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Stigmatization, Resilience, and Mental Health among a Diverse Community Sample of Transgender and Gender Nonbinary Individuals in the United States

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Abstract

Transgender and gender nonbinary (TGNB) individuals were recently designated a health disparity population by the U.S. National Institutes of Health. We examined the effect of gender-related discrimination and resilience factors on the mental health of a community sample diverse in gender identity, age, and race/ethnicity. We report on the baseline data of a longitudinal study of transgender identity development across the lifespan with 330 TGNB individuals recruited through venue-based recruitment in three major metropolitan areas in the U.S. Mean age of participants was 34.4 years ($SD = 13.7$). Structured interviews collected self-report data on sociodemographics, gender-related discrimination, mental health, and resilience. We used hierarchical regression to examine the association between gender-related discrimination and psychological distress (BSI-18) and tested the moderating effect of family support, transgender community connectedness, gender literacy, and transgender activism on this relationship. In adjusted analyses, gender-related discrimination was positively associated with psychological distress. Family support was negatively associated with psychological distress. Contrary to our expectations, gender literacy and transgender activism were positively associated with psychological distress, while no significant relationship was found for transgender community

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connectedness. Family support, transgender community connectedness, gender literacy, and transgender activism did not moderate the effect of gender-related discrimination on psychological distress. Future mental health interventions should consider leveraging family support among TGNB individuals. Longitudinal studies are needed to better understand the role of gender literacy and activism with respect to mental health and development of identity and resilience among TGNB people.

Keywords

Transgender health; stigma; discrimination; mental health; resilience

INTRODUCTION

Transgender and gender nonbinary (TGNB) people are a minority population whose gender identity differs significantly from the sex they were assigned at birth (Institute of Medicine [IOM], 2011). They are diverse in gender identity, gender expression, and sexual orientation, thus being a heterogeneous group (Bockting, 1999, 2014). The terms that TGNB individuals use to describe their identities may be fluid (e.g., vary depending on context) and evolve over time. Hence, transgender is often used as an umbrella term to refer to this population. Gender nonbinary is a term to describe gender identities and/or expressions that do not fall on the gender binary, including individuals who identify as both man and woman, neither, another gender, or no gender (Nestle, Howell, & Wilchins, 2002). These terms should not be confused with the term gender dysphoria, which refers to distress as a result of an incongruence between gender identity and sex assigned at birth (American Psychiatric Association, 2013). Many but not all TGNB people experience gender dysphoria at some point in their lives, and may alleviate such dysphoria by changes in gender identification and expression and/or gender-affirming medical interventions (e.g., hormone therapy and/or surgery) (Coleman et al., 2012).

Meyer (2003) proposed the minority stress model to conceptualize health disparities found among LGB individuals. This model was subsequently adapted to TGNB people (Hendricks & Testa, 2012; Hoffman, 2014; Testa, Habarth, Peta, Balsam, & Bockting, 2015). The minority stress model posits that sexual and gender minorities experience chronic stress as a result of stigma and discrimination, which ultimately have a negative impact on their mental health. Minority stress processes are unique to minority individuals, additive to general stressors, and explain, at least in part, the mental health disparities found among LGB and TGNB populations (Hendricks & Testa, 2012; Meyer, 2003). Indeed, among TGNB people, minority stress has been shown to predict suicide attempts (Clements-Nolle, Marx, & Katz, 2006), depression (Nemoto, Bödeker, & Iwamoto, 2011; Nuttbrock et al., 2015), and psychological distress (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013). The elevated burden of certain diseases, including depression, and the high levels of stigmatization led the National Institutes of Health to declare transgender and gender nonconforming individuals a health disparity population (National Institute on Minority Health and Health Disparities, 2016).

Minority stress processes range from proximal to distal. Proximal processes are closely related to the social meaning of minority status or identity, involving the individual's perception and appraisal. They include expectations of rejection (i.e., anticipated rejection and discrimination, also referred to as felt stigma), internalized homo- and transphobia (i.e., internalization of negative attitudes toward the self), and concealment of one's minority identity (Bockting et al., 2013; Meyer, 1995, 2003). Distal processes are objective situations and events, thus less subject to individual perceptions, and involve prejudice events or enacted stigma, including actual experiences of discrimination (Bockting et al., 2013; Meyer, 2003).

The negative impact of stigmatization on mental health may be mitigated by group-level resilience factors. Family support was associated with lower levels of psychological distress among TGNB individuals (Bockting et al., 2013) and fewer depressive symptoms among transfeminine sex workers (Nuttbrock, Rosenblum, & Blumenstein, 2002). Additionally, involvement in the TGNB community and peer support (i.e., from other TGNB individuals) were shown to buffer the association between discrimination and psychological distress among TGNB individuals (Bockting et al., 2013; Nuttbrock et al., 2015) and were negatively associated with anxiety and depression symptoms among transfeminine individuals (Pflum, Testa, Balsam, Goldblum, & Bongar, 2015).

