ORIGINAL PAPER

Explicit and Implicit Gender-Related Stereotyping in Transgender, Gender Expansive, and Cisgender Adults

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Abstract

Little is known about gender-related stereotyping among transgender and gender expansive adults. Using the Ambivalent Sexism Inventory (AIS; Glick & Fiske, 1996), we examined explicit gender attitudes in 3298 cisgender, transgender, and gender expansive respondents designated female at birth (FAB; $n = 1976$ cisgender, $n = 108$ transgender, $n = 188$ gender expansive) and male at birth (MAB; $n = 922$ cisgender, $n = 52$ transgender, $n = 52$ gender expansive). In order to learn more about implicit gender-related stereotyping, a subset of 822 participants (FAB; $n = 445$ cisgender, $n = 32$ transgender, $n = 51$ gender expansive. MAB; $n = 254$ cisgender, $n = 21$ transgender, $n = 19$ gender expansive) completed the gender-leadership Implicit Association Test (IAT; Dasgupta & Asgari, 2004). Cisgender men scored significantly higher than all other groups on hostile sexism, but patterns of endorsement for benevolent sexism and implicit attitudes were more nuanced, with cisgender women and gender expansive FAB often scoring significantly below other groups. We observed that transgender men and transgender women, along with cisgender men and gender expansive MAB, moderately endorsed essentialist views regarding differences between men and women (i.e., complementary gender differentiation). These data reveal novel patterns of gender-related stereotyping, with some corresponding to sex designated at birth and others corresponding to current gender identification. Together, these findings suggest that one's experienced gender, designated sex at birth, and the intersection between them may relate to gender stereotyping, underscoring the importance of including transgender and gender expansive individuals in this research.

Keywords Gender-related stereotyping · Ambivalent sexism · Transgender · Gender expansive · Implicit Association Test

Introduction

For decades, gender-related stereotyping has been studied at explicit and implicit levels (Connor & Fiske, 2019; Eagly & Steffen, 1984; Graf et al., 2019; Hideg & Ferris, 2016; Jena et al., 2016; Moss-Racusin et al., 2012; Yavorsky et al., 2015). Although a large literature has assessed gender-related stereotyping (Glick & Fiske, 1996; Masser & Abrams, 1999; Swim et al., 1995), studies to date have either not collected data on or simply not reported the gender identity of participants. Therefore, one assumes they are presumably limited to

cisgender populations (i.e., for whom sex designated at birth and experienced gender align). Comparatively, little is known about gender-related stereotyping in transgender individuals (for whom sex designated at birth and experienced gender are not aligned), and gender expansive individuals (i.e., including those who are non-binary, genderfluid, or genderqueer, among other identities; see Goodrich et al., 2017).

Transgender and gender expansive individuals have been neglected in previous studies of gender-related stereotyping, yet it is increasingly important that these populations be included in this research. Gender stereotypes can be internalized (Bonnot & Croizet, 2007; Szymanski & Stewart, 2010; Szymanski et al., 2009) and are associated with consequences such as self-stigma (Major & O'Brien, 2005), ultimately having a negative impact on the health and well-being of transgender and gender expansive people. For example, internalized homophobia has been shown to indirectly affect the relationship between discrimination and negative mental health outcomes for lesbian, gay, and bisexual individuals (Walch et al., 2016). Similarly, internalized transphobia, which is rooted in rigid beliefs about

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gender roles and relations (Hill & Willoughby, 2005), is associated with low life satisfaction (Cronin et al., 2019), emotional distress (Rood et al., 2017), and low self-esteem in transgender adults (Austin & Goodman, 2017). It therefore follows that assessing gender-related stereotyping among transgender and gender expansive adults may have important clinical and social implications for gender-diverse communities. Thus, the present study aims to explore how explicit and implicit gender-related stereotyping might vary by gender identity and not merely sex designated at birth.

Ambivalent Sexism Inventory: Explicit Gender-Related Stereotyping

According to the ambivalent sexism framework, sexism is not simply antipathy, but rather, has both negative and (subjectively) positive components (Glick & Fiske, 1996). In this framework, sexism justifies and perpetuates gender inequalities and exploitation via two distinct, yet complementary systems: hostile and benevolent sexism. Hostile sexism is characterized by overtly negative feelings and behaviors toward women and suggests that they seek to gain power over men under the pretense of equality (Glick & Fiske, 1996, 1997, 2011). Benevolent sexism, by contrast, is characterized by beliefs about women that are subjectively positive, but align with restrictive, narrowly defined gender roles, and thereby reinforce gender inequality. Hostile and benevolent sexism work together to maintain women's lesser status. For example, endorsing hostile sexism is associated with justification of the gender pay gap (Connor & Fiske, 2019), while endorsing benevolent sexism is associated with support for gender equality in the workplace, but only when women occupy traditionally feminine rather than masculine positions (Hideg & Ferris, 2016).

