

## Section S1

Other measures have been taken which are not part of this manuscript. Because transgender men willing to come to the lab are very rare and difficult to find participants, three studies were simultaneously conducted: I) an examination of their gender-typed development, II) an examination of their sexual arousal patterns, and III) a study on their well-being (which is a separate, online-only study). Because the hypotheses of these three studies are distinct, and comprise different chapters of a PhD dissertation, our plan was to write them up as separate research reports.

Regarding II), transgender men's sexual arousal patterns, the present manuscript focuses on our main measure of sexual arousal, which is genital arousal. However, other measures have been taken - subjective arousal to sexual stimuli and pupil dilation to sexual stimuli.

With respect to subjective arousal, we did not report on it in the present manuscript for the following reason: The phenomenon that cisgender men, in general, have gender-specific arousal patterns, and cisgender women, in general, have non-specific arousal patterns, is most evident in their genital sexual arousal. Some prior research has found that subjective arousal measurements mirror genital arousal patterns (with cisgender women being less specific in their subjective sexual responses than cisgender men), but in other research, cisgender women of different sexual orientations are, like cisgender men, gender-specific in their subjective responses (Chivers, Rieger, Latty, & Bailey, 2004; Rieger et al., 2015). Hence, our a-priori hypotheses were concerned exclusively with physiological sexual arousal. This carries the additional benefit that our results are not impacted by social desirability bias that might affect subjective arousal.

Regarding pupil dilation, we had originally considered including this measure in the present manuscript but eventually decided against it, simply because it made the manuscript overly complex. Findings for pupil dilation were similar, but not entirely identical to, those for genital arousal. That is, just like for genital arousal, a pupil dilation contrast score to male and female sexual stimuli suggested that transgender men's self-reported sexual attraction to men or women was reflected in their physiological response (dilation) to males or females, and they were in this respect closer to cisgender men than cisgender women. However, unlike for the analyses on genital arousal, the three groups (transgender men, cisgender men, and cisgender women) were indistinguishable in their bisexual pupil responses, because all three groups showed, on average, similar dilation to their less-arousing sex.

Genital arousal is a well-evidenced measure of sexual arousal ([Janssen, 2002](#); [Suschinsky et al., 2009](#)). In comparison, pupil dilation is newer and has a smaller body of associated evidence. In some studies it has produced results highly similar to those found through genital arousal ([Rieger et al., 2015](#)), but in others it has produced results which are not fully identical to genital arousal patterns ([Watts et al., 2018](#)). Because pupil dilation indicates not only sexual arousal, but also emotion, cognition, or non-sexual interest in stimuli ([Bradley, Miccoli, Escrig, & Lang, 2008](#); [Goldinger & Papesh, 2012](#)), it may be impossible to fully rule out that for some participants, pupillary responses were driven by factors other than sexual interest. This could explain why patterns produced by the two measures - genital arousal and pupil dilation - are not entirely alike.

## References:

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## Section S2

Which ONE of the following most accurately describes your current understanding of your SEXUAL ATTRACTION:

- Only sexually attracted to the opposite gender
- Mostly sexually attracted to the opposite gender, and rarely attracted to the same gender
- Primarily sexually attracted to the opposite gender, but often attracted to the same gender
- More or less equally sexually attracted to the opposite and same gender
- Primarily sexually attracted to the same gender, but often attracted to the opposite gender
- Mostly sexually attracted to the same gender, and rarely attracted to the opposite gender
- Only sexually attracted to the same gender

Please choose the ONE that most accurately reflects your current understanding of your SEXUAL ORIENTATION:

- Exclusively Heterosexual/Straight
- Mostly Heterosexual/Straight
- Bisexual Leaning Heterosexual/Straight
- Bisexual
- Bisexual Leaning Gay/Lesbian
- Mostly Gay/Lesbian
- Exclusively Gay/Lesbian

Note. Answers were scored in a way that for each group (transgender men, cisgender men, cisgender women), lower scores meant stronger attraction and orientation towards women, and higher scores meant stronger attraction and orientation towards men.

### Section S3

#### Sexual Attraction to Men or Women

(higher scores indicate stronger attraction to men and less to women):

Group	N	Mean	SD	Lower 95% CI	Upper 95% CI
Cisgender Men	145	2.30	2.46	1.89	2.70
Transgender Men	25	2.72	1.52	2.09	3.35
Cisgender Women	178	3.20	2.29	2.86	3.54

Analysis of variance for group differences:  $F(2,345) = 6.11, p = .0025$ .

#### Genital Sexual Response to Males or Females

(higher scores indicate stronger response to males and less to females):

Group	N	Mean	SD	Lower 95% CI	Upper 95% CI
Cisgender Men	145	-0.27	1.48	-0.52	-0.03
Transgender Men	25	-0.16	0.92	-0.54	0.22
Cisgender Women	178	-0.24	0.87	-0.37	-0.12

Analysis of variance for group differences:  $F(2,345) = 0.11, p = .90$ .

#### Genital Sexual Response to Less Arousing Sex

(higher scores indicate stronger response to the less arousing sex, which can be male or female):

Group	N	Mean	SD	Lower 95% CI	Upper 95% CI
Cisgender Men	145.00	0.24	0.43	0.17	0.31
Transgender Men	25.00	1.02	0.88	0.66	1.39
Cisgender Women	178.00	1.29	0.62	1.20	1.38

Analysis of variance for group differences:  $F(2,345) = 136.77, p < .0001$ .

Correlations in Cisgender Men:

Variable	Variable	<i>N</i>	<i>r</i>	Lower 95% CI	Upper 95% CI	<i>p</i>
Sexual Attraction to Men or Women	Genital Response Males or Females	145	0.83	0.77	0.88	< .0001
Sexual Attraction to Men or Women	Genital Response to Less Arousing Sex	145	0.15	-0.02	0.30	0.08
Genital Response to Males or Females	Genital Response to Less Arousing Sex	145	0.13	-0.04	0.28	0.13

Correlations in Transgender Men:

Variable	Variable	<i>N</i>	<i>r</i>	Lower 95% CI	Upper 95% CI	<i>p</i>
Sexual Attraction to Men or Women	Genital Response Males or Females	25	0.59	0.25	0.80	0.002
Sexual Attraction to Men or Women	Genital Response to Less Arousing Sex	25	-0.19	-0.54	0.23	0.37
Genital Response to Males or Females	Genital Response to Less Arousing Sex	25	0.08	-0.33	0.46	0.72

Correlations in Cisgender Women:

Variable	Variable	<i>N</i>	<i>r</i>	Lower 95% CI	Upper 95% CI	<i>p</i>
Sexual Attraction to Men or Women	Genital Response Males or Females	178	0.18	0.03	0.32	0.02
Sexual Attraction to Men or Women	Genital Response to Less Arousing Sex	178	0.13	-0.02	0.27	0.09
Genital Response to Males or Females	Genital Response to Less Arousing Sex	178	0.10	-0.04	0.25	0.17