Other potential factors of resilience are gender literacy and political activism. Gender literacy refers to being able to identify societal gender norms and understand how these norms affect and oppress TGNB individuals (National Center for Gender Spectrum Health, 2018). Qualitative research found that awareness of oppression related to nonconformity in gender identity and expression may be protective against the negative effects of stigmatization on health and well-being (Singh, Hays, & Watson, 2009). Responding to such oppression by engaging in political activism has been described to be a facilitative coping mechanism and important element of positive TGNB identity development (Budge et al., 2012; Frost et al., 2019; Riggle & Mohr, 2015). Moreover, transgender activism may contribute to protecting oneself and peers from gender-related discrimination, strengthening connections between TGNB individuals and TGNB communities (Riggle, Rostosky, McCants, & Pascale-Hague, 2011), and facilitating access to trans-positive community, legal, and healthcare services (Singh & McKleroy, 2011).

Using baseline data of Project AFFIRM, a longitudinal study of transgender identity development across the lifespan, we set out to examine the relationship between discrimination, resilience, and mental health in a community sample of TGNB people diverse in gender identity, age, and race/ethnicity living in three major metropolitan areas in the United States. Specifically, we examined the association between gender-related discrimination and psychological distress, and the moderating effects of the following hypothesized resilience factors: family support, transgender community connectedness, gender literacy, and transgender activism. We expected each of these factors to be protective and weaken the association between discrimination and psychological distress.

METHOD

Participants and Procedure

Participants were recruited through purposive, venue-based sampling across a variety of online and offline settings identified through ethnographic mapping in three major U.S. metropolitan areas: New York City, San Francisco, and Atlanta. Venues included public spaces and commercial establishments, community events and groups, social media, transgender-specific healthcare clinics, and word of mouth. Clinics excluded those primarily focused on mental health, as this was the main outcome of the larger study on vulnerability and resilience across the lifespan. Once recruited and screened, we used quota sampling to select and enroll participants stratified by age group (16–20, 21–24, 25–39, 40–59, 60 and older) and gender, from diverse venues, race/ethnicities, and geographical areas.

Study procedures were approved by the Institutional Review Boards of the New York State Psychiatric Institute/Columbia Psychiatry, San Francisco State University, and the University of Georgia. Data were collected between August 2016 and June 2017 as part of the baseline assessment of Project AFFIRM. Trained staff conducted structured, face-to-face interviews in English or Spanish, entering responses via laptop or tablet directly into a web-based database. Interviewers were trained and instructed to not influence participants' responses to the survey questions. Interviews were conducted in a private room at the participating research centers and took about 90 minutes to complete. Participants were reimbursed \$40 for their time and travel expenses.

The final sample for this study consisted of 330 TGNB participants; 169 (51.2%) identified as woman, transgender woman, gender-queer, -nonbinary, or -nonconforming and were assigned male at birth; 161 (48.8%) identified as man, transgender man, gender-queer, -nonbinary, or -nonconforming and were assigned female at birth. Participants' age ranged from 16 to 87 years old ($M = 34.4$, $SD = 13.7$). Regarding sexual orientation, 115 (35.2%) reported being queer, 74 (22.6%) identified as straight/heterosexual, 47 (14.4%) as bisexual, 23 (7.0%) as gay, 18 (5.5%) as lesbian, and 50 (15.3%) identified as other sexual orientation. Our sample was also diverse in race/ethnicity: 144 (43.6%) of the participants were White, 61 (18.5%) Latinx, 52 (15.8%) Black, 12 Asian (3.6%), 45 (13.6%) were multiracial, and 16 (4.8%) identified as other race/ethnicity. Only 39 participants (11.8%) were married or in a legally recognized union, and 183 (55.6%) were in a relationship or felt a special commitment to someone. The majority completed at least some college ($n = 261$, 79.1%); 67 participants (20.3%) were current students. More than a third of participants were currently unemployed ($n = 123$, 37.3%) and 132 (40%) reported an annual household income of less than \$24,000, which is roughly equivalent to 200% of the poverty threshold in the United States (United States Census Bureau, 2019), including the poor and near-poor per the U.S. National Center for Health Statistics definition (Martinez & Ward, 2016).

Most participants had been living in a gender role different from the one assigned at birth for one year or more ($n = 286$, 87.0%), and about half of the total sample had been living in this gender role for five years or more ($n = 167$, 50.8%). More than two thirds were on gender-affirming hormone therapy ($n = 223$, 67.6%), and 51.2% ($n = 169$) reported having had at least one gender-affirming surgical procedure.

Measures

Demographics were assessed with seven single-item questions adapted from the 2010 U.S. Census. Gender was assessed using two questions, one about current gender identity and the other about sex assigned at birth. Participants who currently identified their gender on the feminine spectrum (i.e., woman, transgender woman, genderqueer, non-binary, or otherwise gender-nonconforming), but were assigned male at birth, were classified as transfeminine individuals; and those who currently identified their gender on the masculine spectrum (i.e. man, transgender man, genderqueer, non-binary, or otherwise gender-nonconforming), but were assigned female at birth, were classified as transmasculine individuals.

Gender-Related Discrimination—Self-reported experiences of discrimination were assessed by an adaptation of the Everyday Discrimination Scale (Williams, Yan, Jackson, & Anderson, 1997). The scale contains 10 items asking participants to rate on a 4-point Likert scale how often in their day-to-day life they experienced various types of discrimination, such as “You are treated with less respect than other people are” and “You have difficulty finding housing or staying in housing.” Response options on a 4-point Likert scale ranged from 0 (“never”) to 3 (“often”). All participants who responded with “sometimes” or “often” were then asked what they thought the main reason for these experiences was. If they attributed the experience to their gender the item was counted toward a summary score of gender-related discrimination experiences. The final score ranged from 0 to 10, higher scores indicating higher levels of gender-related discrimination. Internal consistency of this scale was .81 (Cronbach’s alpha).