Hostile sexism is directed toward women who are perceived as challenging men's power by endorsing feminism, promoting equality, or refusing sexual or romantic relationships with men. In comparison, women who conform to traditional gender stereotypes are ostensibly rewarded with benevolent sexism, which idealizes their purity, moral sensibility, and need for protection by men. People who view women as being too outspoken or as "demanding feminists" (i.e., hostile attitudes) are likely to want women in a position subordinate to men (i.e., benevolent attitudes). Endorsing ambivalent sexism has been linked to a myriad of detrimental outcomes, including rape myth acceptance (Abrams et al., 2003; Chapleau et al., 2007; Davies et al., 2012), unequal housework and childcare division between partners (Gaunt & Pinho, 2018; Prado Silván-Ferrero et al., 2007), reduced cognitive performance in women (Dardenne et al., 2007, 2013), and decreased willingness to participate in collective action against sexism (Becker & Wright, 2011). Because benevolent sexism is subtle and offers ostensible rewards, some women

may internalize or endorse benevolent sexism as a method of coping with hostile sexism (Becker, 2010; Fischer, 2006).

The ASI has been used widely to assess explicit gender-related stereotyping across cultures (Chen et al., 2009; Glick et al., 2000, 2002) and cohorts (Christopher & Mull, 2006; Glick & Fiske, 1997; Glick et al., 1997; Lee et al., 2010). However, an important limitation of the ambivalent sexism research is minimal participant gender diversity. In the studies of gender-related stereotyping across cultures and cohorts, researchers often describe how many men and women, male and female participants, or individuals who did not provide their gender identity took part in the study. However, these studies often do not address how participants were asked about their sex and/or gender, whether they were asked about sex and gender separately, or whether they had the opportunity to self-select transgender or gender expansive identities. Thus, most of the knowledge we have about gender-related stereotyping derives exclusively or predominantly from cisgender samples, that is, transgender and gender expansive individuals have largely been unacknowledged.

Some limited research using the ASI has begun to investigate gender-related stereotyping among individuals outside of the cisgender, heterosexual prototype. In Iran, differences on the ASI have been described between transgender and cisgender adults (Khorashad et al., 2019). Results showed that transgender participants endorsed both hostile and benevolent sexism more strongly than cisgender participants. However, Khorashad et al. did not differentiate between benevolent sexism subfactors, which probe not only sexism, but also elements of paternalism, essentialism, and heterosexism as well. Furthermore, the political landscape in Iran is complex, where homosexuality is a crime punishable by death, but transgender identity and surgeries are recognized and subsidized by the government (Najmabadi, 2013). It thus remains unclear to what extent transgender and gender expansive individuals endorse the different types of benevolent sexism, including protective paternalism (e.g., "Women should be cherished and protected by men"), complementary gender differentiation (e.g., "Many women have a quality of purity that few men possess"), and heterosexual intimacy (e.g., "Every man ought to have a woman whom he adores"; Glick & Fiske, 1996). Moreover, as the ASI was used in isolation in the Iranian study, it is unknown how implicit attitudes may be shaped by gender identity.

Implicit Association Test: Implicit Gender-Related Stereotyping

Tests of implicit attitudes such as the IAT assess the degree to which participants link concepts (e.g., Black, White) and affective evaluations (e.g., good, bad; Greenwald et al., 1998). There are several gender-related IATs, such as gender-science, gender-career, and gender-leadership (Dasgupta &

Asgari, 2004; Nosek et al., 2007). The gender-leadership IAT assesses how strongly participants associate leadership attributes with men or women. The task prompts participants to make associations between typical men's or women's names (e.g., Josh vs. Emily) and leader or follower words (e.g., ambitious vs. helpful). Participants are typically faster to associate men's names with leadership words and women's names with follower words (Braun et al., 2017). In some studies, men make the association between man-leader and woman-supporter more strongly than women participants (Girod et al., 2016). However, women's stereotypic responding may sometimes match men's at the implicit level, perhaps because internalizing gender stereotypes from a young age affects women and men equally (Rudman & Kilianski, 2000). As such, we included both explicit (ASI) and implicit (gender-leadership IAT) measures of gender-related stereotyping in the present study.

The Present Study

To address gaps in understanding whether (and to what extent) transgender and gender expansive individuals endorse gender-related stereotyping, we examined explicit and implicit attitudes in transgender women, transgender men, and gender expansive adults. Because the available literature has focused on gender-related stereotyping in exclusively or majority cisgender samples, we use these groups as anchors for comparisons. Based on the extant literature (Olson & Gülgöz, 2018), we acknowledge that there are several possible outcomes of this exploratory research: (1) transgender and gender expansive adults might endorse less gender-related stereotyping than cisgender adults, (2) transgender and gender expansive adults might endorse more gender-related stereotyping than cisgender adults, or (3) transgender and gender expansive adults might differ from cisgender individuals, as well as from each other, in their endorsement of gender-related stereotyping. We also expect that there may be different patterns of responding for different dependent variables (i.e., hostile vs. benevolent attitudes).

