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Discrimination, mental health, and body image among transgender and gender-non-binary individuals: Constructing a multiple mediational path model

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ABSTRACT

The purpose of the current study was to examine the relationships among discrimination, mental health, and body image in a national sample of transgender adults. Participants ($N = 78$) identified as transgender, genderqueer, or other gender-non-binary identities and were recruited via a national online survey. Harassment/rejection, work/school, and other discrimination explained 10.4% of the variance in body appreciation, while satisfaction with life, anxiety, self-esteem, and depression explained 60.7%. Within these models, harassment/rejection was inversely associated with body appreciation, while self-esteem and satisfaction with life were positively associated. A series of path models moving from a measurement model to a more parsimonious and excellent-fitting model found that the effect of harassment/rejection on body appreciation was fully mediated by self-esteem and satisfaction with life, resulting in a multiple mediation.

KEYWORDS

transgender; body image; mental health; discrimination

"Transgender" refers to individuals whose gender identity is different from the sex they were assigned at birth (Bradford, Reisner, Honnold, & Xavier, 2013). According to the U.S. National Transgender Discrimination Survey (Grant et al., 2011), transgender individuals face heightened rates of gender-based discrimination, rejection, and abuse. Within this study, more than 90% of participants experienced discrimination and mistreatment at work, and 47% experienced economic discrimination. Collectively, such discrimination is referred to as transphobia, where the systemic structure that endorses transgender identity as abnormal or deviant is cis-sexism (Nordmarken, 2014). Reports of social isolation, victimization, and discrimination are common among transgender populations (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Clements-Nolle, Marx, & Katz, 2006; Garofalo, Deleon, Osmer, Doll, & Harper, 2006). Discrimination also commonly manifests in the form of harassment and violence (Irwin, 2002; Lombardi, Wilchins, Priesing, & Malouf, 2002), as well as health care and housing discrimination (Bradford et al., 2013; Grant et al., 2011).

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Given the potential role of cis-sexist discrimination, rejection, and harassment as a stressor, it follows that increased stress may place transgender individuals at risk for adverse mental health outcomes (Hendricks & Testa, 2012). One particular aspect of mental health that may be affected is body image—a multidimensional construct that involves thoughts, feelings, and perceptions about the body (Cash & Pruzinsky, 1990; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Research on body image among transgender adult populations has largely been limited to qualitative studies (e.g., Ålgars, Alanko, Santtila, & Sandnabba, 2012), nonprobability clinical samples (e.g., Bandini et al., 2013; Khoosal et al., 2009; Lindgren & Pauly, 1975), or case studies (e.g., Hepp & Milos, 2002; Hepp, Milos, & Braun-Scharm, 2004; Murray, Boon, & Touyz, 2013). Case studies and qualitative studies have speculated that over-focus on weight loss and gain may be strategies for transgender men (TM; Ålgars et al., 2012; Hepp & Milos, 2002) and transgender women (TW; Murray et al., 2013) to suppress secondary sexual characteristics or accentuate desired ones, and that experiences with gender dysphoria may be a risk factor for anorexia nervosa (Hepp et al., 2004).

The first published quantitative study on body image in transgender individuals (Lindgren & Pauly, 1975) created a clinical body image assessment instrument in this population and found that body image tended to improve after hormone or surgical treatment. In one of the first large-scale quantitative studies of gender identity and disordered eating, Vocks, Stahn, Loenser, and Legenbauer (2009) found that transgender individuals had more body dissatisfaction compared to cisgender men and women. Another quantitative study (Ålgars, Santtila, & Sandnabba, 2010) corroborated these findings in a national probability sample in Finland—gender identity conflict was associated with more eating disturbances in women and greater body dissatisfaction and disordered eating among men. Other research on transgender individuals diagnosed with an eating disorder (ED) and Gender Identity Disorder (GID, which has more recently been replaced in the *Diagnostic and Statistical Manual of Mental Disorders* [*DSM*] with gender dysphoria; American Psychiatric Association, 2013) has found that transgender individuals' overall body uneasiness may differ based on gender confirmation stage and genotypic sex (Bandini et al., 2013), and one small, clinic-based quantitative study found that TW undergoing hormone therapy exhibited lower body dissatisfaction (Khoosal et al., 2009).

