

Feminine Discrepancy Stress and Psychosocial Maladjustment Among Adolescent Girls

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Abstract Discrepancy stress, stress about being perceived to not conform to one's gender role (i.e., gender role discrepancy), has demonstrated effects on risky sexual and violent behaviors. However, evidence of these effects has been limited to men and boys, neglecting the impact gender role discrepancy and discrepancy stress may have on girls. In addition, no study to date, has assessed the mental health correlates of gender role discrepancy and discrepancy stress. In the current study, we sought to elucidate the relationship between perceived feminine discrepancy and feminine discrepancy stress and psychosocial maladjustment while controlling for trauma symptoms stemming from the potential repercussions of feminine discrepancy. Maladjustment was measured by creating a second-order latent factor derived from four first-order latent constructs: sexual behavior, substance use, mood disorder symptoms, and hopelessness. Data are drawn from a cross-sectional sample of female students in middle and high school (N=643) who completed self-report questionnaires. Using structural equation modeling, we found girls reporting feminine discrepancy (i.e., less feminine than the average girl) were more likely to report feminine discrepancy stress and trauma symptomatology. Controlling for feminine discrepancy and trauma symptoms, the relationship

between discrepancy stress and maladjustment was positive and significant. Additionally, girls reporting feminine discrepancy scored higher on trauma symptomatology, and trauma demonstrated a strong direct effect on psychosocial maladjustment. These data suggest that developing trauma focused prevention strategies that incorporate social norms around gender socialization may have an impact on multiple behavioral and mental health problems.

Keywords Discrepancy stress · Gender roles · Mental health · Substance use · Sexual behavior

Introduction

Discrepancy stress is a form of gender role stress, which stems from fear of the consequences for not conforming to traditional gender roles (i.e., gender discrepant) [1]. By definition, gender roles reflect a commonly recognized set of social prescriptions about how men and women are supposed to behave [1]. Society expects men and women conform to these rules about how they should act, how they should look, and how they should experience and express emotions [1, 2]. Socialization dictates that men be assertive, confident, sexually accomplished, dominant or even aggressive, and hide vulnerable emotions [3, 4] while women are expected to be submissive, modest, nurturing, sensitive, invested in their appearance, and simultaneously sultry and chaste [5]. Importantly, gender roles and their strict application play a significant role in the manifestation of health related behaviors and outcomes such as substance use disorders, sexually transmitted infections, psychiatric symptoms, etc. [2, 6–9].

There appear to be both interpersonal and intrapersonal penalties for being perceived to violate traditional

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gender roles [10–14]. Interpersonally speaking, the result of gender role violations is often the classification of the violator into a devalued or stigmatized social group [10], perhaps the most common and salient example being to classify the violator as homosexual. For instance, women in competitive athletics are sometimes labeled as lesbians for appearing too masculine, especially when the sport is not perceived as sex congruent or appropriate [10, 15–17]. This misclassification may be undesirable by those deemed to be violating their gender role as it can lead to the experiences of marginalization, discrimination, and rejection by others [15–17]. In the worst cases, those who do not conform to gender roles are the recipients of ire and victims of violence by members of both sexes [2, 12, 13, 18, 19]. Intrapersonally, individuals who do not adhere to their prescribed gender norms may be more likely to develop internalizing and externalizing symptoms. For example, compared to heterosexual youth, lesbian, gay, and bisexual youth are more likely to be depressed, attempt suicide, use drugs and alcohol, use drugs and alcohol before age 13, be sexually active, and have sex prior to the age of 13 [2, 18, 20].¹

These intrapersonal consequences are not completely unexpected considering the aforementioned interpersonal consequences. Given that gender non-conforming youth are at heightened risk to be socially, physically, and sexually victimized [2, 12, 13, 18, 19], it follows that these youth would have higher rates of trauma symptoms and fear of future reprisals [21]. Thus, many youth may feel significant pressure to adhere to these gender role expectations and will evaluate and compare the image of themselves to that of their gender archetype [1, 4, 22]. If their self-image deviates from the socially prescribed image, this is a perceived gender role discrepancy [23]. For some, this perceived discrepancy may provoke anxiety and stress about the potential repercussions of this gender role violation (especially those who have previously been victimized). This stress, (i.e., discrepancy stress) [1, 22–24] may likely be a stimulus for the internalizing and externalizing behaviors experienced by gender discrepant youth. Importantly, not all individuals that perceive themselves to be gender discrepant will experience discrepancy stress. As such, gender role discrepancy, in and of itself, is likely not problematic. However, when the discrepant person experiences distress about their perceived non-conformity there is potential for deleterious outcomes.

¹ It is important to note that while related, gender roles are not equivalent to sexuality and gender role violations are not equivalent to homosexuality. It is not our intention to equate gender role violations to bi-, homo-, trans-, or any other form of sexuality. Gender roles comprise a myriad of attributes and behaviors, of which, sexuality is only one.

