Igor Grabovac, MD[1], Sarah E. Jackson, PhD[2], and Lee Smith, PhD[3]
[1]Department of Social and Preventive Medicine, Center for Public Health, Medical University of Vienna, Austria
[2]Research Department of Behavioural Science and Health, University College London, London, UK
[3]Cambridge Centre for Sport and Exercise Sciences, Anglia Ruskin University, Cambridge, UK

Corresponding Author: Lee Smith, PhD, Cambridge Centre for Sport and Exercise Sciences, Anglia Ruskin University, Cambridge, CB1 1PT, UK; E-mail: lee.smith@anglia.ac.uk

Conflict of Interest: None.

Funding: None.

https://doi.org/10.1016/j.jsxm.2019.03.268

STATEMENT OF AUTHORSHIP

Category 2

(a) Drafting the Article
Igor Grabovac; Sarah E. Jackson; Lee Smith.

REFERENCES

1. Smith L, Grabovac I, Veronese N, et al. Sleep quality, duration, and associated sexual function at older age: Findings from the English Longitudinal Study of Ageing. J Sex Med 2019; 16:427-433.
2. Giuliano F, Allard J. Dopamine and male sexual function. Eur Urol 2001;40:601-608.
3. Krüger TH, Hartmann U, Schedlowski M. Prolactinergic and dopaminergic mechanisms underlying sexual arousal and orgasm in humans. World J Urol 2005;23:130-138.
4. Costa R, Costa D, Pestana J. Subjective sleep quality, unstimulated sexual arousal, and sexual frequency. Sleep Sci 2017; 10:147-153.
5. Ferini-Strambi L, Montorsi F, Iannaccone S, et al. The impact of sleep deprivation on erotic erections. Eur Urol 1996; 30:50-53.
6. Bancroft J. The endocrinology of sexual arousal. J Endocrinol 2005;186:411-427.
7. Wu JL, Wu RS, Yang JG, et al. Effects of sleep deprivation on serum testosterone concentrations in the rat. Neurosci Lett 2011;494:124-129.
8. Axelsson J, Ingre M, Akerstedt T, et al. Effects of acutely displaced sleep on testosterone. J Clin Endocrinol Metab 2005;90:4530-4535.
9. Leproult R, Van Cauter E. Effect of 1 week of sleep restriction on testosterone levels in young healthy men. JAMA 2011; 305:2173-2174.
10. Bremner WJ. Testosterone deficiency and replacement in older men. N Engl J Med 2010;363:189-191.
11. Peszka JJ, Penner J, Mastin DF, et al. The effects of sleep deprivation on perceptual processes involved in human mating decisions. Sleep 2013;36(Abstract Supplement):A98-A99.
12. Kalmbach DA, Arnedt JT, Pillai V, et al. The impact of sleep on female sexual response and behavior: A pilot study. J Sex Med 2015;12:1221-1232.

Shifts in Assigned Sex Ratios at Gender Identity Clinics Likely Reflect Changes in Referral Patterns

Gender identity clinics (GICs) have recently reported changes in the ratios of assigned sex at birth of referred youths.[1,2] No definitive explanation has been offered for these changes in referral rates, leading to speculation among academics. Most worryingly, the shift in ratio has been recuperated by individuals who seek to oppose access to trans care,[3] despite the absence of empirical or strong theoretical grounding for those positions.[4] These theorizations, explaining the shift by reference to social contagion and discomfort with womanhood, assume that it reflects a real change in ratios in the overall trans youth population.

This assumption is unjustified. GIC populations are a small percentage of the entire trans youth population. The sample size for the Amsterdam clinic—the sole GIC for youth in The Netherlands—was 420 new referrals between 1989 and 2013 in the study reported by Aitken et al.[1] Recent studies show that approximately 150,000 individuals age 13–17 years old identify as transgender in the United States,[5] representing roughly 0.05% of the total population.[1] Assuming that a similar percentage holds in the Netherlands, we would expect a current 13- to 17-year-old trans population of the order of 8,000.

The pool of youths from which referrals to GICs come is much larger. That 8,000 number does not include youths younger than 13 years old, gender-creative youths who are not transgender, and youths who entered adulthood since 1989.