The bulk of research summarized has focused on one facet of body image: body dissatisfaction. This approach alone is limiting, as body image is a complex construct, and is likely to be influenced differently for transgender individuals given the potential concerns of passing (i.e., the ability to be identified as one's gender identity based on gender expression; Stryker & Whittle, 2006), gender dysphoria (i.e., one's psychological identity is not congruent with the biological sex they were assigned at birth; American Psychiatric Association, 2013), and interactions with cisgender society that largely do not condone any form of gender nonconformity or transgender identification (i.e., transphobic interactions). Concerns of passing and discrimination may be particularly important given the large preoccupation with the "trapped in the wrong body" narrative that permeates both cultural

(Mock, 2012) and academic (Bettcher, 2014) discussions of transgender body image. It may be a limiting approach to solely examine body image in direct relationship with gender dysphoria, and given the absence of the examination of discriminatory factors in relation to body image in previous research, the potential link between the two still needs to be investigated. There is precedent for the relationship between gender-related minority stress factors and body image based on research on gay men (Kimmel & Mahalik, 2005), and one empirical review of this literature has found greater levels of body dissatisfaction to be tied to greater levels of gender nonconformity (Wood, 2004). Although these constructs do not identically translate to transgender samples, the idea behind the minority stress/discrimination-body image relationship is theoretically compelling and warrants further examination.

Body dissatisfaction is not the only potential correlate of minority stress factors (like cis-sexism and transphobia). Another dimension of body image, body appreciation, may involve other mental health constructs as predictors and may act as a protective factor (in contrast to body dissatisfaction, which, as previously discussed, acts as a risk factor for ED pathology). Body appreciation encompasses positive and reinforcing body esteem, surveillance, shame, and psychological well-being (Avalos, Tylka, & Wood-Barcalow, 2005). As a construct, body appreciation differs from body satisfaction in that it involves both respect for and approval of one's body in conjunction with the rejection of media-based standards of beauty. The latter part of this definition may be of particular importance to trans individuals, given the emphasis on gender-congruent (i.e., cis-sexist) standards of beauty on conditions of "passing" (e.g., van de Grift et al., 2016b). Body appreciation has not yet been examined in transgender populations, although in the general population, greater body appreciation has been associated with less traditional gender role ideology (Swami & Abbasnejad, 2010), lower neuroticism (Swami et al., 2013), and less predilection toward weight loss and dieting (Wasylkiw & Butler, 2014). Given that past research has pointed to body dissatisfaction as a correlate of transition stage or hormone treatment and as a contributor to psychological distress in this population (Jones, Haycraft, Murjan, & Arcelus, 2016), it follows that body appreciation is a functionally distinct correlate of psychological distress (and when applying minority stress hypothesis, discrimination). This distinction is important, as rates of non-ED psychopathology tend to be high in trans populations (e.g., Bockting et al., 2013; Budge, Adelson, & Howard, 2013; Nuttbrock et al., 2010), yet protective factors that go beyond surgical status or hormone therapies (e.g., Bandini et al., 2013) or gender role orientation (e.g., Cella, Iannaccone, & Cotrufo, 2013) have not been extensively investigated.

It is also important to consider predictors of body appreciation, as extant literature has primarily focused on predictors of body image dis/satisfaction. Both depression and anxiety have been positively associated with body image disturbances in cisgender samples (Kostanski & Gullone, 1998; Stice, Hayward, Cameron, Killen, & Taylor, 2000). In addition, high self-esteem has been associated with lower body image dissatisfaction in samples of TW (Vocks et al., 2009) and of cisgender people (Kostanski & Gullone, 1998; O'Dea & Abraham, 2000). In studies of transgender

mental health, transgender people report more depressive and anxiety symptoms than the general cisgender population (Budge et al., 2013), and multiple studies have found disproportionately high rates of depression and anxiety in transgender samples (Bockting et al., 2013; Budge et al., 2013; Nuttbrock et al., 2010). Together, these findings indicate that anxiety and depression symptomology are particularly high among transgender populations, and the high frequency of discriminatory events based on transgender identity is likely to play a large role in this.

No research to date has attempted to simultaneously link anti-transgender discrimination, mental health, and body appreciation, although the constructs are theoretically linked. As a result, the purpose of the current study was to examine the relationships among discrimination, mental health, and body appreciation in a national sample of transgender adults. The aims of the study were exploratory, and primarily involved examining (a) the relationship between experiences of cis-sexist discrimination and mental health factors and (b) whether this relationship further predicts body image appreciation among transgender individuals.