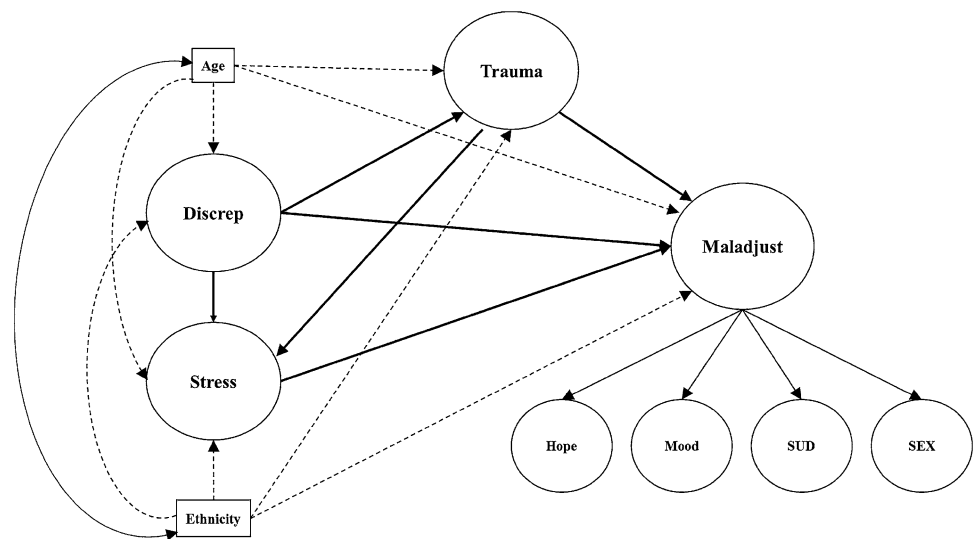
To date, there has been limited research on discrepancy stress, and the existing literature has been restricted to better understanding discrepancy stress among men and boys [8, 23, 25–28]. The sum total of this research indicates that men and boys experiencing discrepancy stress act out in stereotypical masculine behaviors, likely as a way of attempting to demonstrate to others that they are, in fact, masculine [4, 26]. That is, discrepancy stressed men engage in riskier sexual behavior with more casual partners (resulting in higher rates of sexually transmitted disease), perpetrate more physical assaults with weapons, perpetrate more assaults resulting in injury, and commit more physical and sexual violence against an intimate partner [8, 23, 26]. Similarly, discrepancy stressed boys are significantly more likely to commit acts of sexual violence [27].

However, as of yet, none of the body of work on discrepancy stress examines mental health correlates of discrepancy stress. Moreover, no research has attempted to measure feminine discrepancy stress, let alone investigate its influence on girls' behavior and/or mental health. In fact, research on female gender roles, in general, has been substantially neglected relative to research on male gender roles. Clearly, gender socialization has an impact on health [7, 29–31], but the extent to which it affects adolescent girls and women has been greatly overlooked in the literature relative to men and boys. The goal of the present research is to fill this gap by examining the influence of feminine discrepancy and discrepancy stress on the psychosocial adjustment of adolescent girls.

The Present Study

As shown in the study's conceptual framework (Fig. 1), we assess mood disorder symptoms, hopelessness (a proxy for suicide risk), substance use, and sexual behavior as outcomes of feminine discrepancy and feminine discrepancy stress based on previous research connecting gender non-conformity (i.e., discrepancy) to these behavioral and mental health factors [2, 18]. Furthermore, because these outcome constructs do not operate independently of one another [32–34], regressing them as individual latent constructs on the latent predictor constructs would ignore the shared influence of the other three outcomes on one another. Essentially, this method erroneously assumes that the correlation among these constructs is zero and thus would yield inaccurate estimates of the true effects of predictors on outcomes. Therefore, in the present study we create a superordinate latent construct that reflects psychosocial maladjustment and comprises the four latent outcomes (i.e., mood disorder symptoms, hopelessness, substance use, and sexual behavior). Doing so affords us the ability to regress the shared variance representing maladjustment on the predictor constructs.

Fig. 1 Conceptual model of paths among Feminine Discrepancy and Discrepancy Stress, Trauma Symptoms, and the higher order latent construct of Psychosocial Maladjustment controlling for Age and Ethnicity/Race. *Discrep* Feminine discrepancy, *Stress* Feminine discrepancy stress, *Trauma* PTSD symptoms, *Maladjust* psychosocial maladjustment, *Mood* mood disorder symptoms, *Hope* hopelessness, *SUD* substance use, *Sex* sexual behavior. *Dashed lines* represent directional paths from control variables to latent outcomes



In addition, given the evidence that girls appearing to violate feminine gender roles are at heightened risk for trauma symptoms in response to social and physical victimization [21], we assessed the association of feminine discrepancy to trauma symptoms and controlled for their direct effect on psychosocial maladjustment. Additionally, we controlled for direct effects of the manifest variables age and ethnic/racial minority status.

