## Supplemental Material A: Validity Checks of Online Data

Multiple steps were taken to ensure the reliability and validity of our online data. First, internet protocol addresses were used to identify potential duplicate cases. Cases with duplicate internet protocol addresses were examined by hand, with attention to demographic characteristics, height, and weight; 320 duplicate cases were removed. Collection and temporary storage of IP addresses for this purpose was approved by the Human Research Protection Office. Second, outlier analysis indicated that no cases had evidence of values outside the expected range on variables reported as counts. Third, free response text was reviewed for inappropriate responses to survey questions. Seven cases represented a pattern of inappropriate responses to survey questions (e.g., reporting "toaster" as a gender identity) and were removed. Finally, sensitivity analyses were conducted with the Infrequency Scale from the Minnesota Multiphasic Personality Inventory (MMPI; Arbisi & Ben-Porath, 1995). This scale assesses psychotic symptoms, which should be endorsed at very low levels in adolescent populations, so it is used to detect cases in the dataset with a pattern of inattentive or random responses (Thoma et al., 2019). We conducted sensitivity analyses removing cases endorsing high levels on the MMPI infrequency scale. The observed pattern of results between each minority stressor and mental health symptoms was unchanged when excluding cases high on the infrequency scale, so all cases were retained when the SEM model was estimated.

## Supplemental Material B: Measurement Model

### Assessment of Measurement Model Prior to Calculating Structural Equation Model

Following preliminary analyses, a measurement model was calculated, modifications were made to the model based on fit and modification indices, and a final measurement model was fit to the observed data. The measurement model included latent constructs for the three GM stressors measured with multiple items (prejudice events, expectations of rejection, and internalized transnegativity) and two latent mental health constructs (CES-D and GAD-7). Global model fit of the measurement model was assessed with multiple indices, including the chi-square test of model fit, Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). The model was deemed to demonstrate satisfactory fit when two of three fit indices met the following criteria: CFI $\geq$ 0.95, RMSEA $\leq$ 0.06, and SRMR $\leq$ 0.08 (Hu & Bentler, 1999).

### Measurement Model

The initial model including latent constructs for GM prejudice events, expectations of rejection, internalized transnegativity, depressive symptoms, and anxiety symptoms evidenced moderate fit to the observed data ($\chi^2$ [703] = 25,039.98, $p < .001$; CFI = 0.891, RMSEA = 0.050, SRMR = 0.054). Modification indices were examined and suggested significant correlations between similar items on the CES-D were contributing to model misspecification, with numerous instances of redundancy between CES-D items for the full 20-item scale (e.g., the correlation between items 12 and 16 evidenced a modification index of 317.02). To reduce redundancy in CES-D items, we chose to use the CES-D 10, a shorter version of the scale which has already been established as valid and reliable within adolescent samples (Bradley et al.,

2010; Romano et al., 2021). The revised measurement model, which included the depressive symptoms latent construct estimated from 10 items, evidenced sufficient fit ($\chi^2$ [378] = 16,746.17, $p < .001$; CFI = 0.931, RMSEA = 0.045, SRMR = 0.049). In addition, all variables loaded significantly onto the latent construct to which they were assigned (all $p$ values < 0.001; see Supplementary Table 1). No further modifications were made to the measurement model.

**Supplementary Material C: Post Hoc Sensitivity Analyses to Examination Moderation of Associations between Minority Stressors and Mental Health Symptoms by Subgroup Characteristics**

In addition to examining indirect effects of subgroup identities on mental health symptoms via minority stressors within the structural equation model, we also conducted post hoc sensitivity analyses to examine moderation of associations between minority stressors and mental health symptoms by both gender identity subgroup and race/ethnicity. First, we calculated interaction terms between gender identity subgroup and race/ethnicity with each of the four minority stressors. Second, we estimated regression models for depressive and anxiety symptoms separately, and we added one set of interaction terms to each model at a time (i.e., interactions between minority stressors and gender identity subgroup were examined in separate regression models from interactions between minority stressors and race/ethnicity). These models included all other covariates included in our primary analyses. Within these post hoc analyses, we detected only one significant interaction term: the interaction term for prejudice events and transfeminine identity was significant in the model predicting anxiety symptoms ($\beta = -2.30$, SE = 1.03, $p = 0.026$), and the simple slope of the association between prejudice events and anxiety symptoms was nonsignificant among transfeminine participants when this interaction was probed ($p = 0.90$). No other interaction terms between gender identity or race/ethnicity and minority stressors were significant in either model, indicating that minority stressors are associated with mental health symptoms among GM adolescents consistently across subgroups.