Psychological Distress—Mental health was assessed with the Brief Symptom Inventory (BSI)-18 (Derogatis, 2000). Participants were asked to indicate on a 5-point Likert scale ranging from 0 (“not at all”) to 4 (“extremely”) whether they had experienced specified symptoms of psychological distress in the last seven days. The instrument yields an overall score, the Global Severity Index (GSI), and also scores for subscales of depression, anxiety, and somatization. Higher scores indicate higher levels of psychological distress. According to previous studies in a community sample of 517 individuals assigned female and 605 assigned male at birth, positive cases for the subscales had *T*-scores ≥ 63 (i.e., > 90 th percentile) and positive cases for the GSI had total scale *T*-score ≥ 63 or were positive in ≥ 2 of the subscales (Derogatis, 2000). Internal consistency for the GSI was $\alpha = .92$.

Family Support—We used a four-item subscale of the Multidimensional Scale of Perceived Social Support to assess family support (Zimet, Dahlem, Zimet, & Farley, 1988). Sample items are “I get the emotional help and support I need from my family” and “I can talk about my problems with my family.” In these items, a definition of “family” was not provided to respondents so as to elicit participants’ own understanding of family. Response options on a 7-point Likert scale ranged from 0 (“strongly disagree”) to 6 (“strongly agree”). Higher scores indicate greater family support. Internal consistency was $\alpha = .93$.

Transgender Community Connectedness—This construct was assessed by a 4-item measure adapted from Testa et al. (2015). Participants were asked to rate on a 7-point Likert scale ranging from 1 (“strongly disagree”) to 7 (“strongly agree”) to questions such as “I feel

connected to other people who share my gender identity” and “When interacting with members of the community that shares my gender identity, I feel like I belong.” Higher scores indicate higher levels of community connectedness. Internal consistency was $\alpha = .83$.

Gender Literacy—Gender literacy was assessed by a 6-item subscale of the Genderqueer Identity Scale that measures theoretical awareness of genderqueer identity, i.e., the extent to which individuals perceived their gender identity to rest on a political or theoretical understanding of gender (McGuire, Beek, Catalpa, & Steensma, 2018). This construct has been proposed as a key component of gender literacy (National Center for Gender Spectrum Health, 2018). Sample items are “I have done research about gender theory and gender roles” and “My gender role is important because I push society to question traditional gender roles.” Response options on a 7-point Likert scale ranged from 1 (“strongly disagree”) to 7 (“strongly agree”). Higher scores indicate greater gender literacy. Internal consistency was $\alpha = .76$.

Transgender Activism—Transgender activism was measured by the mean of the following two items: “Being an activist is central to who I am” and “I am truly committed to advocating on behalf of the transgender community.” Response options ranged from 1 (“strongly disagree”) to 7 (“strongly agree”). Higher scores indicate greater investment in activism. Internal consistency was $\alpha = .79$.

Statistical Analysis

Demographic information was described for the total sample as well as by gender, and differences between gender groups were tested using *t*-tests for independent samples for continuous variables and χ^2 for categorical ones. Bivariate analyses for our variables of interest were conducted using Pearson’s correlation coefficient (*r*). We used logistic regression models to control for possible confounders when testing for differences in dichotomous dependent variables.

Hypotheses were tested using hierarchical linear regression models where the dependent variable was psychological distress. In the first step, we entered demographics as independent variables. In the second step, we added gender-related discrimination to the independent variable list. In the third step, we added the hypothesized moderators as independent variables to identify their main effects. We analyzed gender literacy and transgender activism in separate regression models (Model 1 and 2, respectively) because of the conceptual overlap between these two constructs. Subsequently, for each of these potential moderators, we entered the two-way interaction terms with gender-related discrimination individually (in separate models) in the fourth and final step. Alpha was set at .05 for all analyses. All analyses were run on IBM-SPSS Statistics version 24 (IBM, Armonk, NY).

RESULTS

Sociodemographic Characteristics

Table 1 shows the characteristics of our sample. Transfeminine individuals were significantly older than transmasculine individuals ($M = 37.69$, $SD = 14.31$ years vs. $M = 30.98$, $SD = 12.12$ years, respectively, $t(323.6) = -4.60$, $p < .001$). Among transfeminine individuals, 31.1% identified as straight/heterosexual in comparison to 13.8% among transmasculine individuals ($\chi^2(1, N = 327) = 13.13$, $p < .001$). Transfeminine individuals were twice as likely to only have completed high school or less compared to transmasculine participants (27.8% vs. 13.7%, respectively, $\chi^2(1, N = 330) = 9.14$, $p = .003$), and were less likely to report currently being a student (14.8% vs. 26.1% among transmasculine individuals, $\chi^2(1, N = 330) = 5.82$, $p = .02$). Additionally, transfeminine participants were more likely to have an annual household income of less than \$24,000 (47.8% vs. 35.5% of transmasculine persons, $\chi^2(1, N = 316) = 4.45$, $p = .04$). Finally, transfeminine individuals were more likely to take gender-affirming hormones (74% vs. 60.9% of transmasculine individuals, $\chi^2(1, N = 330) = 5.87$, $p = .02$) and to have had gender-affirming surgery (56.8% vs. 45.3% of transmasculine individuals, $\chi^2(1, N = 330) = 3.89$, $p = .049$). There were no statistically significant differences in race/ethnicity, being currently employed, marital status, and relationship status between transfeminine and transmasculine participants.