Methods

Participants

Participants ($N = 78$) completed a Web-delivered national survey in the United States. Inclusion criteria required participants to be at least 18 years of age and identify as transgender or an "other" non-binary/gender-nonconforming identity. An automated deletion procedure was employed due to the high likelihood of fake responses with online research involving incentives and the mandate by the host university's information security officer to prevent fraudulent use of state funds. Any data that may have been generated by a computer program (e.g., unreasonably short or long completion times), contained impossible response patterns (e.g., selection of the first or last item of a scale for every response), or contained invalid responses to randomly inserted accuracy check items (e.g., "Please select neutral for this item") were automatically deleted from the survey software. Since removal of such data was automatic and done during data collection, the exact number of deleted responses is unknown.

The mean age of participants was 29.5 ($SD = 10.45$). Participants were primarily White/European-American (non-Latino, 61.5%), identified as queer (41.0%), reported pursuing education past high school (93.60%), and were employed and/or in school (88.50%). A full list of participant demographics is provided in Table 1.

Procedure

Participants were recruited through national and regional transgender organizations and online social and community forums and groups that were contacted with study and recruitment information via e-mail or by direct posts approved by social media moderators. To increase sample diversity, organizations that had a focus on

Table 1. Demographics of study sample.

	N	%
Gender		
Transman	26	33.3
Transwoman	29	37.2
Non-binary	23	29.5
Race/Ethnicity		
White/European-American (non-Latino)	48	61.5
Multiracial/Multiethnic	10	12.8
Asian/Asian-American/Pacific Islander	8	10.3
Black/African-American (non-Latino)	7	9
Latino/Hispanic	2	2.6
American Indian/Native American	1	1.3
Other	2	2.6
Sexual Orientation		
Queer	32	41
Bisexual	12	15.4
Heterosexual	12	15.4
Gay/Lesbian	10	12.8
Other	12	15.4
Education		
Some college	28	35.9
Bachelor's degree	27	34.6
Master's degree	11	14.1
2-year Associate's degree	6	7.7
High school diploma/GED	5	6.4
Doctorate degree	1	1.3
Employment status		
Full-time	27	34.6
Part-time	16	20.5
College/university student and employed	15	19.2
College student	11	14.1
Unemployed	9	11.5

transgender individuals from racial/ethnic minority backgrounds were particularly targeted. Individuals interested in participating in the study were directed to e-mail the study coordinator, who screened potential participants for meeting the eligibility criteria and to ensure participants were not computer programs or automated scripts. Those who passed this initial screening were provided a link by e-mail and a unique access code for the online survey. After completing the survey, participants entered an e-mail address in order to receive a $15 Amazon.com e-gift card as compensation. These e-mail addresses were sent to a financial administrator who provided the compensation and who did not have access to participant data. Consent was acquired prior to participation, and the study was approved by the university institutional review board.

Measures

Based on the previous review of the literature, the following constructs were operationalized as study variables: discrimination, the primary independent variable, was assessed as anti-lesbian, gay, bisexual, transgender, and queer (LGBTQ) harassment, discrimination, and rejection; mental health and psychosocial variables, which were included as both exogenous predictors and endogenous mediators,

included depression, anxiety, satisfaction with life, and self-esteem; the dependent variable of interest was body appreciation.

Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS). The HHRDS (Szymanski, 2006) is a 14-item self-report questionnaire that measures the frequency that lesbian, gay, bisexual, transgender, and queer (LGBTQ) minorities report experiences of harassment, rejection, and discrimination with the past year. For the present study, the word "LESBIAN" was replaced with the phrase "LGBTQ individual" to be inclusive of various forms of sexuality and gender-based discrimination. The scale examines past-year discrimination across three dimensions: Harassment/Rejection (e.g., "How many times have you heard ANTI-LGBTQ remarks from family members?"), Workplace and School Discrimination (e.g., "How many times have you been treated unfairly by your employer, boss, or supervisors because you are an LGBTQ individual?"), and Other Discrimination (e.g., "How many times have you been treated unfairly by strangers because you are an LGBTQ individual?). All items are assessed on a six-point Likert-type scale that ranges from 1 (the event never happened to you) to 6 (the event happened almost all the time), and higher total scores indicate more discriminatory experiences. Strong internal consistency ($\alpha = .90$) and adequate construct validity have been established for the scale (Szymanski, 2006; Szymanski, Chung, & Balsam, 2001).