Method

Participants

Participants were recruited from August to October 2017 through online advertisements on Facebook promoting a study about gender and cognition. Ads targeted Canadian users aged 19–40, though non-Canadians were also eligible to participate. A total of 6910 participants completed the survey, though participants were only included in analyses if they provided their gender identity, sex designated at birth, and completed the ASI (Glick & Fiske, 1996; $N = 3298$).

Those indicating a binary gender identity congruent with their sex designated at birth were categorized as cisgender (cisgender women: $n = 1976$, cisgender men: $n = 922$); those indicating a binary gender identity that did not align with their sex designated at birth were categorized as transgender ($n = 160$; transgender women: $n = 52$, transgender men: $n = 108$). Finally, those indicating an identity outside of the traditional binary were categorized as gender expansive (e.g., non-binary, genderfluid, genderqueer, two-spirit, agender, $n = 240$; gender expansive individuals designated female at birth (FAB), $n = 188$; gender expansive individuals designated male at birth (MAB), $n = 52$. A subset of these participants also completed an IAT ($n = 822$; transgender women, $n = 21$; transgender men, $n = 32$; gender expansive FAB, $n = 51$; gender expansive MAB, $n = 19$; cisgender women, $n = 445$; cisgender men, $n = 254$).

Participants ($N = 3298$) were 25.16 years old on average ($SD = 4.31$) and 98.2% were current residents of Canada. The majority of participants indicated some European origins (86.9%), with a minority reporting East and Southeast Asian (9.8%), Aboriginal (7.2%), South Asian (3.2%), Middle Eastern (2.9%) and/or Other origins (7.11%; totals do not add to 100% because participants could select multiple ethnic identities). See Tables 1 and 2 for additional cohort characteristics.

Procedure

Upon providing informed consent, participants completed a 40-min online survey featuring demographics, questionnaires, and the gender-leadership IAT (Dasgupta & Asgari, 2004). The IAT was implemented in Qualtrics using *iatgen* (Carpenter et al., 2019) and only ran on desktop devices. Survey logic was structured such that the IAT task block was only shown to participants who began the survey on a desktop computer. Thus, the subsample of respondents using mobile devices or tablets did not see or complete the IAT. All questionnaires and tasks were completed remotely. Participants received entry into a draw for a small monetary prize. All procedures were conducted in accordance with federal and provincial guidelines and approved by the University's Research Ethics Board.

Measures

Explicit Gender-Related Stereotyping

The ASI was used to assess the degree to which respondents endorse hostile and benevolent sexism (Glick & Fiske, 1996). The ASI is a 22-item scale measuring 6-point Likert responses from 0 (Strongly disagree) to 5 (Strongly agree) across two factors: hostile sexism (11 items, $\alpha = 0.92$; e.g.,

Table 1 Demographics

Variable	M	SD	Frequency (%)
Age (in years)	25.16	4.31	–
Education			–
High school diploma or less			331 (10.03%)
College diploma, Bachelor's degree, or some university			2437 (73.89%)
Master's, post-graduate, or other professional degree			530 (16.07%)
Political orientation	1.42	1.31	
Ethnicity			
European			2865 (86.9%)
East/Southeast Asian			323 (9.8%)
Aboriginal			238 (7.2%)
South Asian			106 (3.2%)
Latin			97 (2.9%)
Middle Eastern			94 (2.9%)
Caribbean			74 (2.2%)
African			57 (1.7%)
Oceania			10 (0.3%)

Political orientation was a single item on a continuous scale ranging from 0 to 6, where 0 = liberal and 6 = conservative

"Women are too easily offended") and benevolent sexism (11 items, $\alpha = 0.80$), which is comprised of three subfactors: protective paternalism (e.g., "Women should be cherished and protected by men"), complementary gender differentiation (e.g., "Many women have a quality of purity that few men possess"), and heterosexual intimacy (e.g., "Every man ought to have a woman whom he adores"). Higher scores indicate stronger endorsement.

Implicit Gender-Related Stereotyping

The gender-leadership IAT (Dasgupta & Asgari, 2004) was used to assess implicit gender-related stereotyping regarding leadership abilities. Perhaps the most frequently employed measure of implicit attitudes, the IAT is said to capture automatic associations between evaluative anchors and social categories. The gender-leadership IAT was chosen for drawing on themes or attitudes like those captured by benevolent sexism (Glick & Fiske, 1996). Both the gender-leadership IAT and benevolent sexism tap into beliefs that proscribe women from leadership positions and prescribe them to roles of followers and supporters, depicting them as weak and in need of protection (i.e., roles of lesser status compared to men).