Gender-Related Discrimination

Average gender-related discrimination scores were 2.63 ($SD = 2.59$), with no significant differences between transfeminine and transmasculine participants ($M = 2.68$, $SD = 2.67$ vs. $M = 2.58$, $SD = 2.52$, $t(328) = -.34$, respectively, $p = .74$). Most participants reported at least one gender-related experience of discrimination (74.0% and 71.4% among transmasculine and transfeminine individuals, respectively) (not shown). The most common experience of discrimination reported by participants was being treated with less respect or courtesy because of one's gender (43.2% and 42.2%, respectively) (Table 2). TGNB individuals on the feminine spectrum were more likely than those on the masculine spectrum to respond affirmatively to "People act as if they think you are not smart" (28.4% vs. 16.1%, respectively, $\chi^2(1, N = 330) = 6.43$, $p = .01$). This difference remained significant after adjusting for age, race/ethnicity, education, income, employment status, and being a student ($aOR = 2.28$, $p < .01$) (not shown). No other differences were found between gender groups.

Mental Health

Participants reported high levels of psychological distress (Table 2). Of the total sample, 39.7% scored in the clinical range for anxiety, 34.2% for depression, and 26.4% for somatization. Transfeminine individuals were more likely to score in the clinical range for depression than transmasculine individuals (40.5% vs. 28%, respectively, $\chi^2(1, N = 329) = 5.18$, $p = .02$). When controlling for age, race/ethnicity, education, income, employment status, and being a student, this difference remained significant ($aOR = 1.75$, $p < .05$) (not shown). There were no significant differences in the overall GSI score or in the anxiety and somatization subscales between transfeminine and transmasculine participants.

Bivariate Analyses

Discrimination was positively correlated with psychological distress as measured by the BSI-GSI, $r(327) = .34, p < .001$ (Table 3). As predicted, family support and transgender community connectedness were negatively correlated with psychological distress, $r(326) = -.30, p < .001$ and $r(327) = -.11, p = .046$, respectively. Contrary to expectations, however, gender literacy was positively correlated with psychological distress, $r(327) = .11, p = .045$. Transgender activism was also positively correlated with psychological distress, $r(325) = .15, p = .008$, and with gender literacy, $r(325) = .34, p < .001$.

Multivariable Analyses

Table 4 shows the hierarchical regression models testing our hypotheses. After controlling for sociodemographic factors (Step 1), gender-related discrimination was positively associated with psychological distress ($b = 1.42$ [.89, 1.96], $\beta = .29, p < .001$, Step 2; overall model $F(9, 302) = 4.68, p < .001, R^2 = .12$). In Model 1, we then added the hypothesized resilience factors of family support, transgender community connectedness, and gender literacy (Step 3). Overall fit of the model was significant, $F(12, 299) = 5.46, p < .001, R^2 = .18$. As predicted, family support was negatively associated with psychological distress ($b = -1.41$ [-2.15, -.67], $\beta = -.21, p < .001$). However, contrary to expectations, gender literacy was positively associated with psychological distress ($b = 1.58$ [.15, 3.01], $\beta = .13, p = .03$). Transgender community connectedness was not significantly associated with our psychological distress variable in this model ($b = -.90$, [-2.02, .22], $\beta = -.09, p = .11$). The association between discrimination and psychological distress remained significant, albeit with a lower magnitude ($b = 1.07$ [.53, 1.61], $\beta = .22, p < .001$).

In Model 2, we added family support, transgender community connectedness, and transgender activism (Step 3), with overall fit similar to Model 1, $F(12, 299) = 5.52, p < .001, R^2 = .18$. Family support was negatively associated with psychological distress ($b = -1.33$ [-2.06, -.60], $\beta = -.20, p < .001$), whereas transgender activism showed a positive relationship with psychological distress ($b = 1.08$ [0.16, 2.00], $\beta = .13, p = .02$). As in Model 1, the main effect of transgender community connectedness was not statistically significant ($b = -0.90$ [-2.02, .21], $\beta = -.09, p = .11$). Gender-related discrimination remained associated with psychological distress ($b = 1.08$ [.54, 1.62], $\beta = .22, p < .001$).

Finally, we added interaction terms between each of the proposed resilience factors and discrimination (Step 4, not shown). None of the interaction terms were significant.

DISCUSSION

Findings from the baseline interviews of Project AFFIRM, a study of transgender identity development across the lifespan, indicate that TGNB individuals report high levels of gender-related discrimination. Although overall gender-related discrimination scores did not differ significantly between transfeminine and transmasculine individuals, the former reported being treated as not smart more commonly. The perception of being treated as less smart may be due to patriarchal societal beliefs directed against cisgender women and transgender-specific discrimination against transfeminine individuals (i.e., transmisogyny).