Hopkins Symptom Checklist 25 (HSCL-25). The HSCL-25 is the 25-item short version (Hesbacher, Rickels, Morris, Newman, & Rosenfeld, 1980) of the original 58-item Hopkins Symptom Checklist developed by Parloff, Kelman, and Frank (1954). This inventory assesses whether mental health symptoms are present across two dimensions of anxiety and depression. Each item is rated on a four-point scale that ranges from 1 (not at all) to 4 (extremely), where higher scores indicate a greater number of symptoms experienced in the past week. An average item score of 1.75 is the cutoff point for clinical significance. The total scale ($\alpha = .92–.93$) and individual subscales (depression, $\alpha = .87$, anxiety, $\alpha = .79$) have demonstrated good reliability (Einarsen & Nielsen, 2015) and validity (Nettlebladt, Hansson, Sefansson, Borquist, & Nordström, 1993) across previous studies.

Rosenberg Self-Esteem Scale (RSES). The RSES (Rosenberg, 1965) is a 10-item self-report measure of self-esteem (e.g., "I feel that I have a number of good qualities", "I wish I could have more respect for myself"). Scores range from 1 (strongly disagree) to 4 (strongly agree), and higher scores indicate better self-esteem. Good internal consistency has been established for the scale in previous research ($\alpha = .89$; Bosker, 2002).

Satisfaction With Life Scale (SWLS). The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a five-item questionnaire that assesses life satisfaction on a seven-point Likert scale. Scores range from 1 (strongly disagree) to 7 (strongly agree), and higher total scores indicate greater life satisfaction (e.g., "In most ways, my life is close to my ideal"). Diener and colleagues (1985) have demonstrated strong internal consistency ($\alpha = .87$) for the scale.

Body Appreciation Scale (BAS). The BAS (Avalos et al., 2005) is a 13-item self-report measure of body positivity. Items (e.g., "Despite its flaws, I accept my body

for what it is," "On the whole, I am satisfied with my body") are rated on a five-point Likert-type scale. Scores range from 1 (never) to 5 (always), and higher total scores indicate greater body appreciation. High internal consistency has been established for this scale ($\alpha = .94$). As a construct, body appreciation has demonstrated convergent validity with body dissatisfaction as well as discriminant validity with impression management (Avalos et al., 2005).

Data analyses

A correlation matrix was created in order to examine the bivariate relationships among forms of heterosexist discrimination, mental health indices, and body appreciation. Two simultaneous regression analyses were then run to examine the pattern of connections between discrimination (harassment/rejection, work/school, other), mental health (depression, anxiety, self-esteem, satisfaction with life), and body appreciation. The first regression included each of the three subscales from the HHRDS as predictor variables and body appreciation as the criterion variable. The second regression included depression, anxiety, satisfaction with life, and self-esteem as predictor variables and body appreciation as the criterion variable. From these regressions, the predictors with the strongest effects were then used in a mediational model predicting body appreciation. Descriptive statistics for each scale are provided in Table 2.

Results

Pearson's *r* bivariate correlation analyses, multiple linear regression analyses, and a mediational path model were conducted. All tests were specified as two-tailed and tested at an alpha level of .05. Given the small sample size of the study ($N = 78$), it is likely that analyses were underpowered, which prohibits the ability to detect small effects.

Correlation matrix

Bivariate correlation analyses were run (Table 3) with body appreciation, each of the HHRDS subscales, depression, anxiety, self-esteem, and satisfaction with

Table 2. Descriptive statistics for scales.

	Mean	*SD*	Skewness	Kurtosis
Body Appreciation	3.11	0.85	−0.17	−0.33
HHRDS: Harassment	2.85	1.17	0.46	−0.95
HHRDS: Work/School	2.21	1.10	1.32	1.78
HHRDS: Other	2.64	1.18	0.45	−0.68
Depression	1.13	0.74	0.46	−0.57
Anxiety	0.94	0.67	0.68	0.01
Self-Esteem	16.83	6.96	−0.32	−0.49
Satisfaction With Life	17.56	7.68	0.08	−0.84

Note. HHRDS = Heterosexual Harassment, Rejection, and Discrimination Scale.

Table 3. Correlation matrix. body appreciation, discrimination, and mental health.

