority of the students were freshmen (39%), while 25 percent were second year students, 24 percent were juniors, and the fewest participants being seniors (12%). Frequency counts of the students by the referent sports they used to respond to the questions regarding fairness perceptions are listed in Table 1.

The first objective was to determine if the justice dimensions differed between the sport the students enjoyed the most and the sport the students enjoyed the least. Table 2 contains the descriptive statistics for each of the justice

Table 1 Referent Sports

Sport	Enjoyed the most		Enjoyed the least	
	Boys	Girls	Boys	Girls
Baseball	18	n/a	9	n/a
Basketball	26	15	34	18
Football	73	n/a	23	n/a
Other	6	2	15	9
Soccer	10	11	12	1
Softball	n/a	17	n/a	12
Tennis	1	3	5	1
Track & cross-country	20	21	56	33
Volleyball	n/a	30	n/a	29
Powerlifting	0	6	0	2

Note: Other includes golf, swimming, wrestling, cheerleading, and dance.

Table 2 Correlations of Fairness Perceptions and Intent to Continue Participation

Enjoyed most		(PJ)	(DJ)	(IJ)
Continue participation	(<i>M</i> = 6.32; <i>SD</i> = 1.46)	.170*	.243*	.238*
<i>R</i> ²		.029	.059	.057
Procedural justice (PJ)	(<i>M</i> = 5.0; <i>SD</i> = 1.2)			
Distributive justice (DJ)	(<i>M</i> = 5.6; <i>SD</i> = 1.3)			
Interpersonal justice (IJ)	(<i>M</i> = 5.7; <i>SD</i> = 1.2)			
Enjoyed least		(PJ)	(DJ)	(IJ)
Continue participation	(<i>M</i> = 4.86; <i>SD</i> = 2.51)	.271*	.295*	.349*
<i>R</i> ²		.076	.084	.112
Procedural justice (PJ)	(<i>M</i> = 4.7; <i>SD</i> = 1.5)			
Distributive justice (DJ)	(<i>M</i> = 5.0; <i>SD</i> = 1.6)			
Interpersonal justice (IJ)	(<i>M</i> = 5.3; <i>SD</i> = 1.5)			

Note: $p < .05^*$; continue participation data excludes seniors ($n = 228$).

dimensions. For each dimension the differences between the sport the students liked most and liked least were significant: procedural justice $t(258) = 3.694$, $p < .001$; distributive justice $t(258) = 4.869$, $p < .001$; and interpersonal justice $t(258) = 3.775$, $p < .001$.

The second objective was to determine the extent to which each of the justice dimensions influenced the students' desire to continue participating in the referent sports. The findings indicated a linear relationship did exist between each of the justice dimensions and the students' intent to continue participating in the referent sport they liked most and liked least. These findings are also noted in Table 2.

Discussion

While the numerous studies previously cited have indicated that having fun is the leading factor influencing the level of enjoyment the athlete experiences through participation, coaches play a critical role in influencing the level of enjoyment athletes experience. The findings of this study provide greater insight into the influence coaches have over the organizational climate within their teams. The findings also support previously held, yet untested, presumptions that the perceptions of fairness held by athletes influence their attitudes toward the sports they play. While there may be some sociological skepticism about standardized tests such as the justice measure developed by Colquitt (2001), no other suitable alternative instrument was available which met the needs of this study. In this study, for each of the three dimensions of organizational justice, the perceptions of fairness held by the athletes regarding their coaches' behavior differed significantly between a referent sport the athletes enjoyed playing the most and a referent sport the athletes enjoyed the least. While perceptions of fairness were positive for both groups of sports – those sports they enjoyed most and those they enjoyed least – the level of fairness was greater for the sports the students enjoyed most. Within each of the three dimensions, the fairness perceptions were consistent regarding how each dimension ranked in fairness. For both the referent sports the students enjoyed most or least, interpersonal justice perceptions were the most positive ($M = 5.7$ and $M = 5.3$). Distributive justice followed for both groups with positive levels of fairness ($M = 5.6$ and $M = 5.0$). The lowest perception levels were for procedural justice ($M = 5.0$ and $M = 4.7$).

The degree to which students intended to continue playing a sport was significantly influenced by the athletes' perceptions of fairness within the context of each of the three justice dimensions explored in this study. As indicated in Table 2, the correlations among the justice dimensions and the athletes' intentions to continue playing were significant for both groups of the referent sports. The justice dimensions were most influential on the sports the students enjoyed least. Integrating the findings of the two research objectives provides a greater understanding of how organizational justice impacts sports participation among high school students.

Overall, student athletes who participated in the study indicated that they felt they were treated with dignity and respect by their coaches, as indicated by the responses associated with interpersonal justice. When assessing this dimension in conjunction with the student's intent to continue playing the referent sport, interpersonal justice had the greatest influence over the likelihood of continued participation in the sport the athlete enjoyed least. This would suggest that the treatment of the athletes by their coaches plays an integral part in establishing the student's level of enjoyment. When enjoyment from participation diminishes, the likelihood that the student will continue participating in the sport is reduced. With that relationship at the forefront, athletic directors who see a large dropout rate within one sport might expect to find coaches who fail to show their athletes the proper level of respect or treatment. Improvements in retention and reductions in self-elimination may be accomplished by focusing on the coach's interpersonal interactions with the athletes.

There are a limited number of outcomes in sport (i.e. playing time, position, etc.) and the allocation of these outcomes is often not based on the principle of equity. It is not uncommon for players who put forth the most effort to not receive the outcomes they would prefer, such as playing time or earning a starting position. While research has extensively shown that winning is not the driving force behind participation, student athletes may have reconciled that for their coaches, winning is the most important outcome of sports competition or participation. As a result, the students understand that the coaches play to win, so decisions regarding athlete participation in competition are left to the coaches. The decisions made by the coaches are given the benefit of the doubt by the students, trusting that decisions are focused on the goal of winning. The outcomes based upon those decisions do, however, have a greater impact on the sports the students like the least. One factor may be that students might question the decisions made by the coach when the students are rationalizing a decision to discontinue participating in a sport.

Fairness perceptions associated with procedural justice were also positive for both groups of the sports. Coaches generally do not afford athletes much decision control or decision influence, particularly during the time of competition. If players feel they have limited 'voice' in the processes of the team and the distribution of outcomes, they are likely to experience lowered perceptions of fairness for decision processes used by coaches. Their experience may have demonstrated to them that one level of consistency among all coaches and sports tends to be that the better players get more playing time than the less talented players. As a result, the processes used to determine outcomes associated with playing time are consistent and somewhat free from bias among sport organizations. The students may also recognize that mechanisms for dealing with incorrect decisions made by the coaches are evident. These changes come in the form of roster changes and changes in game plans based upon the level of success the team may be having at the time of competition.

An organizational climate embracing fairness is a critical factor influencing student athletes' attitude towards the sports they participate in and their desire to continue participation. As found to be the case in the work of Butcher et al. (2002), coaches have a significant influence on self-elimination in sport. If the coaches reduce the level of fun the athlete experiences or the social interactions are diminished or the student no longer has the opportunity to hone his or her athletic skills, the probability of sport self-elimination increases. Coaches have the opportunity to reduce the likelihood of self-elimination by building strong interpersonal relationships with their athletes by treating them with dignity and respect during multiple and complex decision processes. The athletes appear to be less concerned with decision outcomes and the processes used by the coaches to arrive at their decisions. For sport administrators, when making staffing decisions regarding coaches, they should place a great deal of emphasis on the communication and interpersonal skills possessed by the coaching candidates to help the athletic program maximize student participation.

For the overwhelming majority of the students participating in interscholastic athletics, their competitive sport careers end at high school graduation. For many, their experiences shape their self-esteem, personal self-worth, and may

influence their social standing in their communities. The behaviors they experience while in high school can shape how they will behave in organizational environments long after they leave high school. With athletics being so entrenched in the educational process, further studies associated with organizational justice in sport are needed. Areas of further study should include perceptions of justice over the participation lifespan of student athletes or over the course of a season in a longitudinal study. Work could also involve the inclusion of group value and attribution theories of organizational justice in sports.

As Greenberg et al. (1985) suggested two decades ago, sport organizations are mini-social systems that impact society in many ways and as such will provide a greater understanding of how organizations outside of sport function. Understanding how student athletes perceive decision outcomes within the context of organizational justice while involved in sport, may provide the foundation as to how they will behave in organizations as adults. With sport participation playing such an integral role in the educational and socialization process of young adults, every effort to minimize the likelihood of sport elimination should be undertaken.

References

- Adams, J. (1965) 'Inequity in Social Exchange', in L. Berkowitz (ed.) *Advances in Experimental Social Psychology*, Vol. 2, pp. 267–99. New York: Academic Press.
- Bies, R. and Moag, J. (1986) 'Interactional Justice: Communication Criteria of Fairness', in R. Lewicki, B. Sheppard and M. Bazerman (eds) *Research on Negotiations in Organizations*, Vol. 1, pp. 43–55. Greenwich, CT: JAI Press.
- Butcher, J., Lindner, K.J. and Johns, D.P. (2002) 'Withdrawal from Competitive Youth Sport: A Retrospective Ten-year Study', *Journal of Sport Behavior* 25(2): 145–63.
- Chelladurai, P. (1999) *Human Resource Management in Sport and Recreation*. Champaign, IL: Human Kinetics.
- Colquitt, J. (2001) 'On the Dimensionality of Organizational Justice: A Construct Validation of a Measure', *Journal of Applied Psychology* 86: 386–400.
- Colquitt, J., Conlon, D., Wesson, M., Porter, C. and Ng, K. (2001) 'Justice at the Millennium: A Meta-analytic Review of 25 Years of Organizational Justice Research', *Journal of Applied Psychology* 86: 425–45.
- Colquitt, J.A. and Shaw, J.C. (2005) 'How Should Organizational Justice Be Measured?', in J. Greenberg and J.A. Colquitt (eds) *The Handbook of Organizational Justice*, pp. 113–52. Mahwah, NJ: Erlbaum.
- Curtis, J., McTeer, W. and White, P. (1999) 'Exploring Effects of School Sport Experiences on Sport Participation in Later Life', *Sociology of Sport Journal* 16(4): 348–65.
- Curtis, J., McTeer, W. and White, P. (2003) 'Do High School Athletes Earn More Pay? Youth Sports Participation and Earnings as an Adult', *Sociology of Sport Journal* 20(1): 60–76.
- Deutsch, M. (1975) 'Equity, Equality and Need: What Determines which Value Will Be Used as the Basis of Distributive Justice?', *Journal of Social Issues* 31: 137–50.
- Greenberg, J. (1990) 'Organizational Justice: Yesterday, Today and Tomorrow', *Journal of Management* 16: 299–342.
- Greenberg, J., Mark, M. and Lehman, D. (1985) 'Justice in Sports and Games', *Journal of Sport Behavior* 8(1): 18–33.
- Jordan, J., Gillentine, J. and Hunt, B. (2004) 'The Influence of Fairness: The Application of Organizational Justice in a Team Sport Setting', *International Sports Journal* 8(1): 139–49.
- Kanaby, R.F. (2003) 'Rise in Participation Figures is Positive Story', *IAA Interscholastic Athletic Administration* 30(2): 3.