Table 2 Sexual orientation by sex and gender

Sex	Gender	1	2	3	4	5	6	7	8 (None)	9 (Other)	Total
FAB											
	Transgender (men)	8	17	3	34	10	15	8	1	12	108
	Gender expansive	6	10	10	76	13	18	17	14	21	185
	Cisgender	809	525	131	281	41	48	61	45	34	1975
	Total FAB	823	552	144	391	64	81	86	60	67	2268
MAB											
	Transgender (women)	0	3	3	13	4	12	10	2	5	52
	Gender expansive	5	3	4	13	3	7	11	1	5	52
	Cisgender	463	157	30	43	15	71	129	9	5	922
	Total MAB	468	163	37	69	22	90	150	12	15	1026
Total		1291	715	181	460	86	171	236	72	82	3294

Total FAB and MAB rows are not included in total sample counts (bottom row). Sexual orientation was measured by the Kinsey Scale asking participants how they identify/label themselves. Open responses in the "other" category were assessed by the research team and recoded to fit into the original scale where appropriate (e.g., bisexual and pansexual were recoded as "4"). Scale points ranged from 1 to 9 where:

1 = Exclusively heterosexual

2 = Predominantly heterosexual (only occasional gay/lesbian experience)

3 = Predominantly heterosexual (more than occasional gay/lesbian experience)

4 = Equally heterosexual and gay/lesbian

5 = Predominately gay/lesbian (more than occasional heterosexual experience)

6 = Predominately gay/lesbian (only occasional heterosexual experience)

7 = Exclusively gay/lesbian

8 = No sexual contacts or reactions

9 = Other

In the gender-leadership IAT, the social categories of man and woman, and evaluative concepts of "leader" and "follower," were presented in a two-choice task. During practice blocks, participants were instructed to sort a series of names by gender (e.g., Josh vs. Emily), and then to sort a series of words synonymous with "leader" (e.g., ambitious) or "follower" (e.g., helpful). In the test blocks that follow, overlap between social categories and evaluative anchors was introduced, and categorization performance was measured, with more strongly associated or "easy" pairings (e.g., male + leader) often generating faster, more accurate responses than more weakly associated or "difficult" pairings (e.g., female + leader). In two of four test blocks, "male" shared a response key with "leader" and "female" shared a response key with "follower." In another two blocks, pairings are reversed (i.e., "male" shares a response key with "follower" and "female" shares a response key with "leader"). Test blocks are counterbalanced across participants to avoid order effects.

Differences in categorization performance, with respect to speed and frequency of errors, were scored with the *D* algorithm—which calculates the difference in mean response latencies of the two practice/sorting blocks, divided by the SD of all latencies. *D*-scores can range from -2 (strong implicit attitude favoring association of female and leader) to + 2 (strong implicit attitude favoring association of male and leader), with zero indicating no difference between the contrasting conditions. Scores of 0.2 (slight), 0.5 (moderate), and 0.8 (strong) are conventional cut-offs for IAT *D*-scores (Greenwald et al., 2003). *D*-scores were calculated using the scoring algorithm outlined by Greenwald and colleagues (2003).

Analytic Strategy

To test for group differences in explicit attitudes, scores on four ASI subfactors (one hostile sexism factor and three benevolent sexism subfactors ranging from 0 to 5) were examined using a one-way multivariate analysis of variance (MANOVA) with six groups (transgender women, transgender men, gender expansive FAB, gender expansive MAB, cisgender women, and cisgender men). Next, univariate analyses of variance (ANOVA) was conducted to test for main effects of group on each ASI subfactor. IAT *D*-scores were analyzed via a separate one-way ANOVA because only a subset of participants completed the IAT. Tukey's post hoc tests were used to parse apart group differences. All analyses were conducted using SPSS (version 25), with α set at 0.05.

Results

Explicit Attitudes (ASI)

A MANOVA revealed a significant main effect of group on all sexism subscales, $F(20, 13,168) = 22.86$, $p < 0.001$, Pillai's Trace = 0.13, $\eta_p^2 = 0.034$.[1] See Table 3 for descriptive statistics and group comparisons for all dependent variables.

Hostile Sexism

There was a significant main effect of group on endorsement of hostile sexism, $F(5, 3292) = 61.18$, $p < 0.001$, $\eta_p^2 = 0.085$. Post hoc comparisons showed that all groups, including cisgender women, transgender women, transgender men, gender expansive MAB, and gender expansive FAB scored significantly lower than cisgender men, ps < 0.001. Additionally, gender expansive FAB scored significantly lower than cisgender women, $p < 0.001$. Cisgender women, transgender women, transgender men, and gender expansive FAB and MAB did not differ significantly from one another, ps > 0.05.

Benevolent Sexism

Protective Paternalism

There was a significant main effect of group on endorsement of protective paternalism, $F(5, 3292) = 51.86$, $p < 0.001$, $\eta_p^2 = 0.073$. Post hoc analyses revealed that cisgender women, transgender women, and gender expansive FAB scored significantly lower than cisgender men, ps < 0.004. Additionally, transgender men scored significantly higher than gender expansive FAB and cisgender women, ps < 0.02, and did not differ from cisgender men. Gender expansive MAB also scored significantly higher than gender expansive FAB, $p < 0.01$, and did not differ from cisgender men.