	1	2	3	4	5	6	7
1. Body Apprecia-tion							
2. HHRDS: Harassment	–.30**						
3. HHRDS: Work/ School	–.18	.52**					
4. HHRDS: Other	–.11	.58**	.64**				
5. Anxiety	–.46**	.32**	.24*	.27*			
6. Depression	–.53**	.48**	.20	.14	.73**		
7. Self-Esteem	.76**	–.37**	–.17	–.16	–.50**	–.61**	
8. Satisfaction With Life	.64**	–.30**	–.10	–.07	–.39**	–.55**	.68**

Note. HHRDS = Heterosexist Harassment, Rejection, and Discrimination Scale. $^{*}p < .05$. $^{**}p < .01$.

life. Body appreciation was negatively associated with past experiences of harassment/rejection, anxiety, and depression, as well as positively associated with self-esteem and satisfaction with life. Work/school and other discrimination were both positively associated with anxiety, but not with any other mental health variable.

Regressions

The first regression with Harassment/Rejection, Work/School, and Other discrimination as predictors explained 10.4% of the variance in body appreciation [$F(3, 74) = 2.88$, $p = .042$]. Harassment/Rejection was inversely associated with body appreciation [$\beta = -.34, p = .018$]. However, Work/School [$\beta = -.10, p = .493$] and Other [$\beta = .15, p = .327$] discrimination were not associated.

The second regression with satisfaction with life, anxiety, self-esteem, and depression as predictors explained 60.7% of the variance in body appreciation [$F(4, 73) = 28.23, p < .001$]. Self-esteem [$\beta = .56, p < .001$] and satisfaction with life [$\beta = .22$, $p = .036$] were both positively associated with body appreciation. However, neither anxiety [$\beta = -.10$, $p = .347$] nor depression [$\beta = .01$; $p = .966$] was a predictor of body appreciation.

Mediational model

Two meditational path models were developed using Amos 21.0 to validate patterns of relationships that had emerged among the primary variables in the prior regressions, whereby the strongest predictors from the regressions were chosen for the path models. The first path model (Figure 1) was the saturated model whereby all possible direct paths were specified, meaning that no fit indices could be calculated. Harassment/rejection was specified to have a direct effect on body appreciation, as well as an indirect effect through self-esteem and satisfaction with life, generating a multiple mediational path model (Figure 1). The direct paths from harassment/rejection to self-esteem ($\beta = -.37$, $p < .001$) and from self-esteem to body appreciation ($\beta = .60$, $p < .001$) were both statistically significant. Similarly, the direct paths from harassment/rejection to satisfaction with life ($\beta = -.30$, $p = .006$) and from satisfaction with life to body appreciation ($\beta = .23$, $p = .021$) were significant. Satisfaction with life and self-esteem were positively correlated at

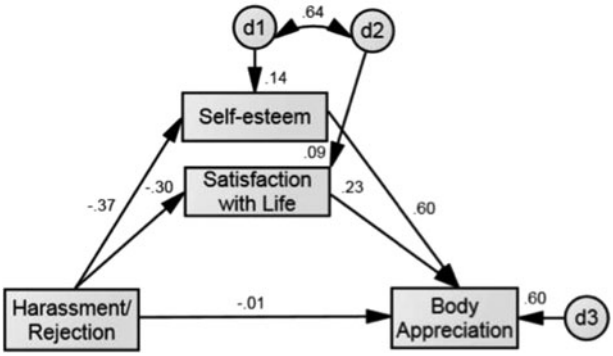

Figure 1. Saturated model.

$r = .64$, $p < .001$. Furthermore, the indirect effect of harassment/rejection on body appreciation collectively through self-esteem and satisfaction with life was statistically significant ($\beta = -.29$, $p < .001$), indicating a full multiple mediation because the direct path from harassment/rejection to body appreciation was not significant in the model ($\beta = -.01$, $p = .856$), although it had been in the bivariate correlation.

The second model (Figure 2) was structured in exactly the same manner as the first, but the direct path from harassment/rejection to body appreciation was no longer specified (Figure 2). The standardized path loadings and p-values in the second model were identical to the first, except that the p-value of the path loading from satisfaction with life to body appreciation increased negligibly from $p = .020$ to $p = .021$. The fit indices of the second model were all in the good range (CFI = 1.00, RMSEA = .00, GFI = 1.00, AGFI = 1.00, NFI = 1.00, IFI = 1.01, TLI = 1.05), suggesting that the second model fit the data extremely well.