## Supplemental Material D: Bivariate Associations

Correlations between continuous variables, as well as means, standard deviations, and subsample sizes for each variable, are included in Table 1. One-way ANOVA was used to examine bivariate associations between continuous variables and categorical variables, including subgroup differences in continuous variables of interest across gender identity and racial/ethnic identity subgroups. Results indicated reports of all four minority stressors differed across gender identity subgroups. When examining specific subgroup differences via Tukey post hoc comparisons, transmasculine and transfeminine youth reported higher levels of GM prejudice events as compared to nonbinary youth AFAB and questioning youth. Transmasculine and transfeminine youth also reported higher levels of GM expectations of rejection as compared to nonbinary and questioning youth. Nonbinary youth AMAB reported lower levels of internalized transnegativity as compared to transmasculine and questioning youth, and questioning youth reported higher levels of internalized transnegativity as compared to all other groups. Questioning youth also reported higher levels of concealment compared to transmasculine and transfeminine youth. With regard to race/ethnicity, Native American youth reported higher levels of GM prejudice events as compared to Black youth, and Black youth reported lower levels of GM expectations of rejection as compared to White youth. No other differences across racial/ethnic identities were detected in one-way ANOVAs, and no differences in depressive or anxiety symptoms were detected across either gender identity or race/ethnicity subgroups. Across sexual orientation subgroups, straight/heterosexual youth reported lower levels of depressive symptoms as compared to bisexual/pansexual and gay/lesbian/homosexual youth.

Straight/heterosexual youth also reported more disclosure of gender identity as compared to bisexual/pansexual youth.

## Supplementary Material E: Examination of Alternative Structural Model

We used cross-sectional data to examine mediation, and this approach cannot rule out bidirectional or reverse associations between some variables within our structural model. In particular, our original structural model includes minority stress experiences as mediators between subgroup identities and mental health symptoms. However, it is possible that mental health symptoms could contribute to minority stress experiences. To address this concern, we estimated an alternative structural model which included mental health symptoms as mediators of the associations between subgroup identities and minority stress experiences. Using comparative fit indices, our original structural model (BIC = 107,111.23, AIC = 105,327.19) evidenced superior fit to our observed data when compared to this hypothesized alternative model (BIC = 107,556.90, AIC = 105,746.01). Researchers have previously reported that a BIC score difference of 10 points or more between models indicates the model with the lower score is a stronger fit to observed data (Raftery, 1995). Thus, these results provide cross-sectional evidence to support our original modeling of minority stress experiences as mediators of the associations between subgroup identities and mental health symptoms. Future studies of longitudinal cohorts should assess how minority stressors change over time and influence long-term mental health outcomes.

# Supplemental Material F: Intersections of Gender Minority Identity with Sexual Minority Status and Subjective Social Status

## Introduction

Alongside race and ethnicity, sexual minority (SM) status and subjective social status (SSS) may also be important features which intersect with GM status to confer differential risk for mental health symptoms. Sexual minority adolescents have been found to have elevated risk for depression and anxiety (Plöderl & Tremblay, 2015), but the impact of sexual minority status on mental health has not been well explored among GM youth, perhaps because very few GM youth identify as heterosexual (Jackman et al., 2021). Furthermore, SSS may be a salient aspect of one's identity which intersects with race, GM status, and discrimination (Chen et al, 2019; Lee & Turney, 2012), requiring further investigation through the lens of intersectionality.

## Results

Direct effects are reported within Table 2. GM youth who identified as queer, who were questioning their sexual identity, or who identified as another sexual minority reported lower levels of GM internalized transnegativity and anxiety symptoms than bisexual and pansexual GM youth. GM youth reporting a lower subjective social status (SSS) reported experiencing more prejudice events and higher internalized transnegativity.

## Discussion

Subjective social status was associated with depressive symptoms in the current sample of GM youth. The relationship between SSS and mental health has been well documented (Chen et al, 2019, Scott et al, 2014, Hoebel et al, 2017). Furthermore, our results are in line with

previous findings that lower socioeconomic status is associated with experiences of GM discrimination (Bradford et al., 2013). However, socioeconomic status remains particularly underexamined and underreported in sexual and gender minority research (Walch et al., 2020). Larger and more diverse samples of GM youth are necessary to explicate relationships between GM status and socioeconomic status.