Hypothesis 1 Based on Discrepancy Stress theory that states stress arises from fears of reprisals for being gender discrepant [22–24], we expected that perceived feminine discrepancy would have a direct positive effect on feminine discrepancy stress.

Hypothesis 2 Given the well-established associations among substance use, sexual behavior, mood disorder, and suicidality [32–34] we expected these latent constructs to demonstrate significant and moderately large correlations reflecting an underlying psychosocial maladjustment factor.

Hypothesis 3 Based on evidence indicating gender discrepancy is associated with psychological maladjustment and trauma symptoms stemming from victimization [2, 13, 14, 18, 19], we expected feminine discrepancy to predict higher rates of trauma symptomatology. In turn, we expected that trauma symptomatology would demonstrate a direct positive effect on feminine discrepancy stress.

Hypothesis 4 Based on prior evidence linking post-traumatic stress symptoms to psychiatric health and substance use [32, 34] we expected trauma symptomatology to demonstrate a positive direct effect on psychosocial maladjustment.

Hypothesis 5 We expected that feminine discrepancy stress would have a direct effect on psychosocial maladjustment after controlling for the effects of trauma symptoms, age, and ethnicity. We further expected that when controlling for the variance of discrepancy stress, feminine discrepancy would be unassociated psychosocial adjustment.

Hypothesis 6 Finally, we expected that feminine discrepancy would demonstrate indirect effects on maladjustment through discrepancy stress as well as through trauma symptoms.

Methods

Participants and Procedure

Participants were 643 adolescent girls ($M_{age}=13.5$; $SD=1.6$; range=11–17) from 13 Michigan middle and high schools that completed self-administered paper and pencil questionnaires. The sample was stratified by grade (6th and 9th grade) and community risk-level (i.e., low-, moderate-, and high-risk schools) with random sampling in each stratum. Community risk was assessed using publicly available data to develop an index comprising rates of poverty, unemployment, percent minority, percent rental housing, percent female-headed households, and community violence. The sample was representative of the participating schools in terms of race: the largest percentage identified as Caucasian/white, the next largest as African-American/black, and smaller percentages identified as Hispanic, Native American, Asian American, and Arab American. See Table 1 for sample characteristics.

Table 1 Demographics

	N	% ^a
Caucasian/white	430	66.9
Black/African American	137	21.3
Hispanic	48	7.5
Native American	60	9.3
Asian American	14	2.2
Arab American	13	2.0
Other	35	5.4
Sixth grade	348	54.1
Ninth grade	295	45.9
Low-risk community	193	30.0
Moderate-risk community	189	29.4
High-risk community	261	40.6

Based on a sample of 643 adolescent girls

^aPercentages add up to more than 100% because youth identified as multiple races/ethnicities

Passive consent procedures were used in accordance with recommended ethical guidelines [35, 36]. Parents had the opportunity to refuse consent for their child's participation by returning a written form or by calling a toll-free telephone number. Before survey administration, all students provided assent and were informed of their right to withdraw from the study at any time. A Social Worker was present at each data administration in case a participant was distressed by a question or disclosed eminent harm to self or others. School specific protocols were followed for mandated reporting. All procedures were approved by Institutional Review Board at Wayne State University.

Measures

Demographics

Girls' age and ethnic minority status (0=racial/ethnic minority, 1=Caucasian/white) were entered as control variables in structural analyses.

Feminine gender role discrepancy and discrepancy stress were measured using the female variants of items from the masculine discrepancy stress scale [23, 27]. Terminology about specific behaviors, attributes, or cognitions related to femininity (e.g., being nurturing or chaste) was avoided as this language was deemed too directive and not accurately assessing subjective constructions of femininity. Thus, this measure uses broad terminology such as "feminine," or "girly." The internal consistency of indicators tapping feminine discrepancy ($\alpha=0.88$) and feminine discrepancy stress ($\alpha=0.82$) in this present sample are highly consistent with the original measure used with boys and men [23, 27].

Gender Role Discrepancy

Respondents answered five Likert-type questions pertaining to the experience of perceived gender role discrepancy: (1) "I am less feminine than the average girl," (2) "Most guys I know would say that I'm not as feminine as my friends," (3) "Most girls think I'm not very feminine compared to them," (4) "Compared to my girl friends, I am not very feminine," and (5) "Most guys would consider me to be less feminine than typical girl." Response options were on a five-point scale ranging from *strongly agree* to *strongly disagree*.

Discrepancy Stress

Respondents answered five Likert-type questions pertaining to the experience of discrepancy stress: distress stemming from the discrepancy. Items included (1) "I wish I was more girly," (2) "I wish I was interested in things that other girls like," (3) "I worry that people judge me because I am not like the typical girl," (4) "Sometimes I worry about my femininity," and (5) "I worry that people find me less attractive because I'm not as feminine as other girls." Response options were on a 5-point scale ranging from *strongly agree* to *strongly disagree*.