Although the numbers are difficult to compare, the number of referrals to GICs is plausibly multiple orders of magnitude smaller than the number of youths who might be referred. Because of this, sociocultural factors impacting referral patterns are likely to have an outsized effect on assigned sex ratios at GICs. A small sociocultural change—such as greater awareness that "tomboy" behavior might be an expression of gender identity—that leads to 10% more referrals of trans youth assigned female at birth (AFAB) would nearly double the total GIC population of AFAB youth.

Many hypotheses can be offered as to which factors have altered referral patterns. A lower average age of referral will

disproportionately shift transmasculine youth from the adult to the youth population. Increase in trans visibility may plausibly lead comparatively more parents to see "tomboy" gender expression as potential evidence of transitude. Increases in conservative attitudes toward gender nonconformity would have a similar effect.

The reasons for the shift in assigned sex ratios in GICs remain unknown. However, given the discrepancies in size between GIC populations and gender-diverse populations, the impact of sociocultural factors on referral patterns is the most promising explanation. Future researchers should resist the impulse to assume that shifts in assigned sex ratios reflect a change of ratio in the gender-diverse population. No evidence currently supports the thesis that the ratio of AFAB and AMAB youth has changed in the overall trans youth population.

Florence Ashley, BCL, LLB
McGill University Faculty of Law and Biomedical Ethics Unit
3644 Rue Peel, Montreal, QC, Canada H3A 1W9

Corresponding Author: Florence Ashley, BCL, LLB, McGill University Faculty of Law and Biomedical Ethics Unit, 3644 Rue Peel, Montreal, Quebec, Canada H3A 1W9; E-mail: florence.pare@mail.mcgill.ca

Conflicts of interest: The author reports no conflict of interest.

Funding: None.

https://doi.org/10.1016/j.jsxm.2019.03.407

STATEMENT OF AUTHORSHIP

Category 1

(a) Conception and Design
Florence Ashley

(b) Acquisition of Data
Florence Ashley

(c) Analysis and Interpretation of Data
Florence Ashley

Category 2

(a) Drafting the Article
Florence Ashley

(b) Revising It for Intellectual Content
Florence Ashley

Category 3

(a) Final Approval of the Completed Article
Florence Ashley

REFERENCES

1. Aitken M, Steensma TD, Blanchard R, et al. Evidence for an altered sex ratio in clinic-referred adolescents with gender dysphoria. J Sex Med 2015;12:756-763.
2. de Graaf NM, Carmichael P, Steensma TD, et al. Evidence for a change in the sex ratio of children referred for gender dysphoria: data from the Gender Identity Development Service in London (2000–2017). J Sex Med 2018;15:1381-1383.
3. de Graaf NM, Carmichael P. Reflections on emerging trends in clinical work with gender-diverse children and adolescents. Clin Child Psychol Psychiatr 2019;24:353-364.
4. Ashley F. There is no evidence that rapid-onset gender dysphoria exists. Available at: https://psychcentral.com/lib/there-is-no-evidence-that-rapid-onset-gender-dysphoria-exists/. Accessed February 24, 2019.
5. Herman JL, Flores AR, Brown TNT, et al. Age of individuals who identify as transgender in the United States. Los Angeles: The Williams Institute; 2017.

The Contemporary Sex Ratio of Transgender Youth That Favors Assigned Females at Birth Is a Robust Phenomenon: A Response to the Letter to the Editor Re: "Shifts in Assigned Sex Ratios at Gender Identity Clinics Likely Reflect Change in Referral Patterns"

Ashley has commented on some recent studies regarding a change in the sex ratio of children and adolescents referred to specialized gender identity clinics, from one favoring assigned males at birth (AMAB) to one favoring assigned females at birth (AFAB). As an aside, we would argue that this altered sex ratio has been observed primarily in adolescent samples, not in child samples. Oddly, the critique begins with the comment that this reported shift has been "recuperated by individuals who seek to oppose access to trans care...," citing de Graaf and Carmichael[1] as possible culprits. It is unclear to us what Ashley means: neither of these authors opposes access to trans care.

Ashley also seems to be implying that the shift in the sex ratio is related to "social contagion and discomfort with womanhood," but it is unclear which study and which authors relied on this hypothesis. Aitken et al[2] proposed various hypotheses, but none was given particular weight.

Ashley wonders, quite reasonably, if the sex ratio reported on in samples from specialized gender identity clinics are representative of the population of "trans youth" in general. There are at least a couple of ways in which this hypothesis can be examined. First, one can test for generalizability by examining the sex ratio of referred youths from additional specialized gender identity clinics. Second, one can examine the sex ratio of