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**Supplemental Table 1.** Measurement model results for GM minority stressor latent constructs and internalizing symptoms.

| Latent constructs and variables | Estimate | *SE* | *p* |
|---|---|---|---|
| **Prejudice events** | | | |
| In the past 6 months, how often have you been teased or bullied because someone knew or assumed you were transgender? | 1.00 | 0.00 | - |
| In the past 6 months, how often have you been hit of beaten up because someone knew or assumed you were transgender? | 0.25 | 0.02 | <.001 |
| In the past 6 months, how often have you been treated rudely or unfairly because someone knew or assumed you were transgender? | 1.09 | 0.04 | <.001 |
| In the past 6 months, how often has someone called you bad names because they knew or assumed you were transgender? | 1.04 | 0.03 | <.001 |
| **Expectations of rejection** | | | |
| I often wonder whether others judge me for my gender identity. | 1.00 | 0.00 | - |
| I can't feel comfortable knowing that others judge me negatively for my gender identity. | 1.20 | 0.05 | <.001 |
| I think a lot about how my gender identity affects the way people see me. | 1.27 | 0.05 | <.001 |
| I think other people will treat me badly because of my gender identity during the next year. | 1.19 | 0.05 | <.001 |
| **Internalized transnegativity (pride)** | | | |
| I am proud of my gender identity. | 1.00 | 0.00 | - |
| I am happy that I have the gender identity that I do. | 1.06 | 0.03 | <.001 |
| I have accepted my gender identity. | 0.69 | 0.02 | <.001 |
| **CES-D 10** | | | |
| I was bothered by things that usually don't bother me. | 1.00 | 0.00 | - |
| I had trouble keeping my mind on what I was doing. | .89 | 0.07 | <.001 |
| I felt depressed. | 1.86 | 0.11 | <.001 |
| I felt that everything I did was an effort. | 1.14 | 0.08 | <.001 |
| I felt hopeful about the future. | -0.94 | 0.08 | <.001 |
| I felt fearful. | 1.36 | 0.09 | <.001 |
| My sleep was restless. | 1.16 | 0.09 | <.001 |
| I was happy. | -1.22 | 0.08 | <.001 |
| I felt lonely. | 1.58 | 0.10 | <.001 |
| I could not get "going". | 1.71 | 0.10 | <.001 |
| **GAD-7** | | | |
| Feeling nervous, anxious, or on edge | 1.00 | 0.00 | - |
| Not being able to stop or control worrying | 1.28 | 0.03 | <.001 |
| Worrying too much about different things | 1.12 | 0.03 | <.001 |
| Trouble relaxing | 1.06 | 0.03 | <.001 |
| Being so restless that it's hard to sit still | 0.86 | 0.04 | <.001 |
| Becoming easily annoyed or irritable | 0.70 | 0.04 | <.001 |
| Feeling as if something awful might happen | 1.10 | 0.04 | <.001 |

**Supplemental Table 2.** Means and standard deviations of minority stressors and mental health symptoms by gender identity subgroup.

| Parameter | Mean | Standard Deviation |
|---|---|---|
| **Prejudice events** | | |
| Transmasculine | 1.81 | 0.75 |
| Transfeminine | 1.85 | 0.77 |
| Nonbinary (AFAB) | 1.41 | 0.63 |
| Nonbinary (AMAB) | 1.53 | 0.73 |
| Questioning | 1.27 | 0.58 |
| **Expectations of rejection** | | |
| Transmasculine | 4.71 | 1.01 |
| Transfeminine | 4.83 | 1.00 |
| Nonbinary (AFAB) | 4.36 | 1.16 |
| Nonbinary (AMAB) | 4.28 | 1.29 |
| Questioning | 1.27 | 0.58 |
| **Internalized transnegativity (pride)** | | |
| Transmasculine | 3.84 | 1.03 |
| Transfeminine | 4.13 | 1.01 |
| Nonbinary (AFAB) | 3.93 | 1.06 |
| Nonbinary (AMAB) | 4.27 | 0.91 |
| Questioning | 3.12 | 1.12 |
| **Concealment (outness)** | | |
| Transmasculine | 1.81 | 0.42 |
| Transfeminine | 1.66 | 0.54 |
| Nonbinary (AFAB) | 1.37 | 0.68 |
| Nonbinary (AMAB) | 1.37 | 0.71 |
| Questioning | 0.81 | 0.74 |
| **Depressive symptoms (CES-D 10)** | | |
| Transmasculine | 17.23 | 6.05 |
| Transfeminine | 17.34 | 5.84 |
| Nonbinary (AFAB) | 17.01 | 6.17 |
| Nonbinary (AMAB) | 16.38 | 6.11 |
| Questioning | 18.11 | 6.08 |
| **Anxiety symptoms (GAD-7)** | | |
| Transmasculine | 13.89 | 5.61 |
| Transfeminine | 13.66 | 5.11 |
| Nonbinary (AFAB) | 13.63 | 5.72 |
| Nonbinary (AMAB) | 13.63 | 6.15 |
| Questioning | 14.08 | 5.83 |