

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.

Case No. 2:21-cv-00316

Hon. Joseph R. Goodwin

**ROGER G. BROOK'S DECLARATION IN SUPPORT OF DEFENDANT-INTERVENOR AND THE
STATE OF WEST VIRGINIA'S MEMORANDUMS IN RESPONSE TO PLAINTIFF'S MOTION TO
EXCLUDE THE EXPERTS' TESTIMONY**

I, Roger G. Brooks, declare under penalty of perjury of the laws of the United States that the following is true and correct, and state:

I am counsel of record for Defendant-Intervenor Lainey Armistead in this litigation. The following is true of my own personal knowledge, and, if called as a witness, I would and could testify competently thereto.

The copies of the articles identified herein, and submitted in the accompanying Daubert Response Appendix to Defendant Intervenor and the State of West Virginia's Joint Memorandums in Response to Plaintiff's Motions to Exclude Experts' Testimony ("Daubert Response Appendix") at the pages indicated, are true and

correct copies of those articles as obtained from public sources. I identify herein where each source was marked as an exhibit in deposition or cited in an expert's report.

1. American Psychological Association Dictionary of Psychology, *Sex*, <https://dictionary.apa.org>, (last visited Jan. 14, 2022).

This source was cited in Brown's Expert Report at ¶ 2 and is in the Daubert Response Appendix at page 34.

2. Anderson, E., *When it Comes to Trans Youth, We're in Danger of Losing Our Way*, San Francisco Examiner (Jan. 4, 2022, 11:38 AM).

This source was cited in Dr. Levine's report at ¶¶ 75, 83, 123 and is in the Daubert Response Appendix at page 36.

3. Beachy, G. & Rauh, M., *Middle School Injuries: A 20-Year (1988-2008) Multisport Evaluation*, 49 J. Athl. Train. 493 (2014).

This source was cited in Dr. Carlson's report at ¶ 57 and is in the Daubert Response Appendix at page 42.

4. Blankenship, M.J., et al., *Sex-Based Analysis of the Biomechanics of Pitching*, 38th International Society of Biomechanics in Sport Conference (July 2020).

This source was cited in Dr. Carlson's expert report and is in the Daubert Response Appendix at page 56.

5. Bohannon, R.W. et al., *Handgrip Strength: A Comparison of Values Obtained From the NHANES and NIH Toolbox Studies*, 73 Am. J. Occ. Therapy 7302205080 (2019).

This source was cited in Dr. Carlson's report at ¶ 49 and is in the Daubert Response Appendix at page 60.

6. Brown, G., *The Olympics, Sex, and Gender in the Physiology Classroom*, PECOP Blog (May 16, 2022), <https://blog.lifescitrc.org/pecop/2022/05/16/the-olympics-sex-and-gender-in-the-physiology-classroom-2/>.

This source is in the Daubert Response Appendix at page 69.

7. Caswell, S.V., et al., *Epidemiology of Sports Injuries Among Middle School Students*, 51 Brit. J. Sports Med. 305 (2017).

This source was cited in Dr. Carlson's report at ¶ 57 and is in the Daubert Response Appendix at page 128.

8. Catley, M. & Tomkinson, G., *Normative Health-Related Fitness Values for Children: Analysis of 85,437 Test Results on 9-17-Year-Old Australians Since 1985*, 47 Brit. J. Sports Med. 98 (2013).

This source was cited in Dr. Brown's report at ¶¶ 76, 82, 83 and is in the Daubert Response Appendix at page 129.

9. Coleman, D. L., et al., *Re-affirming the Value of the Sports Exception to Title IX's General Non-Discrimination Rule*, 27 Duke J. Gender Law & Policy 69 (2020).

This source was cited in Dr. Brown's report at ¶ 8 and is in the Daubert Response Appendix at page 142.

10. Costa, R., et al., *Psychological Support, Puberty Suppression, and Psychosocial Functioning in Adolescents with Gender Dysphoria*, 12 J. Sex. Med., 2206 (2015).