(Arayasirikul & Wilson, 2018). Future research should explore potential differences in the forms of discrimination experienced by transfeminine and transmasculine individuals, the perpetrators of such discrimination, and how this might be related to intersectionality of oppression based on gender identity (trans or cis), gender expression (conforming or not), and sex assigned at birth (female or male).

Similar to previous research showing a disproportionate burden of negative mental health outcomes among TGNB individuals (Bockting et al., 2013; IOM, 2011; Meyer, Brown, Herman, Reisner, & Bockting, 2017), our study also found high levels of psychological distress among TGNB participants. More than one-third of participants scored above the 90th percentile of community norms in the U.S. with respect to anxiety and depressive symptoms (i.e. *T*-score = 63), which is the cut-off point for caseness (i.e., deemed anxious and depressed) established for our standardized measure of psychological distress (the BSI-18) (Derogatis, 2000). Additionally, more than one-fourth of our sample reported symptoms of somatization above the 90th percentile cut-off point. These results translate into rates of anxiety, depression, and somatization 2.6–4.0 times higher among TGNB individuals in comparison with community norms for the general U.S. population and similar to clinical norms (Derogatis, 2000; Zabora et al., 2001).

Despite presenting similar levels of overall psychological distress, transfeminine individuals showed higher prevalence of depression. This finding is consistent with previous studies with TGNB individuals suggesting that mental health needs may differ between transfeminine and transmasculine persons (Bockting et al., 2013; Warren, Smalley, & Barefoot, 2016). Further research should investigate the mental health needs of transfeminine and transmasculine individuals and the potential role of discrimination, resilience, and other factors (e.g., hormone therapy) in shaping differences in mental health outcomes in these populations.

Our study also indicated that gender-related discrimination was positively associated with psychological distress after controlling for age, gender, race/ethnicity, educational attainment, household income, employment status, family support, transgender community connectedness, gender literacy, and transgender activism. This confirms our hypothesis that higher levels of self-reported gender-related discrimination are associated with poorer current mental health. As hypothesized, family support was negatively associated with psychological distress in the adjusted analysis. We therefore reproduce the findings from previous studies that have shown family support to be associated with better mental health (Bockting et al., 2013; Nuttbrock et al., 2002) in a sample of TGNB individuals diverse in gender identity, age, and race/ethnicity. Importantly, however, the main effect of discrimination on psychological distress was greater in magnitude than the main effect of family support, and we found no significant interaction between gender-related discrimination and family support. Our data demonstrate that family support only modestly affects current mental health and alone is not able to mitigate the association between self-reported discrimination and current psychological distress.

Contrary to our expectations, transgender community connectedness was not significantly associated with psychological distress in adjusted analyses. Although community

connectedness was correlated with less psychological distress in the bivariate analysis, there was no significant effect after adjusting for age, gender, race/ethnicity, educational attainment, household income, employment status, family support, and gender literacy or transgender activism ($\beta = -.09$, $p = .11$ in Models 1 and 2). This finding differs from previous research that showed transgender community connectedness to moderate the association between discrimination and psychological distress among TGNB individuals, particularly for transfeminine individuals (Bockting et al., 2013; Nuttbrock et al., 2015; Pflum et al., 2015). Post-hoc regression models with all four hypothesized resilience factors ruled out collinearity between community connectedness and family support, gender literacy, and transgender activism (main effect of community connectedness in these models was $\beta = -.10$, $p = .07$, tolerance = .92). Therefore, our findings suggest that the beneficial effect of community connectedness on psychological distress, if existent, may be smaller than previously thought.

Gender literacy and transgender activism were associated with more gender-related discrimination in bivariate analyses. This finding is consistent with a recent study with an online sample of TGNB students in the U.S. showing that gender-based discrimination and negative perception of acceptance of TGNB on campus were associated with engagement in transgender advocacy (Goldberg et al., 2019). However, the cross-sectional design of our study limited our ability to determine the directionality of these relationships. It is possible that experiencing gender-related discrimination facilitates the development of gender literacy and engagement in transgender activism. Conversely, individuals with high gender literacy and involvement in activism may be more likely to be vigilant to or targeted by prejudice and discrimination. Future research should study how individuals develop gender literacy and get involved in transgender activism and the factors that make TGNB individuals more vulnerable to discrimination. In that regard, longitudinal studies examining stigmatization, gender literacy, and activism over time may be particularly helpful to understand the causal direction in the relationship between these constructs.

In our final models, we found gender literacy and transgender activism to be associated with more, rather than less, psychological distress. Our findings concur with the study by Breslow et al. (2015) with an online convenience sample of adult TGNB individuals living in the U.S., which described a negative impact of a related construct, collective action, on mental health. However, different from our study, Breslow et al. did not find a direct association between collective action and psychological distress. Rather, collective action strengthened the relationship between internalized transphobia and psychological distress and enhanced the role of internalized transphobia as a mediator between discrimination and psychological distress. Ours and Breslow et al.'s studies challenge the findings of previous research with TGNB individuals and other minority groups that showed activism to be an important resilience mechanism (Budge et al., 2012; DeBlaere et al., 2013; Frost et al., 2019; Singh et al., 2009; Szymanski & Owens, 2009; Velez & Moradi, 2016).