Discussion

The purpose of the current study was to examine the relationships among discrimination, mental health, and body image in a national sample of transgender adults. Based on the previous review of the literature, discrimination was expected to act

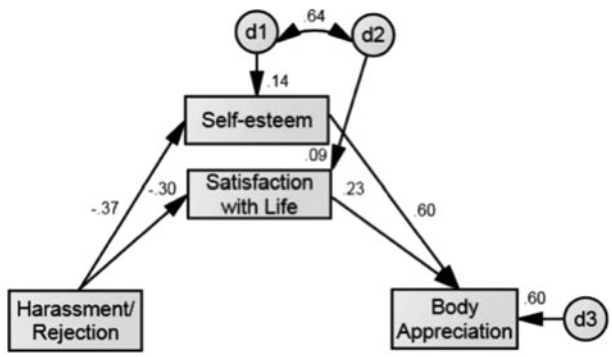

Figure 2. Final model.

as a risk factor and to positively correlate with depression and anxiety and negatively correlate with protective factors of self-esteem, satisfaction with life, and body appreciation. Within the regression models, harassment/rejection was inversely associated with body appreciation, while self-esteem and satisfaction with life were positively associated. A series of path models moving from a measurement model to a more parsimonious and excellent-fitting model found that the effect of harassment/rejection on body appreciation was fully mediated by self-esteem and satisfaction with life, resulting in a multiple mediation.

In the first regression, which found that the multiple indicators of discrimination significantly predicted body appreciation, harassment/rejection was the only predictor. To the authors' knowledge, this is the first study that has found discrimination to be associated with poorer body image in transgender individuals, although this link has been found in cisgender sexual (Kimmel & Mahalik, 2005; Reilly & Rudd, 2006) and racial (Iyer & Haslam, 2003) minority samples. These findings are also consistent with the theoretical rationale of Hendricks and Testa (2012)'s adapted Minority Stress Model, whereby minority stressors like transphobic or cis-sexist discrimination, victimization, and rejection can adversely affect mental health, a potential correlate of body image. Thus, the role of social stigma in the form of cis-sexist and transphobic discrimination is likely to play a significant role in the formation of body image issues among transgender individuals.

In the second regression, which found that multiple indices of mental health predicted body appreciation, self-esteem and satisfaction with life were predictors. The association between self-esteem and body appreciation is consistent with previous findings in the general body image literature, where body dissatisfaction has been associated with lower self-esteem in cisgender samples (Clay, Vignoles, & Dittmar, 2005; Kostanski & Gullone, 1998). This finding is also congruent with previous research on transgender body image correlates, where self-esteem has been significantly associated with measures of body image and eating disturbance among TW (Vocks et al., 2009).

In the final multiple mediation model, the indirect effect of harassment/rejection on body appreciation concurrently through self-esteem and satisfaction with life was statistically significant, indicating a full mediation because the direct path had not been significant in the first model. An interpretation could be that harassment/rejection reduces a transgender person's self-esteem and satisfaction with life, which then reduces the individual's body image. Links between discrimination and mental health in transgender individuals have been previously demonstrated in studies of depression, anxiety, and suicide risk (Bockting et al., 2013; Nuttbrock et al., 2010), and the final path model in the current study supports similar effects, although it extends them to body image. These findings are important, as their implication deviates from the traditional "mind in the wrong body" paradigm that permeates academic discussion (Bettcher, 2014), and through it, clinical practices. Experiencing high amounts of cis-sexist discrimination as a risk factor places the onus of change on societal factors that promote maladaptive, discriminatory beliefs among cisgender populations, rather than solely on the coping ability of

transgender individuals. Thus, identifying harmful cultural practices of cis-sexist systems (i.e., gender-nonconforming practices or identification as stigmatic) are critical in addressing these maladaptive practices through policy. These findings are also congruent with studies of harassment transgender individuals face in public restrooms (Herman, 2013). Such discrimination manifests as denial of access, verbal harassment, and physical assault, and was linked to impacting respondents' education, employment, and health. Our findings supplement gaps in the Williams Institute Survey, which did not specifically examine mental health or body image in relation to discrimination.

