Does It Get Better? A Longitudinal Analysis of Psychological Distress and Victimization in Lesbian, Gay, Bisexual, Transgender, and Questioning Youth

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Abstract

Purpose—The mental health and victimization of lesbian, gay, bisexual, transgender, and questioning (LGBTQ) youth have garnered media attention with the "It Gets Better Project." Despite this popular interest, there is an absence of empirical evidence evaluating a possible developmental trajectory in LGBTQ distress and the factors that might influence distress over time.

Methods—This study used an accelerated longitudinal design and multilevel modeling to examine a racially/ethnically diverse analytic sample of 231 LGBTQ adolescents aged 16–20 years at baseline, across six time points, and over 3.5 years.

Results—Results indicated that both psychological distress and victimization decreased across adolescence and into early adulthood. Furthermore, time-lagged analyses and mediation analyses suggested that distress was related to prior experiences of victimization, with greater victimization leading to greater distress. Support received from parents, peers, and significant others was negatively correlated with psychological distress in the cross-sectional model but did not reach significance in the time-lagged model.

Conclusions—Analyses suggest that psychological distress might "get better" when adolescents encounter less victimization and adds to a growing literature indicating that early experiences of stress impact the mental health of LGBTQ youth.

Keywords

Gay; LGBT; Adolescents; Longitudinal; Mental health; Victimization; Bullying; Homophobic teasing

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Several high-profile suicides of adolescents who were gay, or were perceived by others to be gay, have increased the public's attention to the victimization and mental health needs of this population [1]. In response to the growing focus on bullying and suicide among lesbian, gay, bisexual, transgender, and questioning (LGBTQ) adolescents, Dan Savage, a syndicated

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columnist and author, created the YouTube-based It Gets Better Project [2]. The Project's goal was to share stories of LGBTQ adults who in their youth were victimized or contemplated suicide, with the ultimate goal of inspiring LGBTQ youth with the message that life improves as one grows older. The project quickly became popular, drawing more than 50,000 user-created video submissions and drawing supporters and submissions from individuals such as President Barack Obama, celebrities, and the staffs of major companies such as Google and Facebook [2].

Although the campaign's message is well intended, there have been no longitudinal studies to assess the accuracy of the core message (i.e., LGBTQ youth outcomes improve as youth get older). Cross-sectional data indicate that compared with heterosexuals, LGBTQ youth and adults experience elevated levels of multiple negative outcomes [3] such as victimization and bullying [4], drug use [5], and mental health difficulties (e.g., depression and suicidality) [6–8]. Longitudinal studies that examine the mechanisms by which these disparities develop are necessary as they can inform intervention efforts that address the antecedents of these disparities.

To conceptualize processes that lead to LGBTQ health disparities, Meyer [9] articulated a theory of minority stress, which posits that increased stress due to the discrimination, stigma, and prejudice that sexual minorities face causes worse mental and physical health outcomes and greater likelihood to use maladaptive coping strategies [10]. Manifestations and drivers of minority stress have been shown in cross-sectional studies to be associated with mental health problems. These variables include unsupportive reactions by family and community to "coming out" [11], increased gender nonconformity [12], increased victimization [13], and lack of social support [13]. However, there have been few longitudinal tests of minority stress theory, necessitating an examination of how stigma and stress develop over time and how they might confer greater risk for mental health problems.

The first aim of the present study was to characterize trajectories of psychological distress, victimization, and support to answer the question "does it get better?" as LGBTQ youth grow older. The second aim was to examine longitudinally, the relationship of two minority stressors (victimization and support) to psychological distress while controlling for age. The longitudinal relationships were examined in two ways: first, we fitted a model estimating the associations among variables, which were measured concurrently across multiple waves (i.e., concurrent associations). Second, we fitted a time-lagged model of psychological distress to examine the possible influence of early victimization and support on later distress.

This study used data from six waves collected over 3.5 years of a longitudinal cohort study of racially/ethnically diverse LGBTQ adolescents. These data are unique in that very few prior published longitudinal studies of LGBTQ youth have followed their participants for even 1 year [14,15]. Longitudinal studies are critical to understanding developmental trajectories, and they also allow for stronger causal inference about the effects of predictor variables.