Complementary Gender Differentiation

There was a significant main effect of group on endorsement of complementary gender differentiation, $F(5, 3292) = 18.21$, $p < 0.001$, $\eta_p^2 = 0.027$. Post hoc comparisons showed that gender expansive FAB and cisgender women scored significantly lower than cisgender men, ps < 0.001. Transgender

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[1] Additional analyses were conducted controlling for sexual orientation and socially desirable responding (BIDR), and results remained consistent with the original analyses reported here. A non-parametric Kruskal–Wallis test was also conducted, and results remained consistent with the original analyses with the exception of one pairwise comparison: on the complementary gender differentiation subfactor, cisgender women and gender expansive MAB no longer significantly differed from each other, $p = .09$.

Table 3 Group comparisons and descriptive statistics

	Gender Identity Group	M	SD	N
Hostile sexism	Transgender women[a]	.88	.81	52
	Transgender men[b]	.81	.87	108
	Gender expansive FAB[c,f]	.61	.69	188
	Gender expansive MAB[d]	.76	.85	52
	Cisgender women[e,f]	.96	.96	1976
	Cisgender men[a,b,c,d,e]	1.57	1.16	922
Protective Paternalism	Transgender women[a]	1.31	.84	52
	Transgender men[d,f]	1.54	.94	108
	Gender expansive FAB[b,e,f]	1.03	.77	188
	Gender expansive MAB[e]	1.54	1.03	52
	Cisgender women[c,d]	1.23	.92	1976
	Cisgender men[a,b,c]	1.81	1.08	922
Complementary Gender Differentiation	Transgender women[c,g]	1.79	1.11	52
	Transgender men[d,h]	1.77	1.07	108
	Gender expansive FAB[b,f,g,h]	1.17	1.08	188
	Gender expansive MAB[e,f]	1.73	1.30	52
	Cisgender women[a,c,d,e]	1.24	1.06	1976
	Cisgender men[a,b]	1.56	1.10	922
Heterosexual Intimacy	Transgender women[a]	.96	.98	52
	Transgender men[b]	1.00	1.03	108
	Gender expansive FAB[c,f]	.78	.93	188
	Gender expansive MAB[d]	1.14	1.01	52
	Cisgender women[e,f]	1.10	1.10	1976
	Cisgender men[a,b,c,d,e]	1.69	1.21	922
IAT D-score	Transgender women	.24	.38	21
	Transgender men	.37	.34	32
	Gender expansive FAB[a]	.21	.29	51
	Gender expansive MAB	.26	.35	19
	Cisgender women[b]	.25	.34	445
	Cisgender men[a,b]	.37	.34	254

All groups that share a subscript differ at $p < .05$. Scale range for ASI: 0–5 where 0 = strongly disagree and 5 = strongly agree. D-scores can range from −2 to +2

women, transgender men, and gender expansive MAB did not differ from cisgender men. Cisgender women also scored significantly lower than transgender women, transgender men, and gender expansive MAB, ps < 0.02, but not gender expansive FAB. No differences were detected between transgender women, transgender men, and gender expansive MAB.

Heterosexual Intimacy

There was a significant main effect of group on endorsement of heterosexual intimacy, $F(5, 3292) = 44.57$, $p < 0.001$, $\eta_p^2 = 0.063$. Post hoc comparisons showed that all groups, including cisgender women, transgender women, transgender men, gender expansive MAB, and gender expansive FAB,

scored significantly lower than cisgender men, ps < 0.009. Gender expansive FAB also scored significantly lower than cisgender women, $p < 0.003$, but did not differ from any other groups. Transgender women, transgender men, and gender expansive FAB or MAB did not differ from one another.

Implicit Attitudes (Gender-Leadership IAT)

There was a significant main effect of group on the gender-leadership IAT, as determined by a one-way ANOVA, $F(5, 816) = 5.19$, $p < 0.001$, $\eta_p^2 = 0.031$. Post hoc comparisons revealed a small, but significant difference between the lowest scorers, gender expansive FAB and cisgender women, compared to the highest scorers, cisgender men, ps < 0.03. Transgender women, transgender men, and gender expansive MAB did not differ from cisgender men, nor from one another.