Implications

The multiple mediation model has a number of potential clinical implications. Since harassment/rejection likely affects global life satisfaction and self-esteem, therapeutic focus on bolstering coping resources of transgender individuals regularly confronted with discrimination may improve overall well-being. In particular, cognitive behavioral therapy has been shown to increase self-esteem and life satisfaction among cisgender populations both with ED diagnoses (Murphy, Straebler, Cooper, & Fairburn, 2010) and body image disturbances or dissatisfaction (Butters & Cash, 1987; Rosen, Orosan, & Reiter, 1995). Tailoring such interventions toward transgender individuals by focusing on the minority stressors they experience could increase the efficacy of such approaches, reducing the potential for decreased body appreciation by bolstering self-esteem. Furthermore, training on transgender-specific issues and the incorporation of a "trans-positive" approach could enhance the sensitivity and appropriateness of existing mental health interventions and practices (Carroll, 2002), which can address maladaptive coping styles that result in poor eating behaviors.

Perhaps because family-systems therapy has been shown to be one of the most effective treatments for eating pathology (Wilson, Grilo, & Vitousek, 2007), tailoring family interventions to transgender individuals and their families may also be fruitful and congruent with calls to incorporate a strengths-based approach when performing clinical work with transgender individuals (Pazos, 2000). For example, psychoeducation for family members or friends could correct myths endorsed about transgender individuals and bolster social support (Hogan, Linden, & Najarian, 2002), which has been associated with increased life satisfaction among LGBT individuals (Sheets & Mohr, 2009). Thus, targeting positive influences on satisfaction with life and self-esteem in therapy and health-focused interventions may be helpful in improving body image and potentially decreasing the incidence or chance of body image disturbances among transgender individuals.

As previously mentioned, the second major implication is policy-related. Transphobic and cis-sexist discrimination do not occur in a vacuum and have largely been considered cultural phenomena that can be changed through the questioning of normativity (Loutzenheiser, 2015). Public schools have been the most visible

area of this form of political and cultural action. One example is the No Outsiders project (DePalma & Jennett, 2010), a community participatory program where teachers challenge transphobic norms within the classroom in order to challenge institutional discrimination. Such community-based projects can be translated to non-school structures in order to address cis-sexist attitudes in the communities transgender people inhabit. Furthermore, The Williams Institute released a report based on the minority stress framework calling for public policy initiatives that address gender segregation that can lead to the denial of services and harassment of transgender individuals (Herman, 2013). The adoption of legal protections, providing gender-neutral spaces (e.g., public restrooms), and providing transition-related health care were specific recommended policy items, and can assist in providing safer spaces for transgender individuals navigating society in addition to diminishing systemic opportunities for discrimination against transgender people.

Limitations and future directions

One major limitation of the present study is a lack of assessment of transition stage in participants. Given that previous research has established a link between use of hormone replacement therapy (HRT; Davis & Meier, 2014), transition stage (Bandini et al., 2013), and body satisfaction in transgender samples, the transition stage an individual occupies may impact the effects found in the current study. A second limitation is the lack of specificity of the body image measure used. The Body Appreciation Scale was originally created for use with cisgender female populations; thus body image concerns specific to transgender individuals may have been overlooked. Furthermore, no measure of gender dysphoria was used; thus its relation to body image in this sample cannot be determined. As a result, it cannot be discerned whether cis-sexist discrimination alone has a direct effect on anxiety and depression, or if an interaction with experiences of gender dysphoria or negative encounters based on one's gender expression also plays a role in mental health and body image. A third limitation is overall sample size. Only 78 transgender participants were recruited, which limits the statistical feasibility to compare subsamples of TM, TW, and other gender-non-binary individuals on measures of discrimination, mental health, and body image. In addition, this inhibited our ability to detect small effects. A fourth limitation is lack of measurement of other eating disorder symptomology beyond body image. Inclusion of ED assessment is needed in order to establish whether a link between body image and eating disorder incidence exists in transgender samples, and whether discrimination and mental health directly influences other aspects of ED symptomology. A fifth limitation of the research design is its inability to attribute causality to the theoretical model developed; in truth, all of these paths are correlational in nature, and as a result, cross-lagged panel analyses in future studies could better tease apart causality. A sixth limitation involves the age range of participants—results are not generalizable to transgender youths or older adults.

Future research should examine body image disturbance and appreciation at different life and developmental stages. Collection of transition-related information, other potential protective factors (e.g., social support, coping styles), and other important metrics related to transgender identification and stress can enhance future examination of EDs and body image among transgender individuals. Furthermore, as past research has demonstrated that transgender people of different genders have different body image concerns (van de Grift et al., 2016a; van de Grift et al., 2016b), future research should seek to examine transgender male- and transgender female-specific predictors and implementations of the tested model. Other transgender-specific constructs, such as passing, also warrant implementation into future applications of the adapted Minority Stress Model to body image constructs.

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