On the basis of minority stress theory [9] and the available literature, several hypotheses were made. Although the few studies which have examined LGBTQ youth distress over time have not examined developmental trends, there is some evidence that distress might decline during adolescence [16]. Additionally, research suggests that victimization experiences peak in middle school and are reduced through adolescence [17] and that social support within LGBT youth tends to increase over adolescence [18]. Therefore, we hypothesized that LGBTQ youths' mental health would "get better" as these youth would report less psychological stress and greater support over time. In addition, research on gender role socialization suggests that both boys and racial/ethnic minorities may be subjected to higher rates of victimization because of the greater traditional masculinity norms of their peers [19]. Traditional masculinity norms are associated with homophobic attitudes [19,20], and African-American communities typically hold more traditional masculinity attitudes [21]. Prior empirical work [22] also supports this; therefore, we hypothesized that males, African-Americans, and transgender individuals would report greater victimization. Also, as minority stress theory [9] and several cross-sectional studies suggest [6,13], we hypothesized that increased victimization and decreased social support at each wave would be associated with increased psychological distress at that same wave. Furthermore, consistent with the tenets of minority stress theory, we hypothesized that time-lagged experiences of victimization would be associated with increased psychological distress, whereas time-lagged experiences of support would be associated with decreased psychological distress [9]. And finally, also in line with minority stress theory [9], we hypothesized that both concurrent and time-lagged measures of victimization and total support would mediate the relationship between age and psychological distress [23].

Methods

Participants

Participants from this study were part of Project Q2, a longitudinal study of LGBTQ youth who were between the ages of 16 and 20 years at baseline. All participants were youth living in the Chicago area who self-identified as LGBT, "queer," "questioning," or indicated they were attracted to the same gender. Participants were recruited via multiple methods, including incentivized peer recruitment and e-mail advertisements, cards, and flyers distributed in LGBT-identified neighborhoods and LGBT-identified events. Approximately half of participants were recruited by another participant. Two hundred forty-eight participants were part of the original recruited sample. Of note, participants self-reported their age and date of birth at baseline, but identification checks conducted at later waves of data collection resulted in some adjustments of age and an adjusted sample size. Three participants were removed from analysis because of missing data on key variables and 14 were removed because of being outside the recruited age range. The analytic final sample consisted of 231 participants (108 birth males, 123 birth females; 128 African-Americans, 34 whites, 29 Latinos, 40 who indicated multiracial or Asian/Native American racial identity; mean age at baseline = 18.74; standard deviation, 1.33; mean age at wave 6 = 22.23; standard deviation, 1.35). At baseline, socioeconomic status was self-identified with 7.4% upper class; 70.1% middle class; and 22.5% lower class. Further description of the sample is published elsewhere [24,25].

Procedure and design

Project Q2 used an accelerated longitudinal design involving a small range in age at enrollment and longitudinal follow-up on six occasions over 3.5 years [26]. At each of these six time points, participants completed self-report measures on health, mental health, victimization, and health behaviors. Participant payments ranged between $25 and $40 depending on the length of the survey at a particular time point, with most interviews lasting 2 hours. The institutional review board approved the project.

Measures

Demographics—Demographic covariates were assessed at baseline. Birth sex was assessed by the item "What is your birth gender or biological sex?" with male individuals coded as 1 and females coded as 0. Transgender identity was assessed by the item "How do you self-identify?" with the following response options: male, female, transgendered-male-to-female, and transgendered female-to-male. Those who indicated they identified as transgender male-to-female or female-to-male were coded as 1 and the rest coded as 0. Sexual identity was assessed via the item "Which of the following best describes you?" with response options gay, lesbian, bisexual, heterosexual, and questioning/ unsure. Race/ ethnicity was assessed and dummy coded as African-American, Hispanic, and multiracial/ Asian/Native American ethnicity, with white individuals being the reference group. Age at both baseline and each wave of data collection was assessed by subtracting the date each survey was completed from the participant's date of birth. To ease model interpretation, age variables were centered around the lower bound of observation, age 16 years.