Discussion

To our knowledge, this study was the first to investigate explicit and implicit gender-related stereotyping in transgender and gender expansive adults. Our comparison of these groups revealed small to moderate, but varied patterns of gender-related stereotyping, with some corresponding to sex designated at birth, others corresponding to current or former gender identification, and still others suggesting interactions between the two. Cisgender men often scored highest on explicit (ASI) and implicit (IAT) measures, which is consistent with past work showing that cisgender men tend to endorse gender stereotypes most strongly (Girod et al., 2016; Glick & Fiske, 1996; Glick et al., 2000, 2004; Sibley & Becker, 2012). In contrast, gender expansive FAB and cisgender women often scored lowest on these measures. Interestingly, being designated MAB or identifying as a man currently (cisgender and transmasculine) was associated with moderately greater endorsement of paternalistic attitudes and implicit gender-leadership bias compared to groups designated FAB. Importantly, this pattern of results differs quite strongly from Khorashad and colleagues' (2019) finding that gender-diverse groups, including transgender individuals, endorsed hostile, and benevolent sexism more strongly than cisgender groups. This discrepancy may be explained by several factors, including but not limited to the former study recruiting all participants from a gender clinic, having a smaller cohort of cisgender participants, and using different scale points for the ASI. Additionally, their study treated the three subfactors of benevolent sexism as one factor, which makes comparisons between our results more challenging.

Before dissecting patterns of responding on each measure, we would like to acknowledge that the foundational research validating measures of explicit and implicit gender stereotypes is most often conducted with cisgender men and women

as participants. Though the primary goal of this research was to include gender-diverse participants, it is important to consider what responses from these participants might mean on these measures. While endorsement from cisgender men may reflect anti-women attitudes (Glick & Fiske, 1996, 1997), responses from cisgender women may reflect internalized prejudice (Eagly & Wood, 2011). It is difficult to estimate what pattern may best reflect responding from gender-diverse participants; transgender individuals could fall into the pattern of their respective gender groups or a different pattern entirely. Gender expansive individuals may fall into either pattern, neither pattern, or somewhere in between. Additionally, gender-diverse individuals face unique gender-based discrimination at structural and interpersonal levels (Casey et al., 2019; Hughto et al., 2015; Kcomt, 2019) that could influence their responding.

Explicit Attitudes

Hostile Sexism

Scores on the hostile sexism subfactor revealed some of the largest differences between transgender and gender expansive adults (regardless of their sex designated at birth) when compared with cisgender men and cisgender women. Given that hostile sexism functions predominantly to benefit cisgender men, one would expect this group to score highest on this dimension, which is consistent with the current pattern of results and original research using this scale (Glick & Fiske, 1996). Indeed, men's dominance over women is perpetuated by beliefs that women are subordinate to men and denial that women suffer inequalities; while 63% of women believe women still face more obstacles than men in getting ahead, only 44% of men share this belief (Fingerhut, 2016). As such, the attitudes of cisgender men might reflect resentment of women's newfound power (i.e., hostile sexism), or lack of awareness about gender inequity.

Transgender women, transgender men, and gender expansive MAB did not endorse hostile sexism any more or less than cisgender women, which suggests that those not designated male at birth (i.e., transgender men, cisgender women, gender expansive FAB), and not currently identifying as men (i.e., transgender women, gender expansive MAB) do not endorse hostile sexism. Although cisgender women scored significantly above gender expansive FAB, both groups scored significantly lower than cisgender men, suggesting that cisgender women may have greater internalized prejudice and be more acculturated to gender norms than transgender or gender expansive individuals.

Protective Paternalism

Although the pattern for hostile sexism suggested low endorsement by all groups relative to cisgender men, responses of benevolent sexism were more nuanced. To begin, the data suggested that in some cases, a current or former masculine identity may influence endorsement of protective paternalism. Indeed, those designated female at birth who did not report a masculine identity (i.e., cisgender women, gender expansive FAB) endorsed this subfactor the least, scoring significantly below cisgender men. In contrast, transgender men and gender expansive MAB did not significantly differ in their endorsement of protective paternalism from cisgender men, who scored highest on this subfactor. Additionally, transgender men and gender expansive MAB endorsed these attitudes more than cisgender women and gender expansive FAB, respectively. These results reflect moderate endorsement from some groups of the idea that women should have a man to cherish and protect them and that men should be willing to compromise their own well-being if it means being the best provider possible. Taken together, it may be that the experience or socialization toward a masculine gender role (either formerly, for gender expansive MAB, or presently, for transgender men and cisgender men) influences one's expectation of men as a provider and protector. Considerable overlap between transgender and cisgender men on this subfactor supports the theory that transgender behaviors and attitudes sometimes mirror those of individuals sharing their gender rather than sex (Olson & Gülgöz, 2018).

The similarity between transgender and cisgender men's scores may be explained by theories that suggest manhood, unlike womanhood, must be earned through social proof and validation (Vandello et al., 2008). It may be that transgender men experience pressure to conform to social expectations of masculinity by asserting men's stereotypical gender role as a provider and protector of women. This possibility aligns with research demonstrating that in relationships between transgender men and their women partners, women do more housework and emotional labor, even when both partners identify as feminists (Pfeffer, 2010). Relatedly, when compared directly to heterosexual cisgender couples, cisgender women partners of transgender men report taking on a more stereotypically feminine role in the relationship than cisgender women partners of cisgender men, and transgender men report taking on a more stereotypically masculine role in relationships with female partners than do cisgender men (Kins et al., 2008). Of the transgender men in our data who provided their sexual orientation, 35.79% reported a bisexual identity (excluding individuals who reported no sexual contact or "other" orientations). As such, the masculine role of provider or protector may reflect pressure on transgender men

to conform to gender norms and could additionally be shaped by relationship patterns.