- Lerner, M. (1975) 'The Justice Motive in Social Behavior: Introduction', *Journal of Social Issues* 31: 1–19.
- Leventhal, G. (1980) 'What Should Be Done with Equity Theory?', in K. Gergen, M. Greenberg and R. Willis (eds) *Social Exchange: Advances in Theory and Research*, pp. 27–55. New York: Plenum.
- Lumpkin, A., Stoll, S.K. and Beller, J.M. (2003) *Sport Ethics: Applications of Fair Play*, 3rd edn. New York: McGraw-Hill Higher Education.
- Martin, C. and Bennett, N. (1996) 'The Role of Justice Judgments in Explaining the Relationship between Job Satisfaction and Organizational Commitment', *Group and Organization Management* 21: 84–104.
- Masterson, S., Lewis, K., Goldman, B. and Taylor, M. (2000) 'Integrating Justice and Social Exchange: The Differing Effects of Fair Procedures and Treatment on Work Relationships', *Academy of Management Journal* 43: 738–48.
- Moorman, R. (1991) 'Relationship between Organizational Justice and Organizational Citizenship Behaviors: Do Fairness Perceptions Influence Employee Citizenship?', *Journal of Applied Psychology* 76: 845–55.
- NFHS (2003) 'The Case for High School Activities . . .', available online at: [http://www.nfhs.org], accessed 1 March 2004.
- Sage, G.H. (1997) 'Physical Education, Sociology, and Sociology of Sport: Points of Intersection', *Sociology of Sport Journal* 14(4): 317–39.
- Sage, G.H. (1998) *Power and Ideology in American Sport: A Critical Perspective*, 2nd edn. Champaign, IL: Human Kinetics.
- Schaefer, R.T. (2004) *Sociology Matters*. New York: McGraw-Hill.
- Sweeney, P. and McFarlin, D. (1993) 'Workers' Evaluation of the "Ends" and the "Means": An Examination of Four Models of Distributive and Procedural Justice', *Organizational Behavior and Human Decision Processes* 55: 23–40.
- Thibaut, J. and Walker, L. (1975) *Procedural Justice: A Psychological Analysis*. Hillsdale, NJ: Erlbaum.
- Weiss, M.R. (2000) 'Motivating Kids in Physical Activity', The President's Council on Physical Fitness and Sports Research Digest, Series 3, No. 11, pp. 1–8.
- Weiss, M.R., Kimmel, L.A. and Smith, A.L. (2001) 'Determinants of Sport Commitment among Junior Tennis Players: Enjoyment as a Mediating Variable', *Pediatric Exercise Science* 13: 131–44.
- Whisenant, W. (2005) 'Organizational Justice and Commitment in Interscholastic Sports', *Sport, Education and Society* 10(3): 381–95.
- Whisenant, W. and Jordan, J. (2006) 'Organizational Justice and Team Performance in Interscholastic Athletics', *Applied Research in Coaching and Athletics Annual* 21: 55–82.

Warren Whisenant received his PhD from Florida State University in 1998. He is currently an Associate Professor in the sport administration program at the University of Miami, Coral Gables, FL. His research, most of which has focused on gender and organizational issues within interscholastic athletics, has been published in such journals as *Journal of Sport Management*, *International Journal of Sport Management*, *Sport, Education, and Society*, *International Journal of Sport Management and Marketing* and *Sex Roles*.

Address: School of Education, Department of Exercise and Sport Sciences, University of Miami, PO Box 248065, Coral Gables, FL 33124–2040, USA. Email: wwisenant@miami.edu

Jeremy S. Jordan received his PhD from The Ohio State University in 2001. Currently, he is an Assistant Professor in sport administration at the University of

Miami. Dr Jordan's research focuses on organizational behavior and human resource management issues within sport organizations. Journal articles published by Dr Jordan have appeared in the *International Journal of Sport Management*, *International Sports Journal*, *Physical Educator*, *Recreational Sport Journal* and the *International Review for the Sociology of Sport*. Dr Jordan has served as a member of the NASSM Executive Council and is a member of the *Journal of Sport Management* editorial board.

ACADEMIA

Accelerating the world's research.

Exhibit 7

Motivational climate and goal orientations as predictors of perceptions of improvement, satisfaction and coach r...

Isabel Balaguer


Scandinavian Journal of Medicine & Science in Sports

Cite this paper

Downloaded from [Academia.edu](#) 

[Get the citation in MLA, APA, or Chicago styles](#)

Related papers

[Download a PDF Pack](#) of the best related papers 



[Situational and dispositional goals as predictors of perceptions of individual and team improv...](#)

Joan Duda

[Predicting young athletes' motivational indices as a function of their perceptions of the coach- and p...](#)

Joan Duda

[A systematic review of the intrapersonal correlates of motivational climate perceptions in sport and ...](#)

Richard Keegan

Motivational climate and goal orientations as predictors of perceptions of improvement, satisfaction and coach ratings among tennis players

Balaguer I, Duda JL, Crespo M. Motivational climate and goal orientations as predictors of perceptions of improvement, satisfaction and coach ratings among tennis players. Scand J Med Sci Sports 1999; 9: 381–388. © Munksgaard, 1999

One purpose of this work was to study the relationship of goal orientations and the perceived motivational climate created by the coach in relation to 219 competitive Spanish tennis players: a) perceived improvement in different facets of the game, b) satisfaction with their competitive results, overall level of play, and coach, and c) ratings of their coach. The second purpose was to examine whether the dependent variables were best predicted by the perceived situationally emphasized goal structure created by the coach and/or the athletes' dispositional goal perspective. Intermediate (N=70), advanced (N=124), and professional (N=25) level players completed Spanish versions of the TEOSQ and the PMCSQ-2 and items assessing perceived improvement specific to tennis, satisfaction and coach ratings. The results were consistent with the tenets of goal perspective theory and provide further support for the promotion of a task-involving atmosphere in sport.

**I. Balaguer¹, J. L. Duda²,
 M. Crespo³**

¹Faculty of Psychology, University of Valencia, Valencia, Spain; ²School of Sport and Exercise Sciences, The University of Birmingham, Birmingham, England; ³International Tennis Federation, Spain

Key words: motivational climate; goal orientations; performance improvement; coaching; tennis

Isabel Balaguer, Faculty of Psychology, University of Valencia, Valencia, Spain

Accepted for publication 1 June 1999

During this past decade, goal perspective theory (1–3) has played an important role in the study of achievement motivation in sport (4–6). This theory holds that there are two primary goal perspectives operating in this achievement activity (namely, task and ego involvement), which relate to different ways of defining success and judging one's competence. When task-involved, perceived ability is self-referenced and emphasis is placed on task mastery, the exertion of effort, and development of one's skills or knowledge of the activity. When ego-involved, individuals are concerned with demonstrating normatively referenced high ability and, thus, perceive a successful event when they think that they have surpassed others or performed equally with less effort.

Researchers (1–3) suggest that social situations created by significant others (such as teachers, coaches, parents) can impact the probability of whether an athlete will be task- or ego-involved when she participates in sport. Environments that are highly competitive (within and between teams) entail the public

evaluation of skills, emphasize normatively based feedback which favors the highly able, and/or are punitive when mistakes are made are more likely to be perceived as ego-involving (7, 8). In contrast, situations emphasizing effortful involvement over outcome, personal improvement, and collective contributions tend to be viewed as task-involving.

It is assumed that whether an athlete is task- and/or ego-involved in sport is also impacted by dispositional goal perspectives or her/his degree of task and ego orientation. According to Nicholls (3), these "individual differences in proneness to the different types of involvement" (p. 95) are orthogonal and sport research has supported his assertion (6).

The literature to date suggests that an examination of goal perspectives (whether operationalized as dispositional goal orientations, and/or the perceived motivational climate) provides insight into variations in the motivational processes of individuals involved in athletic activities. For example, task and ego orientations have been found to differentially predict ath-

Balaguer et al.

letes' perceptions of the purposes of sport, beliefs about the causes of success, enjoyment of and interest in the activity, sportspersonship attitudes, participation motives, and anxiety and coping strategies in a conceptually consistent manner (6, 9, 10). Further, perceptions of the motivational environment operating on sport teams have been linked to variability in enjoyment, satisfaction with team membership, intrinsic motivation, beliefs about the determinants of success, self-efficacy, and perceived functions of sport participation (6). In general, and consistent with theoretical tenets (1–3), this work has indicated that a focus on task-involved goals is associated with adaptive motivation-related cognitions, emotional responses, and beliefs in the sport context (5).

Less attention, however, has been given to examining the potential impact of goal perspectives on performance and other variables fundamental to persistence in sport and physical activities (6). This is particularly true in the context of skilled athletic performance (11). Currently, in the goal perspective literature, there is an interesting debate regarding whether the motivation-related advantages of task involvement (and disadvantage of ego involvement) hold for samples including elite competitors (11–13). One purpose of this study was to extend previous work and examine the relationship of the perceived motivational climate created by the coach and dispositional goal orientations to intermediate, advanced, and professional level tennis players': 1) perceived improvement in the technical, tactical, physical and psychological facets of their tennis performance, 2) satisfaction with their recent competitive results, level of play, and degree of individualized training provided by their coach, and 3) ratings of their coach in reference to an ideal (preferred) coach and the importance of the coach with respect to the athlete's learning and improvement. These variables would be critical if we are interested in the likelihood of skilled athletes staying with a particular coach and the probability of their persisting and improving in the sport in question.

This study also examined the degree to which the dependent variables of interest were a function of dispositional goal orientations, the perceived situational goal structure, or both factors. Duda and Nicholls (14) have argued that, as these variables are more dispositional and stable in nature, overall attitudes toward and views about sport will primarily be predicted by athletes' goal orientations. Perceptions and cognitive responses tied to the sport context at hand (or, especially in the case of younger athletes; 15) are expected to be best predicted by the perceived motivational climate operating in the particular athletic context. Cognizant of Duda and Nicholls' (14) suggestions and recognizing that the current sample was composed of adolescents, we hypothesized that vari-

ations in perceptions of the motivational climate would emerge as the best predictor of indices of perceived improvement, satisfaction, and coach ratings examined in this study. More specifically, we expected that the tennis players would perceive greater improvement in dimensions of their game, be more satisfied with their results, level of play and coach's individualized training, indicate a greater preference for their coach, and rate their coach as more important in the athletes' development when the atmosphere created by their coach is deemed more task-involving.

Method

Sample. A total of 219 tennis players (73 female and 116 male) from clubs throughout Spain participated voluntarily in this study. Their mean age was 15.6 ± 2.1 years and mean years of tennis experience was 7.3 ± 2.7 years. The subjects ranged in skill level representing the intermediate (32.1%), advanced (56.6%), and professional (11.3%) levels of tennis competition.

Assessments and procedure. In the training setting, the subjects were given (by the third author or a trained assistant) a multi-section inventory containing measures of the perceived situationally emphasized goal perspective in their training environment, goal orientations, and items assessing perceived improvement specific to tennis, satisfaction and coach ratings. The inventory took approximately 30 min to complete.