Psychological distress—The Brief Symptom Inventory (BSI 18) is a self-report measure of psychological distress during the prior week [27]. The BSI 18 has been widely used as a psychiatric screening tool in epidemiologic studies and clinical settings. Previous reports found the BSI 18 to have adequate reliability and convergent validity with the longer version and related measures, including the Beck Depression Inventory [28]. Items are rated on a five-point Likert scale ranging from not at all (0) to always (4). Sample items ask about "feeling no interest in things" and "feeling hopeless about the future." In the present sample, the BSI 18 demonstrated strong internal consistency (Cronbach $\alpha = .91$). The six-item depression subscale was used for this study (Cronbach $\alpha = .83$). Descriptive statistics of the measure are reported in Tables 1 and 2.

Social support—The Multidimensional Scale of Perceived Social Support is a measure of social support that includes subscales for family, peer, and significant other support [29]. An example item is "I get the emotional help and support I need from my family." The multifactor structure of the scale has been supported with confirmatory factor analysis [30]. In the present sample, the Multidimensional Scale of Perceived Social Support demonstrated strong internal consistency for all subscales including family (Cronbach $\alpha = .89$), peer (Cronbach $\alpha = .91$), and significant other (Cronbach $\alpha = .90$) support and total support (Cronbach $\alpha = .90$). Descriptive statistics of the total scale are reported in Tables 1 and 2.

Victimization—A 10-item measure based on the work of D'Augelli et al. [31] assessed the frequency of experiences of victimization in the previous 6 months "because you are, or

were thought to be, gay, lesbian, bisexual, or transgender." Items addressed verbal threats and insults, being chased, having property damaged, and being physically or sexually assaulted. An example item is "In the past six months, how many times have you been verbally insulted (yelled at, criticized) in your life because you are, or were thought to be, gay, lesbian, bisexual, or transgender." Frequency ratings of victimization in the previous 6 months range from never (coded zero) to three or more times (coded three). A composite of these items was created by taking the mean across items. High internal consistency was found for the 10-item total victimization scale, with a Cronbach α of .86. Descriptive statistics of the scale are reported in Tables 1 and 2.

Analyses

Data analyses were conducted using hierarchical linear modeling statistical software [32]. It is well suited to evaluate longitudinal data because it is designed to account for dependency in observations. In this case, four within-subject variables (psychological distress; victimization; support; and age at each wave) were nested within subjects. Between-subject covariates (birth sex; transgender identity; race/ethnicity dummy coded; and age at baseline) were also included in all models. Models were estimated assuming a normal distribution with robust standard errors used to guard against violations of normality. Mediation was tested based on recommendations by MacKinnon [23], by examining the confidence limits of mediation parameters using the PRODCLIN program [33]. If the 95% confidence intervals did not include zero, the mediation effect was considered significant at $p < .05$.

Results

Developmental trajectories

The estimated intraclass correlation (ICC, .414) indicated that 41.4% of the variance of psychological distress existed between individuals and 58.6% existed within individuals over time. This can be interpreted to mean that individual measures of psychological distress vary substantially over time and that more variance is observed longitudinally within people versus between people. Age at each wave was entered into the model along with the between-subject covariates to test the hypothesis that psychological distress declined over the developmental period studied. Age was a significant and negative predictor of psychological distress ($\beta = -.07$, $p < .001$), which supported the hypothesis that levels of distress in LGBTQ adolescents tended to decrease across development (See Figure 1 and Tables 3 and 4).

Next, the developmental trajectory of victimization was examined. The ICC indicated that 40.8% of the variance of victimization existed between individuals and 59.2% existed within individuals (ICC, .41). Age at each wave was a significant and negative predictor of victimization ($\beta = -.05$, $p < .001$) which supported the hypothesis that victimization of LGBTQ adolescents decreases across development. The hypothesis of gender and race differences in victimization was supported. African-Americans ($\beta = .12$, $p = .05$) showed significantly greater victimization than whites. Victimization was significantly greater in males ($\beta = .16$, $p < .001$) than in females. Additionally, victimization was significantly greater in transgender ($\beta = .29$, $p < .001$) than in nontransgender individuals.