Different factors may explain this discrepancy in the literature. As proposed by Breslow et al. (2015), involvement in collective action may expose TGNB individuals to higher levels of stigmatization, leading to fatigue, burnout, and increased internalized transphobia. In a qualitative study with TGNB individuals in the U.S., while at times transgender activism

was perceived to promote empowerment and individuals' self-worth, learning more about transphobia against themselves and others through engagement in activism was also perceived to be stressful and overwhelming (Bockting et al., 2020). Moreover, activism and resilience may have different change goals: while the former targets societal change, the latter aims at attenuating stressors to "improve functioning within the status quo" (Brodsky & Cattaneo, 2013). Unsuccessful efforts to enact social change may further lead to hopelessness among TGNB individuals, which may also increase psychological distress (Bockting et al., 2020; Hagen et al., 2018). Therefore, in the process of changing society, individuals with high gender literacy and involvement in activism may experience higher psychological distress. In order to understand the exact ways gender literacy and transgender activism affect mental health, future research should investigate the context, meaning, and specific ways TGNB individuals manifest their gender literacy and activism.

Given our cross-sectional design, the directionality of the association between gender literacy and transgender activism and psychological distress is not clear. Therefore, instead of gender literacy and transgender activism causing poor mental health, it is possible that TGNB individuals facing higher levels of psychological distress may be more prone to developing greater gender literacy and engaging in activism. Moreover, the effects of gender literacy and activism on the mental health of TGNB individuals may change over time as the individual's identity unfolds. According to Bockting & Coleman (2016), activism may be an expression of transgender pride, which may not be present in early stages of transition.

This proposition is supported by a qualitative study that identified activism to be a coping mechanism only in the post-transition stage (Budge et al., 2012) and a study with a national sample of adult transgender men and women recruited online that showed that further stages of gender transition reduce avoidant coping and may be beneficial with respect to depression and anxiety (Budge, Adelson, & Howard, 2013). Although we accounted for age in our regression models, this may not have been enough to grasp the totality of the influence of transgender identity development on gender literacy and transgender activism over the course of one's lifetime. Future research should study the effects of stigmatization on the health of TGNB populations in view of transgender identity development. Indeed, resilience is a longitudinal phenomenon, and processes related to the development of resilience, such as exposure to risk and adversity, adaptation, and recovery, should ideally be measured repeatedly over time (Masten et al., 2009; Rutter, 1993). The present data came from the baseline assessment of Project AFFIRM, a longitudinal assessment of how resilience develops over the lives of TGNB persons. Future findings of that study will be able to elucidate some of the questions the present study raises.

Strengths and Limitations

Our study presents an important contribution to the literature on mental health of TGNB individuals by examining the role of potential resilience factors in buffering the negative impact of discrimination on the mental health of a community sample of TGNB individuals. This study is the first to examine the moderating effects of gender literacy on the relationship between discrimination and mental health among transgender individuals. Moreover, our quota sampling ensured participation of racially and ethnically-diverse

individuals, overcoming concerns about white TGNB individuals being overrepresented in samples recruited online (Bockting et al., 2013; Breslow et al., 2015; Pflum et al., 2015; Testa et al., 2015).

Our study also had several limitations. Since we used venue-based sampling in three U.S. major metropolitan areas, we may have over-sampled individuals more connected to social resources and our findings may not generalize to the larger U.S. transgender population, particularly in rural areas. Additionally, we only examined gender-based discrimination in this analysis and therefore cannot draw conclusions about the impact of intersecting forms of discrimination (e.g., related to race, ethnicity, and sexual orientation) on mental health among TGNB individuals. Future research should investigate the interplay between gender-related and other forms of discrimination and how intersectional forms of oppression and marginalization may affect the physical and mental health of TGNB individuals. Moreover, despite our focus on distal minority stress processes and use of validated scales, self-reported experiences of discrimination are susceptible to information bias, such as social desirability and recall biases. Further, because of the difficulty to objectively assess stage of gender transition, we were not able to control for this variable in our analyses. Finally, our study was also limited by the cross-sectional analysis, preventing us from determining directionality of the association found between gender-related discrimination and psychological distress. According to the minority stress hypothesis, it is discrimination that leads to mental health problems; however, others have argued that mental health problems possibly increase the likelihood of experiencing or perceiving prejudice and discrimination (Zucker, Lawrence, & Kreukels, 2016). Such empirical questions may be addressed once longitudinal data from Project AFFIRM become available, enabling us to better estimate the direction of causal pathways. Moreover, considering the relatively modest effect sizes of resilience factors with respect to psychological distress, future longitudinal studies will allow for more robust, better-powered analyses of the role of gender-based discrimination and resilience in the mental health of TGNB individuals.

Conclusion

In a diverse sample of TGNB individuals recruited through venue-based sampling in three major metropolitan areas in the U.S., gender-based discrimination was positively associated with psychological distress. Family support was beneficial, whereas gender literacy and transgender activism were associated with poorer mental health. None of these hypothesized factors of resilience moderated the negative effects of discrimination on the mental health of TGNB people. Thus, while our study lends support to the hypothesis that discrimination negatively impacts mental health and that social support is generally beneficial, we did not find support for the hypotheses that emerged from qualitative work that gender literacy and political activism immediately instill resilience. However, it is possible that such literacy and activism may contribute to the development of resilience over time. Longitudinal studies are needed to better understand the mechanisms of how TGNB people may ultimately adapt. Meanwhile, public health interventions should address transgender-related stigmatization as means to improve the mental health of TGNB individuals. Moreover, clinicians should foster family and other sources of social support; be aware of the possible strain associated with

challenging society's gender norms; and assist TGNB people in their efforts to reduce the stigmatization that poses a significant threat to their mental health and well-being.