Trauma Symptoms

Trauma was measured via the 17 indicators from the Child Post-traumatic Stress Disorder Symptom Scale [37]. Respondents rated how often symptoms had occurred over the past 2 weeks ranging from not at all to 5 or more times a week. Examples of the types of situations inquired about include, "Having upsetting thoughts or images about the event that came into your head when you didn't want them to," "Trying to avoid activities, people/places that remind you of the traumatic event," "Being jumpy or easily startled," and "Feeling irritable or having fits of anger."

Substance Use

Items assessing substance use were derived from the Delinquency National Youth Survey [38]. Each participant's substance use was measured with five indicators. Students indicated how many times "IN THE PAST YEAR" they had (1) "Used alcoholic beverages," (2) "Drank more than five alcoholic beverages on one occasion," (3) "Been drunk in a public place," (4) "Used marijuana (pot/grass)," and (5) "Used other illegal drugs (acid/speed/coke/smack)."

Table 2 Fit indices for the measurement models of the seven latent constructs

Latent construct	Items	Correlated residuals	RMSEA	90% CI	CFI	TLI	χ^2 (df)	<i>p</i>	Loadings
Discrep	5	3	0.040	0.000–0.097	0.999	0.998	4.01 (2)	0.13	≥0.61
Stress	5	3	0.022	0.000–0.085	0.999	0.999	2.63 (2)	0.27	≥0.55
Trauma	17	1	0.050	0.043–0.057	0.981	0.979	306.57 (118)	0.00	≥0.55
Mood	7	1	0.036	0.010–0.058	0.997	0.996	23.73 (13)	0.03	≥0.46
Hope	10	0	0.030	0.012–0.044	0.987	0.983	54.69 (35)	0.02	≥0.60
Sex	3	0	0.057	0.000–0.137	0.998	0.993	3.03 (1)	0.08	≥0.80
SUD	5	0	0.045	0.007–0.080	0.998	0.996	11.45 (5)	0.04	≥0.81
Maladjust	4	0	0.029	0.023–0.034	0.963	0.959	413.70 (271)	0.00	≥0.60

Discrep Feminine discrepancy, *Stress* Feminine discrepancy stress, *Trauma* PTSD symptoms, *Mood* mood disorder symptoms, *Hope* hopelessness, *Sex* sexual behavior, *SUD* substance use, *Maladjust* psychosocial maladjustment, *Items* # of items in construct, *Correlated Residuals* # of pairs of error terms allowed to correlate, *RMSEA* Root Mean Square Error of Approximation, *CFI* comparative fit index, *TLI* Tucker Lewis Index, χ^2 Chi square value with degrees of freedom in parentheses, *p* significance value

Students responded using a five-point scale ranging from never to ten or more times.

Sexual Behavior

Items assessing sexual behavior were derived from the Delinquency National Youth Survey [38]. Each participant's sexual behavior was measured via three indicators asking students to indicate “have you ever” (1) “Sexted (sent sexual messages or pictures),” (2) “Had oral sex,” and (3) “Had sexual intercourse.” Students indicated with a dichotomous response (“yes,” “no”) whether they had engaged in each of the activities.

Mood Disorder Symptoms

Mood disorder symptoms were measured using the K6. The K6 has been shown to discriminate well between individuals meeting DSM-IV diagnostic criteria for a mood disorder from those with non-clinical levels of mood dysfunction [39, 40]. Respondents were asked to indicate how often “IN THE LAST FOUR WEEKS” they felt “Nervous,” “Hopeless,” “Restless or fidgety,” “So depressed nothing could cheer you up,” “that everything was an effort,” “Worthless,” or “Angry” on a five-point scale ranging from none of the time to all of the time.

Hopelessness

Ten indicators from the Hopelessness Scale for Children [41] were used to assess hopelessness. Participants were given response options of “yes” or “no” to reflect their personal attitudes regarding whether each of the ten statements described them (e.g., “I might as well give up because I can't make things better for myself,” “I never get what I want, so it's dumb to want anything,” and “Tomorrow

seems unclear and confusing to me”). We assessed hopelessness as a proxy for suicidality [42].

Data Analysis

All analyses utilized structural equation modeling (SEM) in Mplus version 7.3 controlling for the clustering of data within schools using robust weighted least squares (WLSMV) (i.e., sandwich estimator) for ordinal data. By default, Mplus uses pairwise present analysis for missing data with the WLSMV estimator. The amount of missing data for study variables was minimal (covariance coverage ≥0.95 for all manifest variables). Confirmatory factor analyses (CFA) were first tested to determine the best fitting factor model for each of the latent variables before testing the fit of the measurement model for all constructs simultaneously (see Table 2 for CFA fit indices). We then tested the fit of the full structural equation model. Models were deemed to fit the underlying data adequately when RMSEA <0.08 and CFI/TLI >0.95 [43]. Model identification was derived by fixing the variance of all latent constructs to 1 with a mean of zero.