Situational goal perspectives. The players responded to a Spanish version (16) of the Perceived Motivational Climate in Sport Questionnaire (7, 17) specific to tennis. The instrument contained 23 items examining the degree to which the climate created by the coach was deemed to be more or less task- and ego-involving. Each item was preceded by the stem "In my training group or team". Mean scale scores for the task- and ego-involving climate scales were calculated.

Goal orientations. The Spanish version (18) of the Task and Ego Orientation in Sport Questionnaire (19) was used to assess the tennis players' dispositional proneness for task and ego involvement in their sport. In previous work, this instrument was found to exhibit acceptable factorial validity and internal reliability. When completing the Spanish version of the TEOSQ, subjects were requested to think of when they felt most successful in tennis. Mean scale scores were calculated for both the task and ego orientation scales.

Perceived improvement, satisfaction, and coach ratings. The tennis players' evaluation of their personal level of improvement in the technical, tactical, physical, and psychological aspects of the game and overall results was examined. The areas of improvement

Motivational climate in tennis

Table 1. Descriptive statistics (M, SD and range for all the variables)

	M	SD	Range
Motivational climate			
Task-involving	3.99	0.55	2.45–5
Ego-involving	2.62	0.70	1.09–5
Goal orientations			
Task orientation	4.32	0.57	2–5
Ego orientation	3.26	0.86	1–5
Perceived improvement:			
Technical	5.77	0.96	1–7
Tactical	5.37	1.00	2–7
Physical	5.50	1.23	1–7
Psychological	4.98	1.33	1–7
Satisfaction with:			
Results this year	4.45	1.57	1–7
Level of play	4.85	1.37	1–7
The coach	5.66	1.39	1–7
Coach ratings:			
Coach like I want to have	3.93	0.89	1–5
Importance of coach in training process	4.42	0.76	2–5

were evaluated on a 7-point Likert scale ranging from 1="I have gotten worse" to 7="I have gotten much better." The athletes' level of satisfaction with their competitive results during the current year, level of play, and degree of individualized instruction provided by their coach was indicated on a 7-point Likert scale ranging from 1="very dissatisfied" to 7="very satisfied." In regard to the tennis players' opinion of his/her coach, each athlete rated: a) whether his/her current coach is like the one the athlete would prefer to have (responses were provided on a 5-point Likert scale ranging from 1="doesn't coincide at all with the coach I would like to have" to 7="is my ideal coach") and b) the perceived importance of the coach in regard to the athlete's learning and improvement (responses were provided on a 5-point Likert

scale ranging from 1="not important at all" to 5="extremely important").

Results

The descriptive statistics for each of the variables assessed in this study are presented in Table 1. The tennis players, as a group, perceived the motivational climate on their team /in their training group to be highly task-involving. They also endorsed task-oriented goals in tennis. In general, the athletes felt that they were improving in their game, especially in regard to the technical aspects. They were satisfied with their competitive results, level of play and, in particular, the degree of individualized training provided by their coach and rated this individual in a positive manner overall.

Simple correlations (Table 2) indicated that tennis players who perceived that their coaches created a more task-involving environment also perceived they had improved in regard to the tactical, technical and psychological facets of their game. Perceptions of a task-involving environment were also significantly and positively associated with satisfaction with one's coach, level of play and match results. On the other hand, a perceived ego-involving environment was linked to greater dissatisfaction with the coach and positively correlated to reported satisfaction with level of play (Table 2). In regard to the coach ratings, when tennis players viewed their training/team environment as more task-involving, they also perceived that their coach was like the one they would prefer to have and felt their coach played a significant role in their learning and improvement. The coach rating variables were significantly and negatively correlated with perceptions of an ego-involving climate.

Task orientation was positively correlated with reported satisfaction with the individualized teaching

Table 2. Simple correlations between perceptions of the motivational climate and goal orientations with perceived improvement, satisfaction and coach ratings

	Climate		Orientation	
	Task	Ego	Task	Ego
Perceived improvement:				
Technical	0.14*	-0.10	0.05	-0.01
Tactical	0.13*	-0.03	0.11	-0.01
Physical	0.02	0.07	0.11	0.08
Psychological	0.26***	-0.05	0.09	0.06
Satisfaction with:				
Results this year	0.23**	-0.16*	0.14*	0.00
Level of Play	0.23**	0.13*	0.12	0.03
The coach	0.41***	-0.41***	0.25***	-0.02
Coach ratings:				
Coach like I want to have	0.32***	-0.33***	0.26***	-0.05
Importance of coach in training process	0.32***	-0.35***	0.39***	0.03

* $P < 0.05$; ** $P < 0.005$; *** $P < 0.001$.

Balaguer et al.

and support provided by one's coach and competitive results (Table 2). When tennis players endorsed a strong task orientation, they were also more likely to indicate that their coach is like the one they would prefer to have and is more important in terms of their development in tennis.

In order to determine whether indices of perceived individual improvement, satisfaction, and ratings of the coach were best predicted by dispositional goal orientations (i.e., task and ego orientation), perceptions of the motivational climate (i.e., perceived task-involving and ego-involving climate), or both factors, we performed a series of hierarchical stepwise regressions. In the first analysis, dispositional goal orientations (task and ego) were entered in Step 1 of the regression equation and motivational climate (task climate and ego climate) was entered in Step 2. A subsequent hierarchical stepwise procedure entered the perceived motivational climate in Step 1 and dispositional goal orientations in Step 2.

Subjective performance

As shown in Table 3, perceptions of the motivational climate emerged as a significant predictor of psychological improvement regardless of which step this variable was entered in the regression analysis. More specifically, perceptions of a task-involving training environment (created by the coach) corresponded to greater perceived improvement in the psychological facets of one's tennis game. The amount of variance accounted for, however, was limited (7%). Goal orientations did not emerge as significant predictors of any of the indices of subjective performance.

Level of satisfaction

With respect to the satisfaction variables, the perceived motivational climate emerged as the major predictor. Although the percentage of variance accounted for was low (5–6%), perceptions of a task-

Table 3. Percentage of variance accounted for in indices of perceived improvement

Step	Variable	Beta	RsqCh	RsqCu	F-value	P
Technical						
1	Ego orientation	-0.01				
	Task orientation	-0.07	0.00	0.00	0.12	0.88
2	Ego climate	-0.03				
	Task climate	0.18	0.02	0.02	2.50	0.08
1	Ego climate	-0.03				
	Task climate	0.18	0.02	0.02	2.28	0.10
2	Ego orientation	-0.01				
	Task orientation	-0.07	0.00	0.02	0.36	0.70
Tactical						
1	Ego orientation	-0.01				
	Task orientation	0.06	0.01	0.01	0.87	0.42
2	Ego climate	0.01				
	Task climate	0.07	0.00	0.01	0.36	0.69
1	Ego climate	0.01				
	Task climate	0.07	0.01	0.01	0.99	0.37
2	Ego orientation	-0.01				
	Task orientation	0.06	0.00	0.01	0.25	0.78
Physical						
1	Ego orientation	0.04				
	Task orientation	0.12	0.01	0.01	1.34	0.26
2	Ego climate	0.09				
	Task climate	-0.02	0.01	0.02	0.76	0.47
1	Ego climate	0.09				
	Task climate	-0.02	0.01	0.01	0.80	0.45
2	Ego orientation	0.04				
	Task orientation	0.12	0.01	0.02	1.30	0.28
Psychological						
1	Ego climate	0.07				
	Task orientation	-0.08	0.01	0.01	1.19	0.31
2	Ego climate	-0.00				
	Task orientation	0.30	0.07	0.08	7.24	0.001
1	Ego climate	0.00				
	Task orientation	0.30	0.07	0.07	7.77	0.001
2	Ego climate	0.07				
	Task orientation	-0.08	0.01	0.08	0.76	0.47

Motivational climate in tennis

Table 4. Percentage of variance accounted for the indices of satisfaction and coach ratings among tennis players

Step	Variable	Beta	RsQCh	RsQCu	F-value	P
Satisfaction with results						
1	Ego orientation	0.02				
	Task orientation	0.04	0.03	0.03	2.64	0.07
2	Ego climate	-0.13				
	Task climate	0.16	0.04	0.07	4.02	0.02
1	Ego climate	-0.13				
	Task climate	0.16	0.06	0.06	6.59	0.00
2	Ego orientation	0.02				
	Task orientation	0.04	0.00	0.06	0.20	0.82
Satisfaction with level of play						
1	Ego orientation	0.04				
	Task orientation	-0.03	0.01	0.01	1.11	0.33
2	Ego climate	-0.08				
	Task climate	0.22	0.05	0.06	4.76	0.01
1	Ego climate	-0.08				
	Task climate	0.22	0.05	0.05	5.74	0.00
2	Ego orientation	0.04				
	Task orientation	-0.03	0.00	0.05	0.21	0.81
Satisfaction with the coach						
1	Ego orientation	0.07				
	Task orientation	0.03	0.08	0.08	8.31	0.00
2	Ego climate	-0.34				
	Task climate	0.28	0.18	0.26	24.42	0.00
1	Ego climate	-0.34				
	Task climate	0.28	0.26	0.26	34.04	0.00
2	Ego orientation	0.07				
	Task orientation	0.03	0.01	0.27	0.75	0.47
Coach I prefer						
1	Ego orientation	-0.00				
	Task orientation	0.12	0.09	0.09	9.40	0.00
2	Ego climate	-0.26				
	Task climate	0.17	0.09	0.18	11.03	0.00
1	Ego climate	-0.27				
	Task climate	0.17	0.17	0.172	20.19	0.00
2	Ego orientation	-0.00				
	Task orientation	0.12	0.01	0.18	1.16	0.31
Importance of coach in training						
1	Ego orientation	0.07				
	Task orientation	0.25	0.15	0.15	17.60	0.00
2	Ego climate	-0.25				
	Task climate	0.13	0.07	0.22	8.94	0.00
1	Ego climate	-0.25				
	Task climate	0.13	0.17	0.17	20.16	0.00
2	Ego orientation	0.07				
	Task orientation	0.25	0.05	0.22	6.64	0.00

involving climate positively related to greater satisfaction with one's competitive tennis results and level of play (Table 4). An examination of the beta weight indicated that perceptions of ego climate were negatively associated with satisfaction with one's match results. In terms of the tennis players' degree of satisfaction with the degree of individualized training provided by their current coach, greater satisfaction was positively linked to perceptions of a task-involving environment and negatively related to a perceived ego-involving atmosphere ($R^2 = .18-.26$).

Ratings of the coach

Motivational climate, mainly a perceived ego-involving environment, emerged as the primary predictor of the ratings of the coach (Table 4). The variance accounted for (17%) was considered statistically significant and meaningful (20). In relation to the conceptualization of their coach as an ideal one, tennis players revealed a greater preference for their present coach if their coach-created training environment was high in task-involving features and low in its ego-in-

Balaguer et al.

volving characteristics. Moreover, when the climate was more task-involving and less ego-involving, the athletes rated their coach as being more significant to their development in tennis (i.e., their learning and improvement). Goal orientations also emerged as a significant predictor of the players' ratings of whether their current coach is like the one they would prefer to have and the importance of the coach in regard to their tennis. In this case, task orientation was positively related to the players' evaluations of their coach.