Finally, the developmental trajectory of support was examined. The ICC indicated that 39.3% of the variance of support existed between individuals and 60.7% existed within individuals (ICC, .39); however, age at each wave was not a significant predictor of support. Therefore, the hypothesis that social support of LGBTQ adolescents increases across development was rejected.

Concurrent predictors of psychological distress

Next, levels of reported victimization and support at each wave were included in the model to assess the relationship between these independent variables and psychological distress while controlling for age. Results indicated that higher victimization at a wave was significantly associated with greater depressive symptoms at that same wave ($\beta = .27$, $p < .001$). Additionally, lower total social support at a wave was significantly associated with greater depressive symptoms at that same wave ($\alpha = -.18$, $p < .001$). Age at each wave also remained significantly associated with lower depressive symptoms in this model ($\beta = -.06$, $p < .001$). Victimization was further examined as a mediator of the relationship between age at wave and psychological distress and the 95% confidence interval ($-.01$ to $-.03$) supported mediation.

Time-lagged predictors of psychological distress

Next, time-lagged analyses were conducted to examine if prior levels of victimization and support were significantly associated with psychological distress, when controlling for prior levels of psychological distress and covariates. Time-lagged variables were generated for within-subject variables victimization, total social support, and psychological distress by taking the wave T-1 observation of that variable and entering it to predict psychological distress at wave T. Because of the nature of the analyses, five waves of data were used. Results indicated that time-lagged victimization was significantly associated with current psychological distress ($\beta = .21$, $p = .006$), even when controlling for prior psychological distress. However, time-lagged support was not significantly associated with current psychological distress ($\beta = -.02$, $p = .18$). Age at each wave remained significantly associated with lower depressive symptoms in this model ($\beta = -.05$, $p = .01$). Finally, time-lagged victimization was examined as a mediator of the relationship between age at wave and psychological distress and the 95% confidence intervals ($-.001$ to $-.016$) supported mediation. These results suggest that changes in victimization across development might drive developmental reductions in psychological distress from adolescence through young adulthood.

Discussion

Our results suggest that the psychological distress of LGBTQ adolescents does decrease across adolescence and into young adulthood. In addition, our analyses suggest that the reduction in distress appears to be related to the co-occurring developmental decline in LGBTQ victimization. In a time-lagged model, prior rates of victimization predicted later levels of distress, whereas prior levels of support did not. Previous studies have shown the relationship between victimization and mental health cross-sectionally in LGBTQ adolescents [13,34], but this study expands on previous work by demonstrating a

longitudinal relationship between victimization and distress. This relationship is consistent with minority stress theory which has suggested that increased victimization and other stigma-related stressors might influence chronic stress and coping. Furthermore, minority differences in stress and coping have been suggested to account for the increased health disparities present in LGBTQ youth and adults [9,10].

Our study also indicates that some youth might experience greater victimization than others. Males, some racial/ethnic minorities, and transgender individuals reported greater homophobic victimization, although a limitation of this study is its inability to comment on the cultural and contextual differences which drive these differences in experiences of victimization. These results are consistent with other research which has shown that males and racial minorities experience higher levels of victimization [22]. Although the It Gets Better Project highlights that the lives of many LGBTQ youth improve over time, when it comes to victimization, it is important not to forget that psychosocial experiences of LGBTQ youth vary substantially between individuals.

To increase our understanding of possible intervention targets, future research should more closely examine both who is most at risk for being victimized and how the reduction in victimization occurs across development. For example, do individuals self-select LGBT-supportive environments or avoid LGBT-negative environments over time? Increased autonomy at older ages and the ability to increasingly choose LGBTQ-friendly settings might partially account for reductions in victimization. Additionally, given the decreased rates of LGBTQ victimization after adolescence, research on the mental health of emerging LGBTQ adults should consider the influence of other forms of minority stress (e.g., same-sex marriage bans and sexual orientation microaggressions) rather than overt victimization [35].