Our structural model examined the influence of feminine discrepancy and discrepancy stress on the shared variance of sexual behavior, substance use, mood disorder symptoms, and hopelessness while controlling trauma symptoms and the manifest variables age and racial/ethnic minority status. To model the shared variance of these latent outcomes, we created a superordinate construct, psychosocial maladjustment, using sexual behavior, substance use, mood disorder symptoms, and hopelessness as the indicators. In doing so, we were able to regress this higher order maladjustment factor on our predictor constructs demonstrating their associations to the shared variance of the four first-order outcomes. See Fig. 1 for the conceptual SEM that we tested.

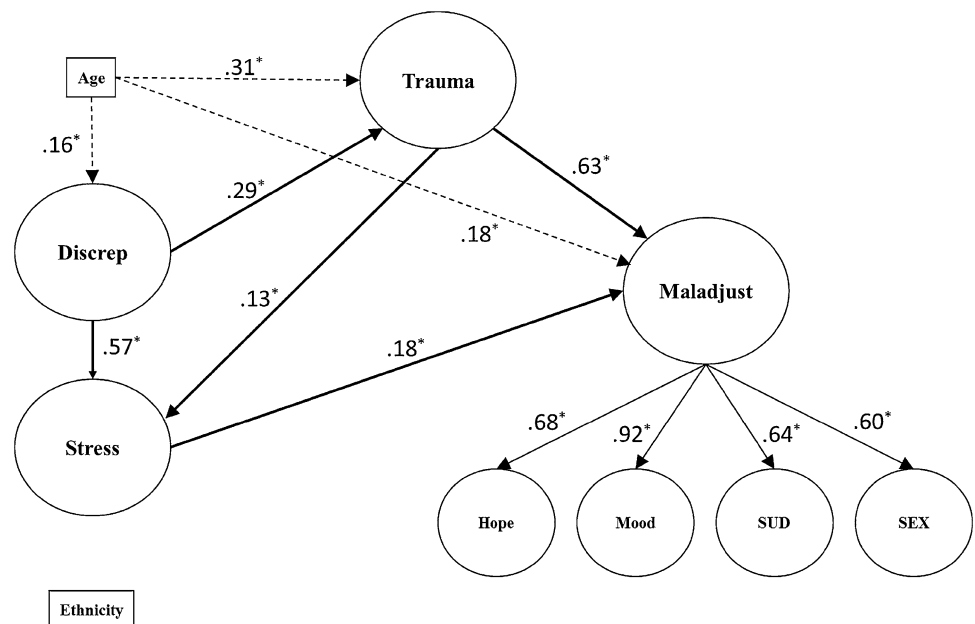
Table 3 Covariances and bivariate correlations among latent constructs and manifest control variables

	Discrep	Stress	Trauma	Mood	Hope	Sex	SUD	Maladjust	Age	Ethnic
Discrep	1	0.63*	0.34*	0.26*	0.19*	0.18*	0.17*	0.28*	0.17*	0.08
Stress	0.838	1	0.34*	0.35*	0.26*	0.23*	0.24*	0.38*	0.19*	0.10
Trauma	0.384	0.504	1	0.68*	0.50*	0.44*	0.47*	0.74*	0.35*	0.00
Mood	0.678	1.172	1.943	1	0.63*	0.55*	0.59*	0.92*	0.39*	-0.04
Hope	0.266	0.461	0.764	2.180	1	0.41*	0.44*	0.68*	0.29*	-0.03
Sex	0.216	0.374	0.621	1.770	0.696	1	0.39*	0.60*	0.25*	-0.02
SUD	0.240	0.415	0.688	1.963	0.772	0.627	1	0.64*	0.27*	-0.03
Maladjust	0.451	0.781	1.294	3.691	1.451	1.178	1.307	1	0.42*	-0.04
Age	0.265	0.405	6.26	1.567	0.616	0.500	0.555	1.043	2.52	0.10
Ethnic	0.039	0.063	0.002	-0.043	-0.017	-0.014	-0.015	-0.029	0.076	0.22

Values above the diagonal are correlations; values below the diagonal are covariances; values on the diagonal are variances. *Discrep* Feminine discrepancy, *Stress* Feminine discrepancy stress, *Trauma* PTSD symptoms, *Mood* mood disorder symptoms, *Hope* hopelessness, *Sex* sexual behavior, *SUD* substance use, *Maladjust* psychosocial maladjustment, *Ethnic* ethnicity/race