Discussion

A major focus of this research was to determine whether variations in dispositional and situational goal perspectives correspond to tennis players' estimations of the growth in their game and attitudes toward their coach in a conceptually consistent manner. Perceptions of the motivational climate were primarily linked to the indices of subjective performance. However, the perceived situational goal structure emerged as a significant predictor of perceived improvement in the psychological dimension only. In particular, when the environment created by the coach was deemed more task-involving, the tennis players felt that they were progressing more in the psychological facet of their game. This result is consistent with previous work which has found an emphasis on task goals to be positively associated with the reported salience of mental skills training, the amount of practice of mental skills, and the use of mental skills to counter performance-related stress among intercollegiate athletes (21, 22).

The tennis players' reported satisfaction with their competitive results for the year and current level of play was negatively associated with a perceived ego-involving climate and, in particular, positively associated with perceptions of a task-involving atmosphere. These findings make sense if we consider the characteristics and motivational implications of an environment which is viewed as being more task-involving and less ego-involving. Such a coach-created climate should promote more task involvement among the tennis players which, in turn, means that they will be more self-referenced and mastery-focused in how they conceive their ability and judge success. As task-involved conceptions of ability and subjective success are more within the athlete's personal control, such a perspective should foster a more positive outlook on one's competitive record as well as the athlete's current performance level.

When entered first in the regression analysis, perceptions of the motivational climate accounted for a significant amount of variance in the tennis players' satisfaction with the degree of individualized instruction exhibited by their coach. More specifically, when

the environment created by the coach was deemed more task-involving and less ego-involving, the athletes were more satisfied with the amount of teaching and personalized treatment they were receiving. This result is in agreement with recent work by Balaguer et al. (23), who found that athletes felt that their coaches *engaged* in more teaching and instruction and provided greater social support when they viewed the motivational climate as promotive of task involvement. The present finding also is compatible with the work of Smith and colleagues (24, 25). They demonstrated that athletes who played for coaches who had undergone coach effectiveness training (CET) (and, thus, instructed to use more positive reinforcement, provide less punishment and do more teaching) rated their coaches as better teachers and indicated a greater desire to play for such coaches than control group athletes. Chaumeton and Duda (26) have argued that the principles of CET are endemic to a task-involving motivational climate.

In a similar vein, the perceived motivational atmosphere induced by the coach also emerged as the best predictor of the tennis players' degree of preference for their present coach. That is, when the athletes deemed the atmosphere to be more task-involving, and especially, less ego-involving, they reported that their current coach was closer to their "ideal" coach.

If entered before dispositional goal perspectives, perceptions of the motivational climate accounted for more variance in the athletes' rating of the significance of the coach to their learning and performance improvement. Once again, a more positive evaluation was tied to a perceived coach-created environment which is stronger in its task-involving features and less pronounced in its ego-involving attributes. However, dispositional goal orientations (namely, task orientation) added significant variance in the prediction of the tennis players' appraisal of the coach's importance to their progress in tennis. This finding is consonant with research by Walling and Duda (27) in the physical education (PE) context. They reported a link between task orientation and the belief that having an effective PE teacher is an important determinant of students' success.

The adopted goal perspective in achievement situations is presumed to be dependent on individual differences in proneness to task and ego involvement as well as the situational goal structure at hand. Whether the person or situational dimension is most salient depends on a number of factors, such as the contextual-specificity of the variables being predicted and age group sampled. In accordance with the suggestions of Duda and Nicholls (14) and Treasure and Roberts (15), it was hypothesized that perceptions of the motivational climate would emerge as the major predictor of the current sample of tennis players' perceived performance improvement in tennis, satisfac-

Motivational climate in tennis

tion with how one is doing in tennis, and contentment with and the evaluation of one's tennis coach. In general, the present findings supported this hypothesis (although limited support emerged for the indices of subjective performance). Only in the case of the athletes' rating of the relevance of the coach to the athletes' training and development did dispositional goal perspectives also emerge as a significant, albeit less important, predictor. The latter result can be explained by the observation that this particular variable seemed to encompass a belief (i.e., that a coach's contribution is pertinent to one's achievement in a sport) as well as a situation-specific evaluation (i.e., I am satisfied with my coach's influence on my tennis development). Beliefs have been found to be more closely associated with dispositional differences in goal perspectives than perceptions of the prevailing motivational atmosphere operating in one's sport (e.g., 7, 14).

The overall results concerning the superior prediction provided by perceptions of the motivational climate have important applied implications. Recent research (28) has indicated that the situationally emphasized goal structure can be modified in sport and that such interventions have a theoretically consonant effect on indices of motivation. It is reasonable to assume that it is easier to alter situational in contrast to dispositional goal perspectives. That is, we would expect that there is a need to change the former to impact the latter over time (3, 5, 9).

It should be noted, however, that perceptions of the motivational climate and goal orientations captured a limited amount of variance in facets of performance improvement ($R^2=.01-.07$) and reported satisfaction with match results and personal level of play ($R^2=.05-.06$). It appears that other factors, besides dispositional and situationally emphasized goal perspectives, influence subjective ratings of performance and satisfaction with competitive outcomes and one's tennis play among the present sample of athletes (e.g., the athlete's objective level of tennis talent, and the difficulty of the competition the athlete has faced).

Situationally emphasized goals were a better predictor of the three items which related to the coach ($R^2=.17-.26$) than the other dependent variables examined in this study. As suggested above, we would expect a greater interdependence between athletes' perceptions of the goal perspectives manifested at the contextual level and their evaluation of the major determinant of that climate, namely the coach.

As a whole, the present findings are in accordance with the tenets of goal perspective theory (1-3) and previous sport research (5, 9, 10), and provide further support regarding the motivational advantages of a task-involving atmosphere. Some researchers have argued that the promotion of task involvement (and curtailing of ego involvement) may not be an appro-

priate strategy at the higher levels of athletic competition (11), while others, such as Pensgaard and Roberts (29) in their work involving Norwegian Olympic athletes, have noted the adaptive qualities of a task-involving climate. This study's results suggest that climates which are more task-involving and less ego-involving may be more beneficial for skilled athletes (at least in their own minds). Slightly over two-thirds of the current sample were at the advanced level of tennis proficiency or beyond. It should be noted that MANOVA revealed no differences in the variables of interest in this study as a function of competitive level. Further, the observed relationships between perceptions of the motivational climate, goal orientations, and the items assessing perceived improvement, satisfaction, and coach ratings did not significantly vary among the intermediate, advanced, and professional level tennis players.

In future research, it would be interesting to examine the predictive utility of dispositional and contextual goals to current *and* subsequent objective indices of competitive performance (11) among such skilled groups of athletes. Additionally, subsequent work might look at the capacity for perceptions of the motivational climate and goal orientations to discriminate between those younger, talented athletes who continue to participate and move up the competitive ladder and those who do not (30).

References

1. Ames C. Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology* 1992; 84: 261-71.
2. Dweck CS. Motivational processes affecting learning. *American Psychologist* 1986; 41: 1040-8.
3. Nicholls JG. *The competitive ethos and democratic education*. Cambridge, MA: Harvard University Press, 1989.
4. Roberts G. Toward a new theory of motivation in sport: The role of perceived ability. In: Silva JM, Weinberg RS, eds. *Psychological foundations of sport*. Champaign, IL: Human Kinetics, 1984: 214-28.
5. Duda JL. Sport and exercise motivation: A goal perspective analysis. In: Roberts G, ed. *Motivation in sport and exercise*. Champaign, IL: Human Kinetics, 1992: 57-92.
6. Duda JL, Whitehead J. Measurement of goal perspectives in the physical domain. In: Duda JL, ed. *Advances in sport and exercise psychology measurement*. Morgantown, WV: Fitness Information Technology, Inc., 1998: 21-48.
7. Seifriz JJ, Duda JL, Chi L. The relationship of perceived motivational climate to intrinsic motivation and beliefs about success in basketball. *Journal of Sport and Exercise Psychology* 1992; 14: 375-91.
8. Walling MD, Duda JL, Chi L. The Perceived Motivational Climate in Sport questionnaire: Construct and predictive validity. *Journal of Sport and Exercise Psychology* 1993; 15: 172-83.
9. Duda JL. Goals: A social cognitive approach to the study of motivation in sport. In: Singer R, Murphey M, Tennant LK, eds. *Handbook of research in sport psychology*. NY: Macmillan, 1993: 421-36.

Balaguer et al.

10. Duda JL. A goal perspective theory of meaning and motivation in sport. In: Serpa S, Alves J, Pataco V, eds. *International perspectives on sport and exercise psychology*. Morgantown, WV: Fitness Information Technology, 1994: 127–48.
11. Hardy L. Three myths about applied consultancy work. *Journal of Applied Sport Psychology* 1997; 9: 277–94.
12. Duda JL. Perpetuating myths: A response to Hardy's 1996 Coleman Griffith Address. *Journal of Applied Sport Psychology* 1997; 9: 307–13.
13. Duda JL. Goal perspective research in sport: Pushing the boundaries and clarifying some misunderstandings. In: Roberts G, ed. *Motivation in sport and exercise* (2nd edn). Champaign, IL: Human Kinetics, in press.
14. Duda JL, Nicholls JG. Dimensions of achievement motivation in schoolwork and sport. *Journal of Educational Psychology* 1992; 84: 290–9.
15. Treasure DC, Roberts GC. Relationship between female adolescents' achievement goal orientations, perceptions of the motivational climate, beliefs about success and sources of satisfaction in basketball. *International Journal of Sport Psychology*: in press.
16. Balaguer I, Guivernau M, Duda JL, Crespo M.. Analisis de la validez de constructo y del validez predictiva del cuestionario de clima motivacional percibido en el deporte (PMCSQ-2) con tenistas españoles de competicion. *Revista de Psicología del Deporte* 1997; 11: 41–57.
17. Newton ML, Duda JL. The Perceived Motivational Climate in Sport Questionnaire-2: Construct and predictive validity. Paper presented at the Meeting of the North American Society for the Psychology of Sport and Physical Activity, Brainerd, Minnesota, USA, June 1993.
18. Balaguer I, Castillo I, Tomas I. Analisis de las propiedades psicometricas del cuestionario de orientacion al ego y a la tarea en el deporte (TEOSQ) en su traduccion al castellano. *Psicologica* 1996; 17: 71–81.
19. Duda JL. The relationship between task and ego orientation and the perceived purpose of sport among high school athletes. *Journal of Sport and Exercise Psychology* 1989; 11: 318–35.
20. Pedhazur EJ. Multiple regression in behavioral research. New York: Holt, Rhinehart & Winston, 1982.
21. Duda JL, Kim M-S. The relationship of goal orientations to coping strategies and mental skills among recreational and intercollegiate tennis players. Manuscript under review: 1999.
22. Kim M-S, Duda JL. The relationship of the perceived motivational climate and goal orientations to performance difficulties and coping strategies among Korean athletes. *Journal of Sport and Exercise Psychology* 1998; 20 (Suppl): S124.
23. Balaguer I, Crespo M, Duda JL. The relationship of motivational climate and athletes' goal orientation to perceived/preferred leadership style. *Journal of Sport and Exercise Psychology* 1996; 18 (Suppl): S13.
24. Smith RE, Zane NWS, Smoll FL, Coppel DB. Behavioral assessment in youth sports: Coaching behaviors and children's attitudes. *Med Sci Sports Exerc* 1983; 15: 208–14.
25. Smoll FL, Smith RE, Curtis B, Hunt E. Toward a mediational model of the coach-player relationship. *Res Q Exerc Sport* 1978; 49: 528–41.
26. Chaumeton NR, Duda JL. Is it how you play the game or whether you win or lose?: The effect of competitive level and situation on coaching behaviors. *Journal of Sport Behavior* 1988; 11: 157–73.
27. Walling MD, Duda JL. Goals and their associations with beliefs about success in and perceptions of the purposes of physical education. *Journal of Teaching Physical Education* 1995; 14: 140–56.
28. Treasure DC. Perceptions of the motivational climate and elementary school children's cognitive and affective responses. *Journal of Sport and Exercise Psychology* 1997; 19: 218–90.
29. Pensgaard AM, Roberts GC. The relationship between motivational climate, perceived ability, and sources of distress among elite athletes. *J Sport Sci*: in press.
30. Carlson R. The socialization of elite tennis players in Sweden: An analysis of the players' background and development. *Sociology of Sport Journal* 1988; 5: 241–56.