This source was cited in Dr. Cantor's report at ¶¶ 54, 59 and is in the Daubert Response Appendix at page 208.

11. Davis S.M., et al., *Sex Differences in Infant Body Composition Emerge in the First 5 Months of Life*, 32 J. Ped. Endocr. Metab. 1235 (2019).

This source was cited in Dr. Brown's Expert Report at ¶ 73 and in Dr. Carlson's Expert Report at ¶ 49 and is in the Daubert Response Appendix at pages 217.

12. De Miguel-Etayo, P. et al., *Physical Fitness Reference Standards in European Children: The IDEFICS Study*, 38 Int. J. Obes. (Lond.) 557 (2014).

This source was cited in Dr. Brown's Expert Report at ¶¶ 91, 93 and is in the Daubert Response Appendix at page 222.

13. Edwards-Leeper, L., and Anderson, E., *The Mental Health Establishment is Failing Trans Kids*, Washington Post, (Nov. 24, 2021, 5:54 PM).

This source was cited in Dr. Levine's Expert Report at ¶¶ 75, 83, 123 and is in the Daubert Response Appendix at page 232.

14. Eiberg, S., et al., *Maximum Oxygen Uptake and Objectively Measured Physical Activity in Danish Children 6-7 Years of Age: The Copenhagen School Child Intervention Study*, 39 Brit. J. Sports Med. 725 (2005).

This source was cited in Dr. Brown's Expert Report at ¶ 107 and is in the Daubert Response Appendix at page 237.

15. Ewing-Cobbs, et al., *Persistent Postconcussion Symptoms After Injury*, 142 *Pediatrics* e20180939 (2018).

This source was cited in Dr. Carlson's Expert Report at ¶ 62 and is in the Daubert Response Appendix at page 243.

16. Expósito-Campos, P., *A Typology of Gender Detransition and Its Implications for Healthcare Providers*, *J. Sex & Marital Therapy* (2021), <https://doi.org/10.1080/0092623X.2020.1869126>.

This source was cited in Dr. Levine's Expert Report at ¶ 119 and is in the Daubert Response Appendix at page 256.

17. Gershoni, M. & Pietrokovski, S., *The Landscape of Sex-Differential Transcriptome and its Consequent Selection in Human Adults*, 15 *BMC Biology* (2017).

This source was cited in Dr. Brown's Expert Report at ¶ 5 and is in the Daubert Response Appendix at page 268.

18. Ghorayshi, A., *Doctors Debate Whether Trans Teens Need Therapy Before Hormones*, *New York Times* (Jan. 13, 2022).

This source was cited in Dr. Levine's Expert Report at ¶ 83 and is in the Daubert Response Appendix at page 283.

19. Hacherl, S.L., et al., *Concussion Rates in U.S. Middle School Athletes From the 2015-16 to 2019-20 School Years*, 56 *J. Athl. Train.* S-21 (2021).

This source was cited in Dr. Carlson's Expert Report at ¶ 63 and is in the Daubert Response Appendix at page 288.

20. Haizlip, K.M., et al., *Sex-Based Differences in Skeletal Muscle Kinetics and Fiber-Type Composition*. 30 *Physiology* 30 (2015).

This source was cited in Dr. Brown's Expert Report at ¶ 6 and is in the Daubert Response Appendix at page 289.

21. Hamilton, B., et al., *Integrating Transwomen and Female Athletes with Differences of Sex Development (DSD) into Elite Competition: The FIMS 2021 Consensus Statement*. 51 *Sports Med.* 1401 (2021), doi: 10.1007/s40279-021-01451-8.

This source was cited in Dr. Brown's Expert Report at ¶¶ 8, 12, 167 and is in the Daubert Response Appendix at page 299.

22. Handelsman, D.J., *Sex Differences in Athletic Performance Emerge Coinciding with the Onset of Male Puberty*, 87 Clin. Endocr. 68 (2017).

This source was cited in Dr. Brown's Expert Report at ¶¶ 16, 22, 29, 64, 110 and is in the Daubert Response Appendix at page 314.