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Table 1.

Sociodemographic characteristics of the sample (N = 330)

	Transfeminine individuals (<i>n</i> = 169)	Transmasculine individuals (<i>n</i> = 161)	p-value
	Mean (SD)	Mean (SD)	
Age ^a	37.69 (14.31) ***	30.98 (12.12) ***	<0.001
	<i>n</i> (%)	<i>n</i> (%)	
Gender identity ^b			
Transgender man	-	86 (53.4%)	
Transgender woman	97 (57.4%)	-	
Nonbinary	13 (7.7%)	26 (16.1%)	
Genderqueer	10 (5.9%)	23 (14.3%)	
Man	-	18 (11.2%)	
Woman	43 (25.4%)	1 (0.6%)	
Otherwise gender-nonconforming	6 (3.6%)	7 (4.3%)	
Sexual orientation ^c			<0.001 ^d
Straight/heterosexual	52 (31.1%)	22 (13.8%)	
Lesbian	20 (12%)	3 (1.9%)	
Gay	9 (5.4%)	9 (5.6%)	
Bisexual	31 (18.6%)	16 (10%)	
Queer	25 (15%)	90 (56.3%)	
Other	30 (18%)	20 (12.5%)	
Race/ethnicity			0.07 ^e
White	65 (38.5%)	79 (49.1%)	
Latinx	36 (21.3%)	25 (15.5%)	
Black	31 (18.3%)	21 (13%)	
Asian	3 (1.8%)	9 (5.6%)	
Multiracial	26 (15.4%)	19 (11.8%)	
Other	8 (4.7%)	8 (5%)	
Education high school ^f	47 (27.8%) **	22 (13.7%) **	0.003
Income <\$24,000 ^f	77 (47.8%) *	55 (35.5%) *	0.04
Currently employed ^f	97 (57.4%)	110 (68.3%)	0.05
Currently a student ^f	25 (14.8%) *	42 (26.1%) *	0.02
Married or civil union ^f	15 (8.9%)	24 (15.1%)	0.12
In a relationship ^f	88 (52.1%)	95 (59.4%)	0.21
Currently on hormones ^f	125 (74%) *	98 (60.9%) *	0.02
Previous gender-affirming surgery ^f	96 (56.8%) *	73 (45.3%) *	0.049

*
p < .05

**
 $p < .01$

 $p < .001$

^aIndependent samples *t*-test

^bGender identity as reported by participants. Otherwise gender-nonconforming included open-ended responses such as “agender”, “transmasculine, agender”, “transboy”, “between transman and genderqueer”, “genderfluid”, “work in progress”, “questioning”, and “black femme”.

^cSexual orientation as reported by participants. “Other” included open-ended responses such as “same-gender loving”, “asexual”, “aromantic”, “pansexual”, “polysexual”, “fluid”, “depends”, and “questioning”.

^d χ^2 for differences in proportion of straight vs. non-straight individuals between transfeminine and transmasculine individuals.

^e χ^2 for differences in proportion of White vs. non-White individuals between transfeminine and transmasculine individuals.

^f $\chi^2_{df=1}$

Table 2.

Gender-related discrimination and Brief Symptom Inventory–18 (N = 330)

	Transfeminine individuals (n=169) No. (%) or Mean (SD)	Transmasculine individuals (n=161) No. (%) or Mean (SD)	p-value
Gender-related discrimination^a	2.68 (2.67)	2.58 (2.52)	0.74
Treated with less courtesy ^b	73 (43.2%)	68 (42.2%)	0.95
Treated with less respect ^b	64 (37.9%)	71 (44.1%)	0.30
Treated as they were worse ^b	62 (36.7%)	63 (39.1%)	0.73
Called names or insulted ^b	47 (27.8%)	40 (24.8%)	0.63
Threatened or harassed ^b	43 (25.4%)	43 (26.7%)	0.89
Treated as people are afraid ^b	40 (23.7%)	42 (26.1%)	0.70
Treated as not smart ^b	48 (28.4%) ^{**}	26 (16.1%) ^{**}	0.01
Receive poorer service ^b	31 (18.3%)	24 (14.9%)	0.49
Denied or lost housing ^b	29 (17.2%)	23 (14.3%)	0.57
Treated as dishonest ^b	16 (9.5%)	16 (9.9%)	0.99
BSI-18, GSI^a	16.52 (12.99)	18.42 (12.77)	0.18
BSI ^{bc}	67 (39.9%)	59 (36.6%)	0.62
Anxiety ^{bc}	66 (39.3%)	65 (40.4%)	0.93
Depression ^{bc}	68 (40.5%) [*]	45 (28%) [*]	0.02
Somatization ^{bc}	48 (28.6%)	39 (24.2%)	0.44

*
 $p < .05$ **
 $p < .01$ ^aIndependent samples *t*-test^b $\chi^2_{df=1}$

^cPositive cases in the subscales had T-scores ≥ 63 ; Positive cases in the BSI had T-scores ≥ 63 in the GSI or scored positive in ≥ 2 subscales, according to previous studies by the developers of the scale in a community sample of 517 individuals assigned female and 605 assigned male at birth (Derogatis, 2001).