Depression in Athletes: Prevalence and Risk Factors

Andrew Wolanin, PsyD¹; Michael Gross, MA¹; and Eugene Hong, MD²

Abstract

Depression affects an estimated 6.7% of today's adult population in a 12-month period. The prevalence rates for certain age groups, such as young adults and older adults, are higher. There are approximately 400,000 National Collegiate Athletic Association student athletes competing each year and 5 to 7 million high school student athletes involved in competitive interscholastic sports. Given such a high prevalence rate in certain age groups and a large denominator pool of athletes, past notions that athletes are devoid of mental health issues have come under scrutiny by sports medicine providers. Initial data suggest that athletes are far from immune to depression. The purpose of this article was to review the current research on athletes and depression; particularly this article will provide an overview of studies, which have investigated the rate of depression among athletes, and discuss relevant risk factors, which may contribute to depression among athletes.

understudied, initial data suggest that athletes are far from immune to depression. In fact, empirical studies indicate that athletes are just as likely to experience depression as the general population (26). The purpose of this article was to review the current research on athletes and depression and to highlight that this is an issue in much need of further study and inquiry. In particular, this article will provide an overview of studies, which have investigated the rate of depression among athletes, discuss relevant factors (*e.g.*, injury), which may contribute to depression among athletes, and consider how an integrative approach involving sports

medicine and sports psychology can best serve athletes.

Introduction

Depression affects an estimated 6.7% of today's adult population in a 12-month period (21). According to the U.S. Department of Health and Human Services, the prevalence rates for certain age groups, such as young adults and older adults, are higher — for example, for the 18-to-25 age group, the 12-month depression prevalence rate was 8.7% in 2008. There are approximately 400,000 National Collegiate Athletic Association (NCAA) student athletes competing each year and 5 to 7 million high school student athletes involved in competitive interscholastic sports. Given such a high prevalence rate in certain age groups and a large denominator pool of athletes in these age groups, it is reasonable to surmise that there are thousands of athletes with depression participating at the high school and college levels. Recently, sports medicine and sports psychology practitioners and researchers have turned their attention to this important issue, as past notions that athletes have reduced mental health issues due to increased levels of exercise have come under scrutiny in the popular media (24). Although vastly

Depression Prevalence and Athletes

To date, the majority of studies investigating the prevalence rate of depression among athletes have been conducted with college athletes. Findings from these studies suggest that the prevalence rate of depression among college athletes ranges from as low as 15.6% to as high as 21% (25,35). On the basis of these prevalence rates, as many as one in five athletes may be depressed. However, there has been a general lack of consistency thus far in the findings.

Storch et al. (29) were the first investigators to compare rates of depression symptoms between athletes and nonathletes. This study hypothesized that because athletes deal with more stress than nonathletes, they would report higher levels of alcohol use, depression symptoms, and social anxiety. The study also hypothesized that athletes would report having less social support than nonathletes. There was partial support for these hypotheses, as female athletes reported experiencing depression symptoms, social anxiety, and non-support to a greater extent than male athletes and male and female nonathletes. In another study, Yang et al. (35) demonstrated similar findings regarding gender, as female athletes reported the highest levels of depression among a sample of 257 Division I college athletes. These findings are consistent with data from the general population, which repeatedly have found women to report higher rates of

¹Kean University; and ²Drexel University

Address for correspondence: Eugene Hong, MD, Drexel University; E-mail: ehong@drexelmed.edu.

1537-890X/1401/56-60
Current Sports Medicine Reports
Copyright © 2015 by the American College of Sports Medicine

depression than men. In total, 21% of the athletes surveyed reported symptoms of depression. Freshman athletes and those who endorsed pain reported more depression symptoms in this study.

According to Yang et al. (35), athletes in their sample experienced depression at approximately the same rate as that of a comparison group of nonathletes who participated in the study. However, Armstrong and Oomen-Early (3) found that college athletes reported lower levels of depression than those reported by nonathletes. This study used a sample consisting of 227 participants, 104 of which were male and female athletes from various sports. Overall it was found that 33.5% of the sample reported clinically significant levels of depression. The percentage of athletes endorsing clinically significant levels of depression was reported to be “significantly lower” than that of nonathletes. This study also found that athletic status was not a statistically significant predictor of depression when compared with other variables investigated in the study including gender, self-esteem levels, social connectedness, and rested sleep. Armstrong and Oomen-Early (3) contended that having a social network and team support are two factors that most strongly protect college athletes from developing depression.

Proctor and Boan-Lenzo (25) conducted another recent college athlete and depression prevalence study. This study investigated depression symptoms among a group of 61 Division I male baseball players and 51 male nonathlete college students. Proctor and Boan-Lenzo (25) found that male athletes reported fewer depression symptoms than those reported by male nonathletes. Although nonathletes reported higher levels of depression (29.4%), 15.6% of the athletes met criteria for a possible diagnosis of clinical depression.

With consideration for the mixed epidemiological data, taking a more nuanced look at the factors that may contribute to depression among athletes is particularly relevant. To date, one of the most widely studied risk factors for psychological distress among athletes has been sports injury. In a recent survey of sports medicine physicians, it was found that 80% of the time, athletes coming to treatment for an injury also discuss psychological issues related to the injury (19). However, there only have been a handful of studies, which have investigated depression symptoms directly among athletes following sports injury.

Sports Injuries and Depression

Brewer and Petrie (7) were among the first researchers to compare depression symptoms between athletes who had and had not experienced injuries. In this retrospective study, it was found that athletes who experienced an injury during the previous year reported significantly higher depression symptom scores than those reported by noninjured athletes, as measured by the validated Center for Epidemiological Studies Depression (CES-D) scale. The sample in this study consisted of 916 NCAA Division I college football players. Brewer and Petrie (7) also found that both groups of athletes in their study reported high levels of depression symptoms, as 33% of athletes with injury and 27% of noninjured athletes could be classified as depressed on the basis of the CES-D results. In another study, Leddy et al. (16) used a prospective design to examine depression symptoms in athletes following injury. The results from this study indicated that over half of

the athletes (51%) who sustained an injury during the course of the study endorsed mild-to-severe depression symptoms, as measured by the Beck Depression Inventory (BDI). Thus far, a limitation in the research has been sole reliance on self-report measures to assess depression. However, Appanell et al. (2) sought to address this issue by including two measures (semistructured interview and self-report) of depression in their study examining athlete’s postinjury depression symptoms. In this study, the researchers used a sample of 164 athletes competing at the NCAA Division I, NCAA Division II, and high school levels. Athletes in the study were assessed using the CES-D and the semistructured interview guide for the Hamilton Rating Scale for Depression (SIGH-D). In this study, it was found that depression symptoms of athletes with injury were elevated 1 wk after injury and remained this way 1 month after injury when compared with healthy controls, as measured by the SIGH-D. No significant differences between groups were found in this study, as measured by the CES-D.

There has been a recent surge of evidence suggesting that sports concussions can lead to changes in emotional state (14,17). Furthermore there is recent evidence to suggest that sports concussions can have long-lasting emotional impact. In a recent survey of 1,044 retired National Football League (NFL) players, it was found that the 9-year risk of a depression diagnosis increased with the number of self-reported concussions (15). According to the survey, retired athletes reporting three or more concussions were three times more likely to report being diagnosed with depression when compared with athletes with no history of concussions.

Strain et al. (30) conducted a study with 26 retired NFL athletes who underwent a magnetic resonance imaging technique identified as diffusion tensor imaging scanning. They reported that certain voxels negatively correlated with BDI-II scores and that specific brain areas of the forceps minor, right frontal aslant tract, right uncinate fasciculus, and left superior longitudinal fasciculus negatively correlated ($P < 0.01$) with total BDI-II scores. Fractional anisotropy maps, which reflect fiber density, axonal diameter, and myelination in white matter of the forceps minor differentiated depressed from nondepressed athletes with 100% sensitivity and 95% specificity, from which the authors conclude that diffusion tensor imaging is a promising biomarker predictor of depression symptoms. Additionally Hart et al. (13) conducted a neuroimaging study measuring cognitive impairment and depression in a sample of 34 retired NFL players and found a 23.5% prevalence of depression and a high rate of cognitive deficits compared with those of a control group. They concluded that cognitive deficits and depression symptoms appear to be more prevalent in retired NFL players when compared with those in a healthy control group.

While the relationship between concussion and depression may be significant, there is also evidence to suggest that a concussion may have the same effect as other injuries on mental health. For example, Mainwaring et al. (18) conducted a study to examine the differences between emotional responses in athletes who had a concussion compared with anterior cruciate ligament (ACL) injury. They found that athletes with ACL injuries had more severe levels of depression and longer duration of depression compared with those of athletes with concussion. The authors concluded that ACL injuries have a higher level of emotional disturbance compared with

that of athletes with concussion and that screening and intervention should be focused on athletes with ACL injuries and concussions. While the sample size of this particular study was small, it does illustrate that there is increased risk of maladaptive psychological response to various types of injuries and that concussion may or may not be an increased risk factor for depression over other types of sports-related injuries.

Although not due to the result of an acute injury, overtraining syndrome (OTS) also can threaten the overall mental and physical well-being of an athlete. OTS is characterized by psychological and physiological disturbances, along with decreases in performance (20). There is much debate about the causes and consequences of OTS, but the research does indicate that the symptoms of major depression and OTS can appear similar (23). As such, those professionals working with athletes should be mindful of not mistaking depression for OTS and *vice versa*. However, they also should be aware that the two conditions are not necessarily mutually exclusive and can co-occur.