23. Heydari R, et al. *Y Chromosome is Moving Out of Sex Determination Shadow*. Cell Biosci. 12:4. (2022).

This source was cited in Dr. Brown's Expert Report at ¶ 5 and is in the Daubert Response Appendix at page 891.

24. Higerd, G.A., *Assessing the Potential Transgender Impact on Girl Champions in American High School Track and Field* (2020) (Ph.D. dissertation, United States Sports Academy) (ProQuest), <https://www.proquest.com/openview/65d34c1e949899aa823beecad873afae/1?pqorigsite=gscholar&cbl=18750&diss=y>.

This source was cited in Dr. Brown's Expert Report at ¶¶ 28, 30, 144 and is in the Daubert Response Appendix at page 319.

25. Hon, W.H.C. & Kock, S.H., *Sports Related Fractures: A Review of 113 Cases*, 9 J. Orthopaedic Surg. 35 (2001).

This source was cited in Dr. Carlson's Expert Report and is in the Daubert Response Appendix at page 487.

26. Howell, D.R., et al., *Collision and Contact Sport Participation and Quality of Life Among Adolescent Athletes*, 55 J. Athl. Train. 1174 (2020).

This source was cited in Dr. Carlson's Expert Report and is in the Daubert Response Appendix at page 491.

27. Jones, G. & Dwyer, T., *Bone Mass in Prepubertal Children: Gender Differences and the Role of Physical Activity and Sunlight Exposure*, 83 J. of Clin. Endocr. and Metabolism 4274 (1998).

This source is in the Daubert Response Appendix at page 935.

28. Kerr, Z., et al., *Concussion Rates in U.S. Middle School Athletes, 2015-16 School Year*, 53 Am. J. Prev. Med. 914 (2017).

This source was cited in Dr. Carlson's Expert Report at ¶ 62 and is in the Daubert Response Appendix at page 498.

29. Klaver, M., et al., *Early Hormonal Treatment Affects Body Composition and Body Shape in Young Transgender Adolescents*. 15 *J. Sex. Med.* 251 (2018).

This source was cited in Dr. Brown's Expert Report at ¶¶ 112–13 and is in the Daubert Response Appendix at page 503.

30. Knox, T., L.C. Anderson, et al., *Transwomen in Elite Sport: Scientific & Ethical Considerations*, 45 *J. Med Ethics* 395 (2019).

This source was cited in Dr. Brown's Expert Report at ¶¶ 15 n. 2, 49–50, 57, 59, 62–65, 67, 117, 153 and is in the Daubert Response Appendix at page 925.

31. Kujala, U.M., et al., *Acute Injuries in Soccer, Ice Hockey, Volleyball, Basketball, Judo, and Karate: Analysis of National Registry Data*, 311 *BMJ* 1465 (1995).

This source was cited in Dr. Carlson's Expert Report at ¶ 57 and is in the Daubert Response Appendix at page 513.

32. Latorre-Roman, P., et al., *Reaction Times of Preschool Children on the Ruler Drop Test: A Cross-Sectional Study with Reference Values*, 125 *Perceptual & Motor Skills* 866 (2018).

This source was cited in Dr. Brown's Expert Report at ¶¶ 39, 108 and is in the Daubert Response Appendix at page 526.

33. Lepers, R., et al., *Trends in Triathlon Performance: Effects of Sex & Age*, 43 *Sports Med.* 851 (2013).

This source was cited in Dr. Brown's Expert Report at ¶¶ 22, 58, 64 and is in the Daubert Response Appendix at page 540.

34. Lesinski, M., et al., *Maturation-, Age-, and Sex-Specific Anthropometric and Physical Fitness Percentiles of German Elite Young Athletes*, 15 *PLoS One* e0237423 (2020).

This source was cited in Dr. Brown's Expert Report at ¶ 75 and is in the Daubert Response Appendix at page 554.

35. Levine, S., et al., *Reconsidering Informed Consent for Trans-Identified Children, Adolescents, and Young Adults*, *J. Sex & Marital Therapy* (2022), doi: 10.1080/0092623X.2022.2046221.