Table 3.Bivariate analyses: Correlation matrix (Pearson's *r* coefficients) (N = 330)

	Gender-related discrimination		Family support		Transgender community connectedness		Gender literacy		Transgender activism	
	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Gender-related discrimination	---									
Family Support	-0.29 ***	<.001	---							
Transgender Community Connectedness	-0.04	0.51	0.15 ***	0.007	---					
Gender literacy	0.11	0.055	0.07	0.23	0.16 **	0.004	---			
Transgender Activism	0.16 **	0.003	-0.03	0.55	0.18 **	0.001	0.34 ***	<.001	---	
Psychological Distress ^a	0.34 ***	<.001	-0.30 ***	<.001	-0.11 *	0.046	0.11 *	0.045	0.15 **	0.008

*
p < .05**
p < .01***
p < .001^aAs measured by the BSI-GSI.

Table 4.

Hierarchical multiple regression (N = 330)

	Step 1 ^a			Step 2 ^b			Step 3: (Model 1) ^c			Step 3: (Model 2) ^d		
	b [95% CI]	β	p	b [95% CI]	β	p	b [95% CI]	β	p	b [95% CI]	β	p
Gender	-1.57 [-4.58, 1.45]	-0.06	0.31	-1.77 [-4.66, 1.13]	-0.07	0.23	-1.39 [-4.22, 1.43]	-0.06	0.33	-1.75 [-4.55, 1.06]	-0.07	0.22
Age	-0.12 [-0.24, 0.01]	-0.13	0.06	-0.09 [-0.20, 0.03]	-0.10	0.14	-0.06 [-0.18, 0.06]	-0.07	0.30	-0.08 [-0.20, 0.03]	-0.09	0.16
Race/ethnicity	1.07 [-2.07, 4.20]	0.04	0.51	1.66 [-1.36, 4.68]	0.07	0.28	0.96 [-1.99, 3.91]	0.04	0.52	1.5 [-1.47, 4.47]	0.06	0.32
Educational attainment	-0.6 [-2.05, 0.85]	-0.05	0.42	-0.69 [-2.08, 0.70]	-0.06	0.33	-0.86 [-2.23, 0.50]	-0.08	0.21	-0.68 [-2.03, 0.68]	-0.06	0.33
Married	-0.65 [-5.24, 3.93]	-0.02	0.78	-0.82 [-5.22, 3.58]	-0.02	0.71	-0.75 [-5.02, 3.53]	-0.02	0.73	-0.87 [-5.15, 3.40]	-0.02	0.69
Employed	-2.54 [-5.92, 0.84]	-0.10	0.14	-2.22 [-5.46, 1.03]	-0.08	0.18	-2.60 [-5.83, 0.62]	-0.01	0.11	-2.50 [-5.7, 0.70]	-0.1	0.13
Student	0.36 [-3.81, 4.53]	0.01	0.87	0.58 [-3.42, 4.59]	0.02	0.77	-0.16 [-4.1, 3.8]	-0.01	0.94	0.22 [-3.68, 4.12]	0.01	0.91
Income	-0.11 [-0.73, 0.51]	-0.02	0.73	0.09 [-0.51, 0.68]	0.02	0.78	0.23 [-0.36, 0.81]	0.05	0.44	0.22 [-0.37, 0.80]	0.05	0.47
Gender-related discrimination				1.42 [0.89, 1.96]	0.29 ***	<.001	1.07 [0.53, 1.61]	0.22 ***	<.001	1.08 [0.54, 1.62]	0.22 ***	<.001
Family support							-1.41 [-2.15, -0.67]	-0.21 ***	<.001	-1.33 [-2.06, -0.60]	-0.2 ***	<.001
Transgender community connectedness							-0.9 [-2.02, 0.22]	-0.09	0.11	-0.90 [-2.02, 0.21]	-0.09	0.11
Gender literacy							1.58 [0.15, 3.01]	0.13 [*]	0.03	—	—	
Transgender activism							—	—		1.08 [0.16, 2.00]	0.13 [*]	0.02

*
p < .05**
p < .01***
p < .001

Dependent variable: Psychological distress as measured by the BSI-GSI (raw score).

Covariates: current gender identity (transfeminine/transmasculine); age (continuous variable); race/ethnicity (white/non-white); educational attainment (continuous variable); currently married (yes/no); currently employed (yes/no); currently a student (yes/no); annual household income (continuous variable).

^aStep 1: R² = .04 (Adjusted R² = .02), F(8,303) = 1.68, p = 0.10

^bStep 2: $R^2 = .12$ (Adjusted $R^2 = .10$), $F(9,302) = 4.68$, $p < .001$

^cStep 3. Model 1 (Including gender literacy but not transgender activism): $R^2 = .18$ (Adjusted $R^2 = .15$), $F(12,299) = 5.46$, $p < .001$

^dStep 3. Model 2 (Including transgender activism but not gender literacy): $R^2 = .18$, (Adjusted $R^2 = .15$), $F(12,299) = 5.52$, $p < .001$

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