Career Termination

The end of an athlete's career marks a major life transition that can result in changes to an athlete's interpersonal relationships, roles, and daily routines (28). Although sports career termination represents a significant life transition for athletes, this necessarily does not mean that it results in psychological distress. For some athletes, the transition from competitive athletics to sports retirement is done with ease, allowing them to pursue new career paths and opportunities. For others, this transition is a difficult process that has been correlated with behavioral difficulties and emotional distress (21). For example, sports career termination has been associated with maladaptive coping strategies, depression, anxiety, increased hostility and anger, and substance abuse (11,28,33,34).

It is likely that several moderating and mediating variables impact an athlete's response to career termination. One particular variable that has received considerable attention is voluntary (*i.e.*, personal decision to retire) versus involuntary (*i.e.*, injury, getting cut from team) career termination. It has been hypothesized that involuntary career termination is more likely than voluntary career termination to impact an athlete's mental health negatively (9).

Wippert and Wippert (34) garnered additional support for this contention in a study that found that involuntary career termination was associated with significantly greater psychological symptoms, including depression symptomatology, as measured by the Symptom Checklist-90-R, than voluntary career termination among a sample of skiers. However, it also was found that symptoms of psychological distress for those athletes dealing with involuntary career termination decreased over time. This finding may indicate that, initially, athletes have a difficult time adjusting to involuntary career termination but experience overall reduction in psychological distress the farther removed they are from the event. Alfermann et al. (1) demonstrated similar findings in their investigation of the cognitive, behavioral, and emotional consequences associated with career termination among a sample of 256 amateur European athletes. Alfermann et al. (1) found that planned retirement from sports was associated with fewer negative emotional

reactions (including sadness) when compared with unplanned retirement.

Whereas voluntary versus involuntary career termination has been the most well-studied situational factor related to the end of athlete's career, athletic identity has received the most attention as a potential individual factor that can impact the process of transitioning out of sports. Athletic identity is defined as the degree to which an athlete defines himself or herself in terms of the athletic role (8). Baillie and Danish (4) found that athletes rating high in athletic identity were prone to experience emotional and social adjustment issues after they ended their sports career. Strong and exclusive athletic identity also has been associated with heightened stress and anxiety following sports career termination (11). Brewer (6) found that athletes scoring high on the Athletic Identity Measurement Scale responded to hypothetical career-ending injuries with depression reactions. In summary, research findings consistently suggest that individuals with a strong and exclusive athletic identity experience more intense and frequent psychological and emotional difficulties following retirement from sports (1,4,11,21).

The potential for loss of an athlete's identity following sports career termination was the primary reason, as hypothesized by a recent investigation, why former college athletes would report greater depression symptoms than current college athletes (32). However, the opposite was true, as depression was significantly higher among current athletes when compared with that among former athletes. On the basis of the results, 17% of current college athletes met the criteria for depression whereas 8% of former college athletes had levels of depression consistent with a diagnosis for the disorder. Weigand et al. (32) concluded that these findings suggest that voluntary sports career termination for the college athlete — *i.e.*, the end of their college athletic career — necessarily does not put the athlete at higher risk for the long-term development of depression. These findings may or may not be applicable to the athlete whose career is ended or interrupted by injury or who is cut from the team or sports, especially if the athlete's identity and self-worth are related intricately to continuation in sports.

Performance and Depression

From a psychological perspective, athletes may be prone to experience depression symptoms when they face declines in their athletic performance or a catastrophic ("choking") athletic performance. Conceptually poor athletic performance may result in lack of external reinforcement, behavioral deactivation, negative self-perceptions and evaluations, and feeling of helplessness or hopelessness, which are consistent with depression symptoms. When viewed in an objective context, the nature of athletic competition can yield higher rates of loss throughout the year and ultimately only one team or athlete may achieve the pinnacle while all others end their season or career with a competitive loss. Hammond et al. (12) conducted a study to examine the relationship between the prevalence of diagnosed failure-based depression and self-reported symptoms of depression within a sample of 50 elite swimmers. Of note in this study was a 68% lifetime prevalence of depression episodes among the participants, with significantly more females endorsing history of depression. The authors found that after an athletic competition, 34% of

the athletes had clinically elevated depression scores on the BDI-II but the top quartile of elite performance had 2 times higher rate of elevated depression scores. Considering the fact that the Olympics only occur every 4 years may account for this effect, it is still important to note that within this elite performer group, there was a significant relationship between the athlete's performance and depression symptoms. This study illustrates that some high-performing athletes actually may be more susceptible to depression when faced with performance outcomes that are below expectation and that sports medicine personnel need to be aware of the psychological consequences of losing or personally failing during competition. Those providing comprehensive care for the athlete should understand that the expectations for athletic performance have a number of influences and may include not only the athlete's viewpoint but also the perception of teammates, coaches, and family.

Concerns With Underreporting

As noted by Proctor and Boan-Lenzo (10), one reason for the difference in depression rates in their study may be because athletes were underreporting depression symptoms in an attempt to portray themselves in a favorable light. In contrast to nonathletes, athletes may have some reservations when filling out a depression measure, such as coaches discovering their scores or concerns over imagined reactions to admitting being depressed. The question of how responding impacts reporting on self-report questionnaires is always an important question for researchers and may be particularly critical in measuring depression among college athletes. Anecdotally, athletes tend to portray a picture of psychological strength when assessed for depression symptoms. There appears to be a tendency to put considerable effort into appearing "fine" or "okay" and ready for the next competition or challenge. This is inherent to the culture of athletics, as confidence often is regarded as a necessary state of mind for completion. However, it creates significant difficulty for sports medicine professionals attempting to access an athlete's state of mind accurately. Further research into depression in athletes ideally should take into account the concern for underreporting of depression symptoms, especially if the study relies on self-reported data. We currently are involved in such a study of college athletes that not only employs a validated depression survey tool but also includes an additional validated reporting tool that helps in determining whether symptoms are being underreported.

Suicide

A number of recent suicides of current or former athletes and related media attention have resulted in heightened focus and discussion on potential risk factors for suicidal behavior in athletes. Athletes, similar to the general population, in fact do contemplate and commit suicide. In a review of the medical and periodical literature, Baum (5) found 71 cases of athletes who contemplated, attempted, or completed suicide. Of these 71 identified cases, 66 were completed suicides. The vast majority of these cases were male athletes (61 cases) with an average of 22 years old for the entire sample. This is consistent with the empirical literature, which indicates that males are more likely than females to commit suicide and that individuals between the ages of 15 and 24 years

represent the group with the highest risk of committing suicide. Although suicide in athletes continues to occur and there are aspects to athletic participation that may lead to increased rates of depression and potential suicide risk, there is paucity of research identifying risk factors for suicidal behaviors in athletes and a lack of information on guidelines to assess suicidal potential in athletes. Smith and Milliner (27) and Baum (5) report case studies of athletes who committed suicide and make inferences to the manner in which athletic trainers and other professionals may assess suicidal risk. For example, on the basis of five case studies of athletes with injury seen in their clinical practice, Smith and Milliner (27) contend that a serious injury necessitating surgery, an extended rehabilitation process (6 wk to 1 year), reduced athletic skills despite adherence to rehabilitation, a perceived lack of competence upon returning to sports when compared with preinjury levels, and being replaced by a teammate at their given position all may contribute to suicidal behavior among athletes with injury.

While the previous research and discussion are worthwhile, the small sample sizes of these studies elicit caution against making clinical decisions without more quantitative findings. Drawing from clinical practice guidelines may be the most effective manner at implementing strategies to assess and manage suicide risk with athletes. Fowler (10) completed a practice review of suicide risk assessment in clinical practice that illustrates the poor predictability of suicide and suicide attempts and the complex interactive nature of variables associated with suicide. Overall, much still remains to be understood about the identification and assessment of athletes at risk, as it relates to suicide and suicide risk reduction.

Conclusions and Discussion

Review of the literature reveals that depression does occur in athletes and that athletes are not somehow immune or resistant to depression. In fact, it is hypothesized that there are risk factors that are more unique to an athletic population (*i.e.*, injury, involuntary career termination, performance expectations, and possibly overtraining) that may increase the risk of depression compared with the general population. In certain subpopulations of athletes, there may be a higher rate of depression than nonathletes. Clearly depression in athletes exists. Suicide in athletes, a tragic outcome that can be associated with depression, exists.

At this time, there is limited knowledge regarding optimal assessment of depression in athletes and there is paucity of evidence-based interventions that have been shown to be effective for treating athletes with clinical levels of depression. Future studies in depression and athletes should explore how assessment and management of depression may be different in athletes and nonathletes; for example, is evidenced-based therapy more or less effective in athletes or what class of medications may be more helpful to the athlete? It is hypothesized that mental health treatment services may be underutilized by individuals participating in athletics due to a myriad of variables such as time constraints and social stigma (34), which is concerning, considering the high rates of depression among athletes that have been found in some studies. Primary contact regarding depression and mental health issues may occur with sports medicine teams.

Therefore, it is essential that these health care professionals are able to identify the signs and symptoms of depression among athletes and offer appropriate referrals when necessary. Athletes may present with atypical signs and symptoms, such as anger and irritability, and engage in healthy or less healthy coping mechanisms, such as substance abuse or overtraining. Beyond the traditional indicators of depression, athletic trainers and sports medicine teams should maintain increased awareness that (given the nature of the athletic culture) athletes may be likely to deny depression symptoms. Education of sports medicine professionals and the athletic care network is key to the optimal evaluation, management, and outcome of depression in athletes.

The authors declare no conflicts of interest and do not have any financial disclosures.