This source is in the Daubert Response Appendix at page 573.

36. McManus, A. & Armstrong, N., *Physiology of Elite Young Female Athletes*, 56 *J. Med. & Sport Sci.* 23 (2011).

This source was cited in Dr. Brown's Expert Report at ¶ 71, in Dr. Carlson's Expert Report at ¶ 49, and is in the Daubert Response Appendix at page 596.

37. Millard-Stafford, M. et al., *Nature versus Nurture: Have Performance Gaps Between Men and Women Reached an Asymptote?* Int'l J. Sports Physiol. & Performance 13:530-35 (2018).

This source was cited in Dr. Brown's Expert Report at ¶¶ 12, 78 and is in the Daubert Response Appendix at page 906.

38. Miller, V.M., *Why are Sex and Gender Important to Basic Physiology and Translational and Individualized Medicine?*, 306 Am. J. Physiol. Heart Circ. Physiol. H781 (2014).

This source was cited in Dr. Brown's Expert Report at ¶ 2 and is in the Daubert Response Appendix at page 620.

39. Montalvo, A.M., et al., *Anterior Cruciate Ligament Injury Risk in Sport: A Systematic Review and Meta-Analysis of Injury Incidence by Sex and Sport Classification*, 54 J. Athl. Train. 472 (2019).

This source was cited in Dr. Carlson's Expert Report at ¶ 72 and is in the Daubert Response Appendix at page 628.

40. Ramírez-Vélez, R., et al., *Vertical Jump and Leg Power Normative Data for Colombian Schoolchildren Aged 9-17.9 Years: The FUPRECOL Study*, 31 J. Strength Cond. Res. 990 (2017).

This source was cited in Dr. Carlson's Expert Report at ¶¶ 97, 99 and is in the Daubert Response Appendix at page 639.

41. Rider, G.N., et al., *Health and Care Utilization of Transgender and Gender Nonconforming Youth: A Population-Based Study*, 141 Pediatrics 3 (2018).

This source was cited in Dr. Carlson's Expert Report in the Conclusion and is in the Daubert Response Appendix at page 648.

42. Sax, L., *How Common is Intersex? A Response to Anne Fausto-Sterling*, 39 J Sex Res. 174 (2002).

This source was cited in Dr. Brown's Expert Report at ¶ 1 and is in the Daubert Response Appendix at page 656.

43. Scharff, M., et al., *Change in Grip Strength in Trans People and its Association with Lean Body Mass and Bone Density*, 8 Endocr. Connections 1020 (2019).

This source was cited in Dr. Carlson's Expert Report at ¶ 92 and is in the Daubert Response Appendix at page 662.

44. Senefeld, J.W., et al., *Divergence in Timing and Magnitude of Testosterone Levels Between Male and Female Youths*, 324 JAMA 99 (2020).

This source was cited in Dr. Brown's Expert Report at ¶¶ 70, 138 and is in the Daubert Response Appendix at page 671.

45. Shah, K., et al., *Do You Know the Sex of Your Cells?* 306 Am. J. Physiol. Cell Physiol. C3 (2014).

This source was cited in Dr. Brown's Expert Report at ¶ 2 and is in the Daubert Response Appendix at page 674.

46. Silverman, I., *The Secular Trend for Grip Strength in Canada and the United States*, 29 J. Sports Sci. 599 (2011).

This source was cited in Dr. Brown's Expert Report at ¶¶ 16, 95 and is in the Daubert Response Appendix at page 699.

47. Staiano, A.E. & Katzmarzyk, P.T., *Ethnic and Sex Differences in Body Fat and Visceral and Subcutaneous Adiposity in Children and Adolescents*, 36 Int. J. Obes. (Lond.) 1261 (2012).

This source was cited in Dr. Brown's Expert Report at ¶ 73, and is in the Daubert Response Appendix at page 709.

48. Tambalis, K., et al., *Physical Fitness Normative Values for 6-18-Year-Old Greek Boys and Girls, Using the Empirical Distribution and the Lambda, Mu, and Sigma Statistical Method*, 16 Eur. J. Sports Sci. 736 (2016).