Although social support was significantly associated with lower levels of psychological distress in concurrent analyses, prior social support did not have a significant impact on later levels of psychological distress in the time-lagged models. This result is consistent with multiple other studies that have found cross-sectional associations between social support and mental health in LGBTQ youth [36,37] and suggests that supportive relationships provide immediate protection against psychological distress. However, the lack of longitudinal evidence suggests that experiences of victimization impact psychological distress more, over time, than support. In other words, supportive relationships might not be enough to buffer psychological distress if experiences of victimization still occur.

Our study is unique in that it is the first of its kind to examine the longitudinal mental health and victimization trajectories of a community sample of LGBTQ adolescents. This rare examination of the brief time between adolescence and early adulthood in LGBTQ individuals is a significant contribution to the literature. However, findings must be interpreted in the context of study limitations. First, this study examined the reported sexual identity of participants, which is only one dimension of sexual orientation. Sexual behavior and sexual attraction are also important to consider as the dimensions of behavior and attraction do not perfectly overlap, and preliminary research suggests they are differentially associated with some health outcomes [38]. Second, although the transition from

adolescence to early adulthood is important to understand, future publications should explore the change from childhood through later adulthood and examine how early experiences of victimization might continue to impact psychological distress later in life. As well, acquiring a community-based and racially diverse sample of LGBTQ youth from a major metropolitan city is a strength of the study, but the population is a very specific one. Our results might not generalize to LGBTQ adolescents in other geographic areas.

This study also relied on self-report data, and the sample was not randomly ascertained. However, an issue with representative samples is that despite greater potential for generalizability, they tend to have very few LGBTQ-identified respondents. In prior studies, the inclusion of few LGBTQ youth has precluded analyses of demographic differences such as sex, sexual identity, and race/ethnicity. Additionally, by their nature, representative samples also include a far greater proportion of bisexual youth than gay/lesbian youth. Combining these sexual identity groups might then overrepresent the experiences of bisexual youth [39,40]. Furthermore, the small number of LGBTQ respondents obtained within representative samples often precludes studying risk and protective factors because of a lack of statistical power. Alternative sampling procedures, such as network-driven approaches, can complement population-based designs by allowing the exploration of risk and protective factors for LGBTQ youth.

Despite limitations, the present findings are an important first step in showing that distress does get better for most LGBTQ adolescents as they reach early adulthood. However, our results also find that it might not just get better on its own. Early experiences, particularly experiences of victimization, influence the development of LGBTQ youth and impact later psychological functioning despite social support. Therefore, to protect the psychological health of LGBTQ youth and young adults, early interventions which target victimization are needed; only when LGBTQ youth no longer experience victimization will it get better.

Acknowledgments

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IMPLICATIONS AND CONTRIBUTION