References

- Alfermann D, Stambulova N, Zemaityte A. Reactions to sport career termination: a cross national comparison of German, Lithuanian, and Russian athletes. *Psychol. Sport Exerc.* 2004; 5:61–75.
- Appaneal RN, Rockhill-Levine BR, Perna FM, Roh JL. Measuring postinjury depression among male and female competitive athletes. *J. Sport Exerc. Psychol.* 2009; 31:60–76.
- Armstrong S, Oomen-Early J. Social connectedness, self-esteem, and depression symptomatology among collegiate athletes versus nonathletes. *J. Am. Coll. Health.* 2009; 57:521–6.
- Baillie PHE, Danish SJ. Understanding the career transitions of athletes. *Sport Psychol.* 1992; 6:77–98.
- Baum AL. Suicide in athletes: a review and commentary. *Clin. Sports Med.* 2005; 24:853–69.
- Brewer BW. Self-identity and specific vulnerability to depressed mood. *J. Pers.* 1993; 61:343–64.
- Brewer BW, Petrie TA. A comparison between injured and uninjured football players on selected psychosocial variables. *Acad. Athl. J.* 1995; 10:11–8.
- Brewer BW, Van Raalte JL, Linder DE. Athletic identity: Hercules' muscles or Achilles' heel? *Int. J. Sport Psychol.* 1993; 24:237–54.
- Ercic SC, Wylleman P, Zupancic M. The effect of athletic and non-athletic factors on sports career termination process. *Psychol. Sport Exerc.* 2004; 5:45–59.
- Fowler JC. Suicide risk assessment in clinical practice: pragmatic guidelines for imperfect assessments. *Psychotherapy (Chic.)*. 2012; 49:81–90.
- Grove JR, Lavallee D, Gordon S. Coping with retirement from sport: the influence of athletic identity. *J. Appl. Sport Psychol.* 1997; 9:191–203.
- Hammond T, Gialloredo C, Kubas H, Davis H. The prevalence of failure-based depression among elite athletes. *Clin. J. Sport Med.* 2013; 23:273–7.
- Hart J Jr, Kraut MA, Womack KB, et al. Neuroimaging of cognitive dysfunction and depression in aging retired National Football League players: a cross-sectional study. *JAMA Neurol.* 2013; 70:326–35.
- Hutchinson M, Mainwaring LM, Comper P, et al. Differential emotional responses of varsity athletes to concussion and musculoskeletal injuries. *Clin. J. Sport Med.* 2009; 19:13–9.
- Kerr ZY, Marshall SW, Harding HP, Guskiewicz KM. Nine-year risk of depression diagnosis increases with increasing self-reported concussions in retired football players. *Am. J. Sports Med.* 2012; 40:2206–12.
- Leddy MH, Lambert MJ, Ogles BM. Psychological consequences of athletic injury among high-level competitors. *Res. Q. Exerc. Sport.* 1994; 65:347–54.
- Mainwaring LM, Bisschop SM, Green RA, et al. Emotional reaction of varsity athletes to sport-related concussion. *J. Sport Exerc. Psychol.* 2004; 26:139–5.
- Mainwaring LM, Hutchison M, Bisschop SM, et al. Emotional response to sport concussion compared to ACL injury. *Brain Inj.* 2010; 24:589–97.
- Mann BJ, Grana WA, Indelicato PA, et al. A survey of sports medicine physicians regarding psychological issues in patient-athletes. *Am. J. Sports Med.* 2007; 35:2140–7.
- Meehan HL, Bull SJ, Wood DM, James DVB. The overtraining syndrome: a multicultural assessment. *The Sport Psychol.* 2004; 18:154–71.
- Murphy S. Transitions in competitive sport: maximizing individual potential. In: Murphy SM, ed. *Sport Psychology Interventions*. Champaign (IL): Human Kinetics; 1995, pp. 331–46.
- National Institute of Mental Health. The NIMH Depression Page. Available from: <http://www.nimh.nih.gov/health/topics/depression/index.shtml>. Accessed June 6, 2013.
- Nederhof E, Lemmink KAPM, Visscher C, Mulder T. Psychomotor speed: possibly a new marker for overtraining syndrome. *Sports Med.* 2006; 36:817–28.
- Paluska SA, Schwenk TL. Physical activity and mental health: current concepts. *Sports Med.* 2000; 29:167–80.
- Proctor SL, Boan-Lenzo C. Prevalence of depressive symptoms in male intercollegiate student-athletes and nonathletes. *J. Clin. Sport Psychol.* 2010; 4:204–20.
- Reardon CL, Factor RM. Sports psychiatry. *Sports Med.* 2010; 40:961–80.
- Smith AM, Millner EK. Injured athletes and the risk of suicide. *J. Athl. Train.* 1994; 29:337–41.
- Stephan Y, Bilard J, Ninot G, Delignieres D. Repercussions of transition out of elite sport on subjective well-being: a one-year study. *J. Appl. Sport Psychol.* 2003; 15:354–71.
- Storch EA, Storch JB, Killiany EM, Roberti JW. Self-reported psychopathology in athletes: a comparison of intercollegiate student-athletes and nonathletes. *J. Sport Behav.* 2005; 28:86–98.
- Strain J, Didehban N, Cullum CM, et al. Depressive symptoms and white matter dysfunction in retired NFL players with concussion history. *Neurology.* 2013; 81:25–32.
- Watson JC. Student-athletes and counseling: factors influencing the decision to seek counseling services. *Coll. Student J.* 2006; 40:35–42.
- Weigand S, Cohen J, Merenstein D. Susceptibility for depression in current and retired student athletes. *Sports Health.* 2013; 5:263–6.
- Wippert PM, Wippert J. Perceived stress and prevalence of traumatic stress symptoms following athletic career termination. *J. Clin. Sport Psychol.* 2008; 2:1–16.
- Wippert PM, Wippert J. The effects of involuntary athletic career termination on psychological distress. *J. Clin. Sport Psychol.* 2010; 4:133–49.
- Yang J, Peek-Asa C, Corlette JD, et al. Prevalence of and risk factors associated with symptoms of depression in competitive collegiate student athletes. *Clin. J. Sports Med.* 2007; 17:481–7.



Print Close

Exhibit 9

Penn swimmer slams school's handling of Lia Thomas saga: 'They don't actually care about women at all'

By Paulina Dedaj

Published January 28, 2022

Fox News

EXCLUSIVE: A swimmer on the University of Pennsylvania women's team says she feels the school's decision to allow transgender swimmer Lia Thomas to compete has created an unfair balance within the sport that prioritizes Thomas' rights over that of biological female student-athletes.

The student, who spoke to Fox News Digital on the condition of anonymity out of fear of retribution, said she was "hopeful" after learning of the NCAA's decision last week to update its policy of allowing transgender athletes to compete based on hormone levels.

LIA THOMAS' TEAMMATES REALIZING 'THEY WILL NEVER, EVER BE ABLE TO BEAT THIS PERSON,' PENN SWIMMER'S DAD SAYS

"I'm a little bit more hopeful because I think that, at least as swimmers, we kind of realize that it's not just testosterone levels," she told Fox News. "It's testosterone levels from the last 20 years and how that affected, you know, the fact that [Thomas] went through male puberty and the way that built her heart and lungs and her hands and the way she circulates blood and the lactic acid and all that stuff."

"Stuff that – it's not just the difference between two girls and how one might have slightly larger lungs and that gives them a slight advantage," she continued, "These are monumental advantages that biological males just develop through puberty, and it's not something that a year of [hormone treatments] can suppress because they still have all the muscle mass they had from the last 20 years."

The new approach to allowing transgender athletes to compete will follow a sport-by-sport model similarly adopted by the U.S. and International Olympic committees. The new NCAA policy, which takes effect starting with the 2022 NCAA Winter Championships, means swimming athletes will be governed by USA Swimming policies.



Lia Thomas, a transgender woman, warms up before swimming for the University of Pennsylvania at an Ivy League meet against Harvard University in Cambridge, Massachusetts, on Jan. 22, 2022. (JOSEPH PREZIOSO/AFP via Getty Images)

USA Swimming uses an eligibility review panel to make a decision on transgender athletes' eligibility. Elite swimmers would be up to FINA and IOC policies.

USA Swimming released a statement last week following the NCAA's announcement of its updated transgender participation policy.

The organization said it is still awaiting new directives from the International Swimming Federation (FINA) concerning trans athlete participation.

"USA Swimming firmly believes in inclusivity and the opportunity for all athletes to experience the sport of swimming in a manner that is consistent with their gender identity and expression. We also strongly believe in competitive equity, and, like many, are doing our best to learn and educate ourselves on the appropriate balance in this space," the organization said.

"In 2018, we established athlete inclusion procedures, which included both a process by which an athlete could change their competition category consistent with their gender identity and criteria for athletes qualifying for or competing in elite-level competitions (including those competition time qualifications such as Juniors, Nationals and U.S. Open), which adhered to previous International Olympic Committee guidelines. This policy also importantly provides for individual athlete consideration.

"The non-elite athlete inclusion procedures remain unchanged. Following broad transgender policy changes in Nov. 2021, the IOC now requires International Federations to create their own sport-specific eligibility requirements, and so we have been proactively working with FINA for several months to help shape and support their policy development efforts. We believe they will release a new policy shortly, which we will adopt for elite-level competitions.

"USA Swimming is a member-driven organization governed by a 15-member Board of Directors, which oversees more than 360,000 members—including coaches, volunteers and over 325,000 athletes from age-group level to the Olympic Team. These individuals and 2,800 member clubs participate through a network of 59 Local Swimming Committees (LSCs) in four geographic Zones across the U.S. With the NCAA now deferring to USA Swimming for eligibility determinations, we welcome and look forward to American NCAA athletes and coaches joining our membership in order to be eligible to be governed by our policy and its provisions and benefits."

The IOC updated its transgender participation policy in November 2021, refraining from the focus on testosterone levels to determine eligibility, according to [The Washington Post](#). The IOC urged the governing bodies of each individual sport to create the rules while offering assistance.



Lia Thomas of the Pennsylvania Quakers gets ready to compete in a freestyle event during a tri-meet against the Yale Bulldogs and the Dartmouth Big Green at Sheerr Pool on the campus of the University of Pennsylvania on Jan. 8, 2022, in Philadelphia, Pennsylvania. (Hunter Martin/Getty Images)

"Every athlete has the right to practice sport without discrimination and in a way that respects their health, safety and dignity," the updated rules stated. "At the same time the credibility of competitive sport — and particularly high-level sporting competitions — relies on a level playing field where no athlete has an unfair or disproportionate advantage over the rest."

USA Swimming didn't immediately respond to Fox News' request for comment on whether Thomas would be eligible for the NCAA Championships.

LIA THOMAS CONTROVERSY LEADS WOMEN'S SPORTS ADVOCATES TO SPEAK OUT AGAINST NCAA: 'IT'S ABOUT FAIRNESS'

The anonymous Penn swimmer also alleged that if Thomas, who is qualified to compete at the 2022 NCAA swimming and diving championships in Atlanta in March, is unable to compete under the new guidelines, a lawsuit could be filed.

"I have a feeling that if USA Swimming changes their rules, they will be filing a lawsuit for Lia to swim, but they wouldn't do that for

us," she said. "That's just really upsetting."

The student told Fox News that she does not know if the university itself or if Penn athletics would file the lawsuit but said she "heard that from some of the administrators."

The NCAA policy previously required trans women athletes to undergo at least a year of testosterone suppression treatment before competing on a women's team.

The updated policy for the NCAA says that, by March, "Transgender student-athletes will need to document sport-specific testosterone levels beginning four weeks before their sport's championship selections. Starting with the 2022-23 academic year, transgender student-athletes will need documented levels at the beginning of their season and a second documentation six months after the first. They will also need documented testosterone levels four weeks before championship selections. Full implementation would begin with the 2023-24 academic year."



Lia Thomas of the Pennsylvania Quakers after winning the 500-meter freestyle event during a tri-meet against the Yale Bulldogs and the Dartmouth Big Green at Sheerr Pool on the campus of the University of Pennsylvania on Jan. 8, 2022, in Philadelphia. (Hunter Martin/Getty Images)

"They're just proving, once again, that they don't actually care about their women athletes," the swimmer said of the University of Pennsylvania. "They say that they care and that they're here for our emotions, but why do we have to be gracious losers? ... Who are you to tell me that I shouldn't want to win because I do want to win. I'm swimming. I'm dedicating more than 20 hours a week to the sport."