* $p \leq .001$

Fig. 2 Conceptual model of paths among Feminine Discrepancy and Discrepancy Stress, Trauma Symptoms, and the higher order latent construct of Psychosocial Maladjustment controlling for Age and Ethnicity/Race. *Discrep* Feminine discrepancy, *Stress* Feminine discrepancy stress, *Trauma* PTSD symptoms, *Maladjust* psychosocial maladjustment, *Mood* mood disorder symptoms, *Hope* hopelessness, *SUD* substance use, *Sex* sexual behavior. *Dashed lines* represent directional paths from control variables to latent outcomes. Standardized coefficients are displayed. Only significant paths are shown. * $p \leq .001$



In the final step of our analysis, we tested the direct and indirect effects of feminine discrepancy on psychosocial maladjustment through discrepancy stress and trauma. Because bootstrapping cannot be conducted in combination with survey weights for complex sampling design (i.e., students nested within schools) we had to implement bias corrected bootstrapped confidence intervals without controlling for clustering in schools. Thus, we performed an additional test of direct and indirect effects using the Sobel method which allows for sample weighting for nested data. Each approach has its limitations with the present data so we conducted both and looked for patterns across the two methods.

Results

The overall model fit statistics indicated a good fit to the data: $\chi^2 (1353) = 1608.67, p < .001$; RMSEA = 0.017; 90% CI (0.014, 0.020); CFI = 0.974; TFI = 0.972. Examination of modification indices and residuals suggested that the significant Chi square was due to a heightened sensitivity to detect small amounts of misfit as a result of large sample size and degrees of freedom. Table 3 provides all covariances and bivariate correlations among latent and manifest control variables. Figure 2 provides all significant standardized regression coefficients tested in our theoretical model.

Hypothesis 1 As expected, there was significant and large positive association between feminine discrepancy and discrepancy stress ($\beta=0.57$, $SE=0.036$, $p<.001$).

Hypothesis 2 The covariation among sexual behavior, substance use, mood disorder symptomatology, and hopelessness were all significant and moderate to large in size (magnitudes ranging from 0.39 to 0.63). The largest associations were seen between mood disorder symptoms and hopelessness ($r=.63$, $p<.001$), mood disorder symptoms and substance use ($r=.59$, $p<.001$), and mood disorder symptoms and sexual behavior ($r=.55$, $p<.001$). The significant covariation among these constructs provides evidence of a superordinate psychosocial maladjustment construct.

Hypothesis 3 The path from feminine discrepancy to trauma symptomatology was significant and positive ($\beta=0.29$, $SE=0.026$, $p<.001$) indicating girls perceiving themselves to be more gender discrepant reported more trauma symptoms. In addition, the path from trauma to discrepancy stress was positive and significant ($\beta=0.13$, $SE=0.038$, $p<.001$).

Hypothesis 4 There was direct positive effect of trauma symptoms on psychosocial maladjustment ($\beta=0.63$, $SE=0.035$, $p<.001$).

Hypothesis 5 The path from discrepancy stress to adjustment was significant and indicated that discrepancy stressed girls reported more psychosocial maladjustment ($\beta=0.18$, $SE=0.044$, $p<.001$), comprising mood disorder symptoms, hopelessness, sexual behavior, and substance use. As expected, after controlling for discrepancy stress, feminine discrepancy was unrelated to maladjustment.

Hypothesis 6 Finally, we tested the direct and indirect effects of feminine discrepancy through discrepancy stress and trauma symptomatology on maladjustment. Using the Sobel method there was a significant total indirect effect ($\beta=0.29$, $SE=0.030$, $p<.001$) via two routes. The indirect effect of feminine discrepancy on maladjustment via discrepancy stress was significant ($\beta=0.10$, $SE=0.025$, $p<.001$) as was the route via trauma ($\beta=0.18$, $SE=0.019$, $p<.001$). The direct effect was not significant ($\beta=-0.06$, $SE=0.052$, $p>.10$). We found a highly similar pattern of result using the bias corrected bootstrapping methods. The total indirect effect of feminine discrepancy on maladjustment was different from zero ($\beta=0.29$; 95% CI 0.20, 0.39). The indirect effect via discrepancy stress was also significant ($\beta=0.10$; 95% CI 0.02, 0.16) as was the indirect effect via trauma ($\beta=0.19$; 95% CI 0.13, 0.25). The direct effect was again not significant ($\beta=-0.06$; 95% CI -0.17 , 0.05).