This study examines the longitudinal mental health and victimization trajectories of a community sample of lesbian, gay, bisexual, transgender, and questioning adolescents. Results indicate that although both distress and victimization decrease for lesbian, gay, bisexual, transgender, and questioning youth between adolescence and early adulthood, distress was mediated by earlier observations of victimization.
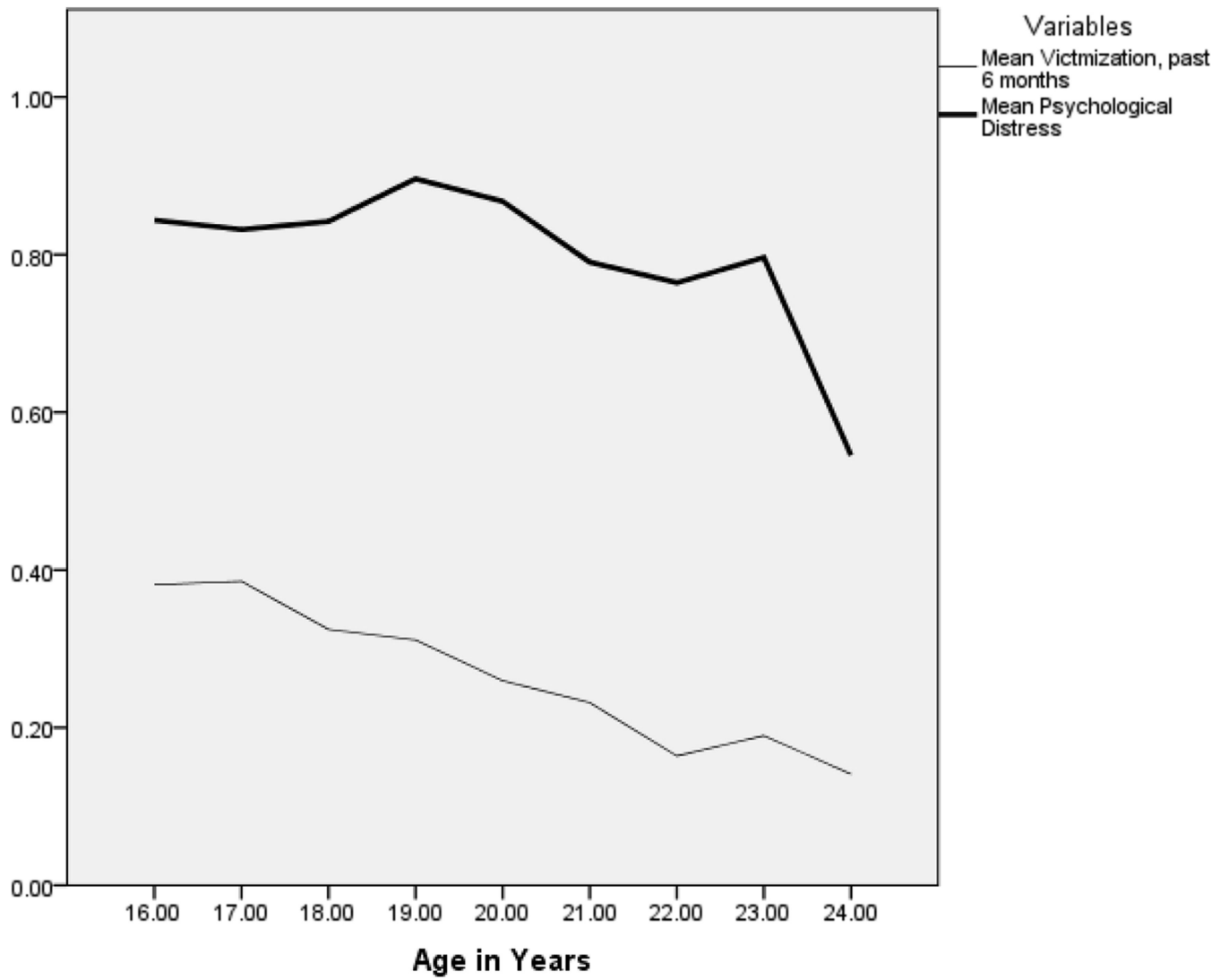
Figure 1.
Developmental trajectories of victimization and psychological distress.

Table 1

Descriptive statistics of measures by demographic variables at baseline

Variable	Psychological distress (0–4); mean (standard deviation [SD])	Victimization (0–3); mean (SD)	Total support (1–7); mean (SD)
Total (n = 231)	.95 (.85)	.43 (.56)	5.10 (1.20)
Birth sex			
Female (n = 123)	.94 (.77)	.36 (.54)	5.14 (1.09)
Male (n = 108)	.95 (.94)	.51 (.58)	5.04 (1.31)
Transgender identity (n = 22)	1.11 (1.17)	.95 (.81)	4.93 (1.31)
Race			
African-American (n = 128)	.96 (.89)	.47 (.57)	4.99 (1.26)
White (n = 34)	1.03 (.86)	.32 (.53)	5.46 (.87)
Hispanic (n = 29)	.93 (.87)	.26 (.40)	5.15 (1.21)
Multiracial/Asian/Native American (n = 40)	.84 (.68)	.52 (.66)	5.10 (1.18)
Sexual orientation			
Gay/lesbian (n = 143)	.92 (.88)	.48 (.58)	5.16 (1.15)
Bisexual (n = 66)	.94 (.75)	.30 (.48)	5.12 (1.18)
Questioning/unsure/hetero (n = 22)	.97 (.78)	.88 (.83)	5.02 (1.27)