"Obviously, I want to win. You can't just tell me I should be happy with second place. I'm not. And these people in Penn's administrative department who just think that women should just roll over -- it's disturbing, and it's reminiscent of the 1970s when they were fighting for Title IX and stuff like that. They don't actually care about women at all."

[CLICK HERE FOR MORE SPORTS COVERAGE ON FOXNEWS.COM](#)

"Everyone sees us and everyone stands with us. It's just a matter of trying to convince USA Swimming to do the right thing."

The student said she was initially "shocked" and "disappointed" when the team was informed that Thomas would be competing with the women's team after three years on the men's team, but she more so expressed her frustrations with the university's subsequent handling of the situation.

"Well, the administration didn't even discuss the topic with us until after Ohio (Zippy Invitational) and after we already started getting a ton of media attention. They did not address us or ask us how we were feeling. ... It was so maddening, just crazy that they didn't have the foresight to talk to us sooner."

Penn Athletics didn't immediately respond to the swimmer's remarks on the assertion of the lawsuit or comments about the treatment of female athletes.

The student said that once the issue was addressed, the administration took the approach of "We're here to support your feelings but not you."

"They are basically saying that Lia swimming is a non-negotiable," she said. "They weren't willing to actually help us, they were just

willing to brush it under the rug and be [say], 'oh, your feelings are valid.'"

The student clarified that her concern does not lie with how Thomas chooses to identify.

[CLICK HERE TO GET THE FOX NEWS APP](#)

"I think we all want Lia to live her best life and live as herself and do that safely and in a way that she's comfortable, but you can do that, but then you can't impede other people's lives to the point where they no longer have the rights guaranteed to them by Title IX," she said.

The bigger issue is the message she says the university is putting out.



Lia Thomas of the Pennsylvania Quakers smiles after winning the 200-meter freestyle event during a tri-meet against the Yale Bulldogs and the Dartmouth Big Green at Sheerr Pool on the campus of the University of Pennsylvania on Jan. 8, 2022 in Philadelphia, Pennsylvania. (Hunter Martin/Getty Images)

"It's really easy for the media and the administration to just focus on Lia and all the things that are hurting her and how she needs compassion right now, but I think we're the ones who truly need compassion right now, and we're the ones who are just being overlooked and told to just suck it up and deal with it and to accept second place. I think it's wrong," she said.

"When we came here, we were told we were going to have equal opportunities, and it just seems like our administrators and parts of society, very small parts, because I believe most people know it's wrong, but that those people just think that we shouldn't care about winning. And that's wrong. You know, what message are you telling little girls? You're telling them that they shouldn't strive for first place, that they should be OK with second."

UPenn will compete in its final regular-season meet Saturday at West Chester University.

The Ivy League Championships begin next month on Feb. 16-18, followed by the Eastern College Athletic Conference Championships on Feb. 24-27.

Fox News' Ryan Gaydos and Jessica Chasmar contributed to this report.

Paulina Dedaj is a Digital Reporter for Fox News and Fox Business. Follow Paulina Dedaj on Twitter at @PaulinaDedaj. If you've got a tip, you can email Paulina at Paulina.Dedaj@fox.com

Print Close

URL

<https://www.foxnews.com/sports/lia-thomas-penn-swimming-teammate-interview>

[Home](#) | [Video](#) | [Politics](#) | [U.S.](#) | [Opinion](#) | [Entertainment](#) | [Tech](#) | [Science](#) | [Health](#) | [Travel](#) | [Lifestyle](#) | [World](#) | [Sports](#) | [Weather](#)

[Privacy](#) | [Terms](#)

This material may not be published, broadcast, rewritten, or redistributed. © FOX News Network, LLC. All rights reserved. Quotes displayed in real-time or delayed by at least 15 minutes. Market data provided by Factset. Powered and implemented by FactSet Digital Solutions. Legal Statement. Mutual Fund and ETF data provided by Refinitiv Lipper. Do Not Sell my Personal Information - New Terms of Use - FAQ

SwimSwam

Subscribe to Newsletter Advertise Email Us Submit a Story Submit a Job Submit a College Recruit

SwimSwam Store

f YouTube RSS P Instagram Twitter LinkedIn Subscribe to SwimSwam Magazine

NEWS CORONAVIRUS ISL 2021 COLLEGE TRAINING VIDEO LIFESTYLE WATER POLO MORE Search SwimSwam

17TH-PLACE FINISHER IN 500 REKA GYORGY PENS LETTER TO NCAA ON TRANSGENDER RULES Comments: 183



Exhibit 11

Gyorgy is a 2-time ACC Champion, 2-time NCAA All-American, and 3-time NCAA Honorable Mention All-American. Stock photo via Jack Spitsers/Spitsers Photography

BY SPENCER PENLAND

183

March 20th, 2022

College, News

MORE NEWS

f Twitter reddit P in

Virginia Tech 5th year **Reka Gyorgy** has released a letter to the NCAA addressing her opinion on the organization’s controversial transgender policy, which allowed Penn 5th year **Lia Thomas** to compete at the NCAA Championships last week.

Gyorgy offers a unique perspective on the situation, as she finished 17th in prelims of the 500 free last Thursday, one spot out of qualifying for finals. The 500 was, of course, the event that Thomas would go on to win with a time of 4:33.24.

Towards the beginning of her remarks, Gyorgy says “ I (Reka) respect and fully stand with **Lia Thomas**; I am convinced that she is no different from me or any other D1 swimmer who has woken up at 5am her entire life for morning practice.” She talks about the sacrifice she knows are associated with a commitment to swimming, such as missing vacations and holidays. “She is doing what she is passionate about and deserves that right.”

Gyorgy then gets into her criticisms of the NCAA’s transgender policy, stating “On the other hand, I would like to critique the NCAA rules that allow her to compete against us, who are biologically women.” She talks about how she’s a 5th year

MEN’S NCAA DIVISION I CHAMPIONSHIPS: DAY 3 PRELIM LIVE RECAP

WORLD CHAMPION HWANG SUNWOO PUTS UP 48.69 100 FREE HEATS SWIM

MEN’S DIVISION I NCAA’S: DAY 3

senior at Virginia Tech, and this was her last collegiate meet competing for the Hokies, saying she feels "frustrated." In Gyorgy's view, the current transgender athlete policies don't "promote our sport in a good way and I (Gyorgy) think it is disrespectful against the biologically female swimmers who are competing in the NCAA."

She expands the context of her complaints outside of just her finishing 17th in the 500 free last week, arguing "one spot was taken away from the girl who got 9th in the 500 free and didn't make it back to the A final preventing her from being an All-American. Every event that transgender athletes competed in was one spot taken away from biological females throughout the meet."

Gyorgy makes her most pointed criticisms at the end of her letter, saying "The NCAA knew what was coming this past week." She goes on to highlight how she feels the meet was "more about reporters, media and division," instead of the historic swims that took place, citing Kate Douglass and Gretchen Walsh's 20-point 50 frees, Katharine Berkoff's American Record 100 back, and the depth and speed of the women's 100 fly. To Gyorgy's point, there was far more mainstream media attention the meet this year than previous years, and that was transparently because of the controversy surrounding the NCAA's policy.

Gyorgy is a 2-time ACC Champion, 2-time NCAA All-American, and 3-time NCAA Honorable Mention All-American. She has requested that anyone who reports on her statement release her full remarks, so here is her full letter to the NCAA, which I (the writer of the article) urge everyone to read in its entirety:

Dear NCAA,

I would like to address this past week's events and express my thoughts. First, I would like to remind everyone that I am a human being and that as a human being I experience feelings and emotions.

*My name is **Reka Gyorgy** from Hungary. I am a 2016 Rio Olympian, represented Virginia Tech for the past 5 years, a 2 time ACC Champion, 2 time All-American and 3 time Honorable Mention All-American.*

*With all due respect, I would like to address something that is a problem in our sport right now and hurting athletes, especially female swimmers. Everyone has heard and known about transgender, **Lia Thomas**, and her case including all the issues and concerns that her situation brought into our sport. I'd like to point out that I respect and fully stand with **Lia Thomas**; I am convinced that she is no different than me or any other D1 swimmer who has woken up at 5am her entire life for morning practice. She has sacrificed family vacations and holidays for a competition. She has pushed herself to the limit to be the best athlete she could be. She is doing what she is passionate about and deserves that right. On the other hand, I would like to critique the NCAA rules that allow her to compete against us, who are biologically women.*

I'm writing this letter right now in hopes that the NCAA will open their eyes and change these rules in the future. It doesn't promote our sport in a good way and I think it is disrespectful against the biologically female swimmers who are competing in the NCAA.

I swam the 500 free at NCAA's on March 17th, 2022 where I got 17th which means I didn't make it back to the finals and was first alternate. I'm a 5th year senior, I have

PRELIM SCRATCHES- FRANKEL SET FOR TOUGH DOUBLE

SUMMER LEAGUE SWIMMING: IMMERSE YOURSELF IN QUALITY COACH TRAINING

FLORIDA REVEALS WHY THEY HAVE THE BEST RELAY EXCHANGES IN THE BUILDING

CRITERIA 2022: BENEDETTA PILATO AD 1 CENT DAL RECORD ITALIANO 100 RANA

CAMPIONATI SVIZZERI: NOÈ PONTI TERZO AL MONDO NEI 200 FARFALLA

CRITERIA 2022 SESSIONE

been top 16 and top 8 before and I know how much of a privilege it is to make finals at a meet this big. This is my last college meet ever and I feel frustrated. It feels like that final spot was taken away from me because of the NCAA's decision to let someone who is not a biological female compete. I know you could say I had the opportunity to swim faster and make the top 16, but this situation makes it a bit different and I can't help but be angry or sad. It hurts me, my team and other women in the pool. One spot was taken away from the girl who got 9th in the 500 free and didn't make it back to the A final preventing her from being an All-American. Every event that transgender athletes competed in was one spot taken away from biological females throughout the meet.

The NCAA knew what was coming this past week. They knew opinions and minds will be divided and chose to do nothing. This week has been more about reporters, media and division in our sport than things like two women going under 21 seconds in the 50 freestyle, 3 women going under 50 seconds in the 100 butterfly and the first woman IN HISTORY to go under 48 seconds in the 100 backstroke. Thursday was not a specific athlete's fault. It is the result of the NCAA and their lack of interest in protecting their athletes. I ask that the NCAA takes time to think about all the other biological women in swimming, try to think how they would feel if they would be in our shoes. Make the right changes for our sport and for a better future in swimming.

Thank you for reading,

Reka Gyorgy, Virginia Tech swimmer

« Alex Walsh Explains How She Deals with Pressure

Indiana Women's Water Polo Hosts #4 Cal In Home Opener »

183

LEAVE A REPLY

✉ Subscribe ▼

Join the discussion

B **I** **U** **S** **☰** **☰** **”** **</>** **🔗** **{ }** **[+]**

183 COMMENTS

  newest ▼

Kris

🕒 2 days ago

Peculiarly, none of those huge, record-breaking accomplishments that she mentioned were by Lia Thomas.

+ 1 -1  Reply

ooo

🕒 2 days ago