Discussion

A wealth of data suggest that there are social and even physical consequences for appearing gender discrepant [2, 10, 12, 13, 15–19, 21]. For some girls, fear of these potential consequences engenders a sense of distress and negative affect (i.e., feminine discrepancy stress). This stress, can be an impetus for mood disorder symptoms such as depression and anxiety. Additionally, it may drive negative coping behaviors or attempts demonstrate their feminine conformity through maladaptive behaviors. The purpose of this research was to assess the effect of feminine discrepancy and consequent feminine discrepancy stress on adolescent girls' psychosocial maladjustment as indicated by sexual behavior, substance use, mood disorder symptoms, and hopelessness. First and foremost we set out to test the hypothesis that feminine discrepancy stress would predict maladjustment. Additionally, we expected that when the variance attributed to discrepancy stress was controlled, feminine discrepancy would have no association to maladjustment but it would have an indirect effect via discrepancy stress and trauma symptomatology. To this end, we implemented a structural equation model assessing the influence of feminine discrepancy and discrepancy stress on the shared variance of the four outcomes (i.e., sexual behavior, substance use, mood disorder symptoms, and hopelessness) while controlling for trauma, age, and race/ethnicity. Our hypotheses were supported overall: results indicated that as the degree of girls' endorsement of discrepancy stress increased, girls reported more psychosocial maladjustment. Feminine discrepancy demonstrated no direct effect on maladjustment but it did have a positive direct effect on trauma symptoms as expected and the hypothesized indirect effects on maladjustment through discrepancy stress and trauma.

Given the associations of feminine discrepancy stress to the shared variance of substance use, sexual behavior, mood disorder symptoms, and hopelessness, incorporating issues surrounding gender socialization into prevention strategies among adolescent girls may be warranted. Feminine discrepancy stress has yet to be studied in depth; however, these data suggest that attempts to resolve this stress could mitigate adverse health outcomes in adolescence and later life [2, 8]. That is, strategies that incorporate the prevention of feminine discrepancy stress may have an impact on the social, behavioral, physical, and mental health of girls in adolescence; thus, averting the development of health adversities in adulthood. For example, depression in adolescence is associated with psychosocial functioning in adulthood including poor physical health, low life satisfaction, lower educational and occupational attainment, increased treatment utilization, poor social relationships, and criminal arrest [44]. Additionally, chronic depressive

symptoms are associated with risk for a whole host of medical consequences including chronic diseases like angina, arthritis, asthma, and diabetes [45] as well as substantial individual economic costs [46].

Relatedly, girls who are sexually active at an early age may be stigmatized which could lead to bullying, social exclusion, low self-esteem, and depressive symptoms [47–51]. And perhaps a worst-case scenario, girls may potentially receive criminal sanctions if sexted images are shared among peer groups [48]. Medically, early sexual debut for girls is associated with heightened risk for contraction and spread of sexually transmitted infections and teen pregnancy [48, 50, 52]. Teen mothers (and their babies) are at risk of preterm delivery, low birth weight, and neonatal mortality [53]; are more likely to report suicidal thoughts, tend to perform worse academically and are less likely to graduate high-school and attend college [33, 54]. In turn, these factors impact social determinants of health [54] reducing teen mothers' potential earnings and consequent access to proper nutrition, preventive medical care, and education for themselves and their babies.

Early initiation of substance use is associated with the development of addiction, psychopathology, and social and occupational deficits [55–60]. The introduction of psychoactive substances into the body hinders brain maturation processes and may result in structural and functional abnormalities and cause neurocognitive deficits [61–63]. Consequently, substance using youth perform worse academically, are less likely to graduate high-school [64, 65], and ultimately have an estimated life expectancy of almost 10 years shorter [66]. Among adolescents, the individual effects of substance use, dropping out of school, and poor mental health are dangerous, but in combination they may be lethal, as substance use among adolescents is associated with a risk of suicide [60, 67]. Thus, it seems that resolving feminine discrepancy stress may potentially lessen a myriad of health sequelae and perhaps increase women's access to key social determinants of health.

Importantly, there is a complex reciprocal network of risk that contributes and exacerbates these deleterious constructs we have measured. And yet, we have captured only part of this picture. For example, the early initiation of sex and substance use increases girls' risk of violent victimization in dating and casual relationships [68–71]. Importantly, violent victimization at this early age increases the likelihood that girls will be victimized in future relationships [72, 73]. And, this victimization experienced in adolescence is connected to health adversity in adulthood [74]. Thus, discrepancy stress may contribute to a myriad of other related consequences including violence experienced in adolescent dating and casual relationships.

Of course, our data suggest that trauma focused prevention strategies may be most important in preventing this

host of maladjustment sequelae. The association of trauma symptoms to maladjustment was significant and large in the present sample ($\beta=0.63$). This is further relevant for gender discrepant youth given their heightened risk of trauma symptoms stemming from victimization [18, 21]. Developing targeted prevention strategies for gender discrepant youth that are trauma focused and incorporate pertinent gender socialization factors may potentially prevent a multitude of short- and long-term health and economic consequences. In essence, such a prevention strategy may not be a “catch-all” but it might be a “catch-most.” Quite often, prevention programs for adolescents are devised with a singular focus on one problem behavior or outcome [75–82]. We posit that developing prevention strategies that intervene on cross-cutting risk factors, such as trauma and feminine discrepancy stress, should be our focus to have a more substantial public health impact.