Complementary Gender Differentiation

On attitudes related to essentialist views about gender, transgender women, transgender men, and gender expansive MAB scored above cisgender women and did not differ from cisgender men. The finding that transgender and gender expansive MAB scored alongside cisgender men on a subfactor that taps into essentialist attitudes about gender was surprising. However, this finding may be explained by research showing that in a mixed gender cohort, stereotyped expression is greater among some transgender adults than cisgender adults (McCauley & Ehrhardt, 1978) and particularly among transgender women (Brems et al., 1993; Fleming et al., 1980; Gómez-Gil et al., 2012; Herman-Jeglińska et al., 2002; Skrapec & MacKenzie, 1981). Furthermore, that gender expansive MAB endorsed this subfactor more strongly than gender expansive FAB suggests the possibility of a male sex designated at birth influencing attitudes independent of one's current gender identity.

The scores of transgender participants and gender expansive MAB on this subfactor may reflect an attitude of gender immutability, while cisgender women's lower scores may reflect a tendency to reject essentialist explanations for gender differences (Parker et al., 2017). Like cisgender women, transgender and gender expansive people can be targets of sexism and heterosexism (Mathy, 2003). However, it is possible that finer distinctions between gender roles and expectations may help make sense of feelings of assigned gender discomfort or distress or affirm individuals in their transition. While at first glance, transgender and gender expansive adults stand to suffer the most from traditional gender stereotypes and might thus be expected to reject these attitudes, our data showed that it is not that simple; gender distinctions may be useful in understanding one's gender identity, may reflect pressure to "pass" or conform to gender prescriptions (Miller & Grollman, 2015; Sevelius, 2013), or could be an indication of internalized stigma (Austin & Goodman, 2017; Rood et al., 2017).

Heterosexual Intimacy

Despite being the strongest endorsers of hostility toward women, many cisgender men still seek women as romantic and sexual partners and idealize them in that role. Given that men tend to hold more negative views of non-heterosexual relationships than women (Herek, 1988; Ahrold & Meston, 2008), it is not necessarily surprising that cisgender men in our sample scored above cisgender women in endorsement of attitudes idealizing traditional heterosexual relationships. Compared to gender expansive FAB, however, cisgender

women had a stronger endorsement of this subfactor. This might relate to majority heterosexual identification for cisgender women in our cohort (77.27%, excluding individuals who reported no sexual contact or "other" orientations) or to gaining approval in a culture that prioritizes marriage and child rearing (DePaulo & Morris, 2005; Sharp & Ganong, 2011). Indeed, a recent study of cisgender, heterosexual adults found that the perceived benefits of romantic relationships were heightened for women and men who endorsed benevolent sexism (Waddell et al., 2019).

A considerable number of gender expansive FAB participants reported bisexual attraction (50.67%), and more identified as lesbian or gay (32%) than heterosexual (17.33%, excluding individuals who reported no sexual contact or "other" orientations). As the heterosexual intimacy subfactor describes relationships between heterosexual and presumably cisgender adults, it may have had little personal relevance to gender expansive FAB, particularly those who self-identified as non-heterosexual. This raises the issue of item-relevance and how to mitigate an item's lack of relevance to a group. One way of doing this might be to modify the heterosexual intimacy scale to be a sexual intimacy scale so as to be to be consistent with participants' sexual orientation. However, this approach may not be suited for investigating typical attitudes about gender and gender roles since item modifications would deviate from the measure's original conceptual meaning. The combination of gender expansive and non-heterosexual identities may account for the rejection of strict gender roles or scripts in relationships among gender expansive FAB. Although gender expansive FAB may not identify as women, they often identify as sexual minorities, and research shows that lesbian and bisexual women endorse benevolent sexism less strongly than heterosexual women (Cowie et al., 2019).

Implicit Attitudes

Reponses on the IAT revealed significantly less gender-leadership bias among gender expansive FAB and cisgender women than cisgender men. These results align with previous reports that cisgender men more readily associate women with supporter words and men with leader words (Girod et al., 2016), and perceive women less positively than men for exhibiting leadership behaviors or holding leadership roles (Eagly & Karau, 2002). Indeed, one study showed that male and female evaluators for a laboratory managerial position rated male applicants more positively and deserving of a higher salary than female applicants, despite having identical credentials (Moss-Racusin et al., 2012). Taken together, these findings suggest cisgender men exhibit implicit and explicit bias regarding women and leadership, which may ultimately benefit men by providing greater access to leadership opportunities and greater approval in leadership roles.