Table 2

Descriptive statistics of measures across age at observation

Variable	Psychological distress (0–4); mean (standard deviation [SD])	Victimization (0–3); mean (SD)	Total support (1–7); mean (SD)
Age at observation			
16 (n = 32)	.84 (.77)	.38 (.38)	5.56 (.91)
17 (n = 118)	.83 (.80)	.39 (.54)	5.23 (1.10)
18 (n = 190)	.84 (.90)	.32 (.53)	5.12 (1.29)
19 (n = 230)	.89 (.90)	.31 (.47)	5.01 (1.28)
20 (n = 267)	.88 (.86)	.26 (.45)	5.05 (1.30)
21 (n = 184)	.79 (.88)	.23 (.46)	5.01 (1.32)
22 (n = 88)	.76 (.82)	.16 (.31)	5.19 (1.19)
23 (n = 59)	.80 (.74)	.22 (.48)	4.92 (1.62)
24 (n = 22)	.54 (.53)	.14 (.43)	5.26 (1.85)

"n" Refers to the number of observations across all waves of observation. Note that the "n" at each age at observation varies from Table 1 because of the accelerated longitudinal design of the analysis.

Table 3

Developmental trajectories of psychological distress, victimization, and support

	Psychological distress			Victimization			Support		
	β (standard error [SE])	t	p	β (SE)	t	p	β (SE)	t	p
Between-person									
Male	−.03 (.08)	−.40	.69	.16 (.05)	3.32	<.001	−.25 (.13)	−1.95	.05
Baseline age	.08 (.04)	2.07	.04	.02 (.02)	.96	.34	−.02 (.06)	−.41	.68
Race									
African-American	−.14 (.12)	−1.11	.27	.12 (.06)	1.92	.05	−.44 (.17)	−2.60	.01
Latino	−.05 (.15)	−.31	.75	−.03 (.06)	−.42	.68	−.42 (.22)	−1.94	.05
Other	.06 (.15)	.43	.67	.15 (.08)	1.83	.06	−.61 (.21)	−2.86	.005
White (referent)	—	—	—	—	—	—	—	—	—
Transgender	.19 (.18)	1.06	.29	.29 (.09)	3.15	.002	−.25 (.23)	−1.09	.28
Within-person									
Age at wave	−.07 (.02)	−3.87	<.001	−.05 (.01)	−4.32	<.001	−.03 (.03)	−.90	.37

Table 4

Longitudinal multilevel models of psychological distress

	Cross-sectional			Time-lagged		
	β (standard error [SE])	t	p	β (SE)	t	p
Between-person						
Male	−.12 (.07)	−1.76	.08	−.07 (.06)	−1.34	.18
Baseline age	.07 (.04)	1.95	.05	.07 (.03)	2.22	.03
Race						
African-American	−.24 (.10)	−2.37	.02	−.15 (.07)	−1.96	.05
Latino	−.11 (.13)	−.89	.37	−.05 (.09)	−.57	.57
Other	−.08 (.12)	−.64	.53	.07 (.09)	.73	.47
White (referent)	—	—	—	—	—	—
Transgender	.06 (.16)	.37	.71	−.05 (.08)	−.56	.57
Within-person						
Age at wave	−.06 (.02)	−3.42	<.001	−.05 (.02)	−2.49	.01
Victimization at wave	.27 (.06)	4.84	<.001			
Support at wave	−.18 (.02)	−7.69	<.001			
Distress at previous wave				.42 (.04)	10.01	<.001
Victimization at previous wave				.21 (.07)	2.76	.006
Support at previous wave				−.02 (.02)	−1.34	.18