Clearly, it is still early to know what tactics and strategies might most effectively be implemented to address feminine discrepancy stress. However, youth may benefit from adapting strategies that have been employed for sexual minority youth to increase acceptance both by the individual and those in their social ecology. We do not suggest girls endorsing gender discrepancy or discrepancy stress are in actuality sexual minority youth. In fact, we have previously found that the association between sexuality and gender role discrepancy (in men) is quite small ($r=.11$) albeit statistically significant [23]. Nonetheless, we do believe implementing strategies that promote acceptance of gender fluidity and sexuality (e.g., gay/straight alliances) within schools may promote an environment tolerant of nonconformity and could therefore lessen stress about the need to adhere to gender norms and potential reprisals for not adhering for all youth. This point is critical as it could likely reduce the likelihood of social and physical victimization by peers which in turn would reduce much of the trauma that contributes most strongly to maladjustment. Thus, developing prevention strategies that promote acceptance of gender role nonconformity could likely serve to increase healthy psychosocial adjustment by reducing both discrepancy stress and potential victimization that contributes to trauma.

In a related vein, prevention strategies that capitalize on Social Norms Theory to change norms pertaining to gender socialization may be an advantageous avenue for development [83]. For example, social norms campaigns have been shown to be effective for changing both norms and associated behavior through the correction of pluralistic ignorance [84]. Pluralistic ignorance occurs when a majority of group members privately reject a norm while incorrectly believing that majority of the group accept that norm [83]. Girls experiencing discrepancy stress may underestimate the number of their peers who experience similar distress

and the degree to which they personally endorse such norms. According to the Social Norms Theory, correcting youths' misperceptions about their peers' endorsement of norms should correct their negative behavior [83–85].

Limitations

It bears mentioning that these data are cross-sectional and these SEM analyses are correlational precluding our ability to make causal determinations about feminine discrepancy stress. Obviously, we cannot manipulate or randomly assign discrepancy stress for obvious reasons and as such we will never be able to make true causal statements. Nevertheless, longitudinal data will allow us to further demonstrate temporal sequence that can potentially strengthen our speculation about the role of discrepancy stress in the onset and maintenance of a number of health outcomes. In a related vein, any model in SEM analysis will have multiple (potentially even thousands) of alternative models that are indistinguishable from the proposed model in terms of goodness of fit to the data [86]. Because these models cannot be distinguished by their fit to their data, only the substantive meaningfulness, parsimony, and theory can inform which model is the most appropriate [86]. Of course, we have applied theory to derive what we believe to be the most parsimonious and substantive model to be presented in the present research. However, we acknowledge the potential for competing models.

Importantly, due to the constraints of working in schools and with school administrators we were unable to collect information on respondents' self-identified sexuality. This is an important gap in these data because sexuality is a singular component of gender role adherence or nonconformity that we do not wish to equate to gender role discrepancy. It is possible to identify as gay or lesbian while still conforming to other aspects of one's gender role. Moreover, we do not know how and if feminine discrepancy stress operates differently among students identifying as heterosexual versus those identifying as gay or bisexual. For example, it is possible that girls openly identifying as gay or bisexual may be less likely to feel stress about conforming to their prescribed gender role. Further research parsing the nature of gender role conformity and sexuality among girls is necessary. Additionally, all self-report data is subject socially desirable responding and likely this effect is consistent across respondents. Yet, the particular nature of this topic, stress about being perceived insufficiently feminine, may have led the most discrepancy distressed girls to deny their discrepancy and stress. By the very nature of the construct, they are more likely to attempt to conceal their perceived discrepancy and associated stress.

Despite these limitations this research contributes to the literature in that it is the first of its kind. No prior studies have attempted to measure feminine discrepancy stress, let

alone assess its association to behavioral and mental health outcomes. These data provide a jumping off point for a new line of investigation into girls' gender socialization. Moreover they suggest an opportunity for intervention on multiple health outcomes via a single access point.

Summary

Female gender roles mandate that girls adhere to a certain set of behaviors and appearances deemed socially acceptable. Failing to conform to these standards (i.e., gender discrepancy) may often social reprisals (e.g., ostracism, bullying, assault, etc.). Thus, it would not be unexpected that some girls may experience discrepancy stress, that is, stress about being perceived not to conform to feminine gender roles. In turn, this discrepancy stress can may impact girls' mental and behavioral health. In the present study, we computed a structural equation model using data from 643 adolescent girls to determine the effect of discrepancy stress on psychosocial maladjustment as measured by psychiatric symptoms, substance use, and sexual behavior. As expected girls endorsing more discrepancy stress endorsed a higher degree of maladjustment even after controlling the influence of trauma symptoms.

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Compliance with Ethical Standards

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

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