The pattern of results for implicit bias showed that transgender men scored highest, though their scores did not differ significantly from other groups. There was large variability in this group as few transgender men completed the IAT ($n = 32$). Of note, the pattern of results for implicit gender-leadership bias closely resembled that of protective paternalism; men scored highest (whether transgender or cis) and endorsed protective paternalism significantly more than gender expansive FAB and cisgender women. This correspondence between the two types of sexism suggests that individuals who view women as weak and in need of protection might also less readily associate women with leadership traits (e.g., assertive) as compared to supporter traits (e.g., sympathetic). While there is some existing evidence to suggest that masculine identification is associated with increased endorsement of sexism and gender conformity, this has only been assessed in cisgender adults (Glick et al., 2015). The present results regarding transgender men provide insights into how identification with masculine identities might influence implicit views on gender and leadership, though additional research with larger samples is needed.

Limitations and Future Directions

To our knowledge, this was the first empirical study to explore the role of both sex and gender identity in explicit and implicit gender-related stereotyping. By reporting on transgender and gender expansive adults, we support and extend previous findings on gender-related stereotyping, unlocking them from the gender binary. Overall endorsement of gender-related stereotyping on the ASI was low (i.e., all group means below 2 on a scale from 0 to 5). However, it is common for ASI scores to range from the low end to the midpoint of the scale (if there is one, i.e., a mean of 4 on a 1–7 scale) or the lower end of the scale if there is no midpoint (i.e., a mean between 2 and 3 on a 0–5 scale; Glick & Fiske, 1996, 2001). This pattern may be reflective of shifting norms in expressing bias (Crandall et al., 2002; Zitek & Hebl, 2007) or motivation to respond without bias (Plant & Devine, 1998). Similarly, mean IAT D-scores were greater than 0.2 but below 0.4 for all groups, indicating a small-to-moderate level of gender-leadership bias (Greenwald et al., 2003). Even in the face of low endorsement overall, differences across groups suggest that sex and gender identity play unique roles in the expression of gender-related stereotyping.

A limitation of this work is that we did not collect information on how long participants have held their affirmed identity or the time at which they transitioned. As such, we can only speculate on the degree to which our results may or may not align with stereotypes associated with sex designated at birth and subsequent rearing. Turning to the limited research with transgender children, findings suggest that children who have socially transitioned exhibit a similar degree of implicit gender identification to cisgender children (Olson & Gülgöz, 2018; Olson et al., 2015), but lower explicit gender stereotype endorsement (Olson & Enright, 2018). Transgender children also show gender-typed toy, clothing, and playmate preferences, equal in strength and rigidity to those of gender-matched cisgender children (Fast & Olson, 2017; Olson et al., 2015). Furthermore, research with transgender children suggests that gender identity and preferences are not influenced by how long one has been transgender (Gülgöz et al., 2019). Thus, whether transgender or cisgender, children tend to develop gender expression patterns that align strongly with their experienced gender identity, regardless of how long they have had that identity. Future research should investigate how these attitudes manifest across the lifespan and whether age of first identification as transgender or gender expansive influences these attitudes in adulthood.

Conclusion

One of the most consistent patterns of the present study was that gender expansive FAB endorsed gender stereotypes less than other groups, while cisgender men endorsed gender stereotypes most. Moreover, those who were designated male at birth, or who identified as men at testing, endorsed gender stereotypes more strongly on some dimensions. That transgender participants endorsed complementary gender differentiation more than other groups points to possible internalized stigma, and some influence of gender identification on adoption of benevolent sexism. Indeed, results on this dimension suggest that transgender adults may endorse some components of benevolent sexism more than cisgender adults, particularly compared to cisgender women. By contrast, sex designated at birth, which may affect some rearing patterns, seems to influence sexism subtypes such as protective paternalism, where gender expansive MAB indicated similar endorsement to cisgender men. Importantly, transgender and gender expansive groups most readily rejected attitudes endorsing heterosexism, as captured by the heterosexual intimacy subscale. While low endorsement on this subscale may point to a lack of item-relevance, this pattern of results also speaks to the broader commitment of the LGBTQ+ community in fighting for equality and against heterosexism.

Taken together, these varying patterns underscore the importance of considering how gender identity and sex designated at birth influence explicit and implicit gender-related stereotyping. These data suggest that some gender-related stereotypes may be related to social conditioning and rearing patterns, whereas others may be related to individual identities and personal beliefs. Future examination of mechanisms by which gender-related stereotyping come to be adopted by gender-diverse adults will provide a more complete

understanding of the etiology and development of these attitudes and internalized stigma.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in this research were approved by the University's Research Ethics Board. Participants were healthy adults who voluntarily chose to participate in this research and provided informed consent. At any point in the study, participants could decline to answer a question or choose to opt out without incurring any penalties.

Informed Consent Informed consent was obtained from all participants included in the study.

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