This source was cited in Dr. Brown's Expert Report at ¶¶ 76, 78, 94 and is in the Daubert Response Appendix at page 730.

49. Taylor, M.J.D., et al., *Vertical Jumping and Leg Power Normative Data for English School Children Aged 10-15 Years*, 28 J. Sports Sci. 867 (2010).

This source was cited in Dr. Brown's Expert Report at ¶ 98–99 and is in the Daubert Response Appendix at page 742.

50. Taylor, R.W., et al., *Gender Differences in Body Fat Content are Present Well Before Puberty*, 21 Int. J. Obes. Relat. Metab. Disord. 1082 (1997).

This source was cited in Dr. Brown's Expert Report at ¶ 73, Dr. Carlson's Expert Report ¶ 49, and is in the Daubert Response Appendix at page 749.

51. Taylor, R.W., et al., *Sex Differences in Regional Body Fat Distribution From Pre- to Postpuberty*, 18 *Obes.* (Silver Spring) 1410 (2010).

This source was cited in Dr. Brown's Expert Report at ¶ 73 and is in the Daubert Response Appendix at page 752.

52. Thomas, J.R. & French, K.E., *Gender Differences Across Age in Motor Performance: A Meta-Analysis*. 98 *Psych. Bull.* 260 (1985).

This source was cited in Dr. Brown's Expert Report at ¶¶ 33, 100, Dr. Carlson's Expert Report at ¶ 51, and is in the Daubert Response Appendix at page 760.

53. Tomkinson, G., et al., *International Normative 20 m Shuttle Run Values From 1,142,026 Children and Youth Representing 50 Countries*, 51 *Brit. J. Sports Med.* 1545 (2017).

This source was cited in Dr. Brown's Expert Report at ¶¶ 88, 90 and is in the Daubert Response Appendix at page 783.

54. Tomkinson, G., et al., *European Normative Values for Physical Fitness in Children and Adolescents Aged 9-17 Years: Results From 2,779,165 Eurofit Performances Representing 30 Countries*, 52 *Brit. J. Sports Med.* 1445 (2018).

This source was cited in Dr. Brown's Expert Report at ¶¶ 84, 86, 90 and is in the Daubert Response Appendix at page 814.

55. Tønnessen, E., et al., *Reaction Time Aspects of Elite Sprinters in Athletic World Championships*, 27 *J. Strength & Cond. Res.* 885 (2013).

This source was cited in Dr. Brown's Expert Report at ¶ 38–39 and is in the Daubert Response Appendix at page 827.

56. VanCaenegem, E., et al., *Preservation of Volumetric Bone Density and Geometry in Trans Women During Cross-Sex Hormonal Therapy: A Prospective Observational Study*, 26 *Osteoporos. Int.* 35 (2015).

This source was cited in Dr. Brown's Expert Report at ¶¶ 124, 153 and is in the Daubert Response Appendix at page 835.

57. Women's Sports Policy Working Group, *Briefing Book: A Request to Congress and the Administration to Preserve Girls' and Women's Sport and Accommodate Transgender Athletes* (2021), <https://womenssportspolicy.org/wp-content/uploads/2021/02/Congressional-Briefing-WSPWG-Transgender-Women-Sports-2.27.21.pdf>.

This source was cited in Dr. Brown's Expert Report at ¶¶ 8, 12, 169–170 and is in the Daubert Response Appendix at page 848.

58. WPATH, *Standards of Care* (2021) (non-final draft for public comment).

This source was cited in Dr. Levine's Expert Report at ¶ 65–73.

DECLARATION UNDER PENALTY OF PERJURY

I, Roger G. Brooks, a citizen of the United States and a resident of the State of North Carolina, hereby declare under penalty of perjury pursuant to 28 U.S.C. § 1746 that the foregoing is true and correct to the best of my knowledge.

Executed this 26th day of May, 2022, at Durham, North Carolina.

/s/ Roger G. Brooks

Roger G. Brooks