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Homelessness Among Lesbian, Gay, and Bisexual Youth: Implications for Subsequent Internalizing and Externalizing Symptoms

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Abstract

Although lesbian, gay, and bisexual (LGB) youth with a history of homelessness (running away or being evicted from their homes by parents) report more psychological symptoms than homeless heterosexual peers, it is unclear whether symptoms are due to homelessness, given the absence of a non-homeless comparison group. This study longitudinally investigates whether LGB youth with a history of homelessness report more subsequent psychological symptoms than non-homeless LGB youth and examines potential mediators of any such relationships. Of the 156 LGB youth interviewed (49% female; 78% non-White), 48% reported past homeless experiences. Homelessness was associated with subsequent symptoms of anxiety, depression, conduct problems, and substance abuse and to changes in symptoms over time even after controlling for childhood sexual abuse and early development of sexual orientation. Stressful life events, negative social relationships, and social support from friends mediated the relationships between homelessness and symptomatology. These findings suggest the need for interventions to reduce stress and enhance social support among LGB youth with a history of homelessness in order to reduce psychological symptoms.

Keywords

Psychological distress; Runaway; Adolescence; Youth; Sexual minority; Homosexual

Homelessness among young people is a major public health concern that includes runaways and youth evicted from their homes by parents (i.e., “throwaways”). National estimates suggest that over a million youth (5%) experience homelessness annually (Ringwalt et al. 1998), with approximately 13,000 youth experiencing homelessness in the past year in New York City alone (Freeman and Hamilton 2008). At particular risk for homelessness are lesbian, gay, and bisexual (LGB) youth (Coker et al. 2010; Dunne et al. 2002; Gattis 2009;

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Zerger et al. 2008). Studies have found that LGB youth compose 15–36% of homeless youth (Bailey et al. 1998; Fournier et al. 2009; Freeman and Hamilton 2008; Gangamma et al. 2008; Leslie et al. 2002; Moon et al. 2000; Noell and Ochs 2001; Rew et al. 2005; Van Leeuwen et al. 2006; Whitbeck et al. 2004), although LGB youth compose only 1.3–3.8% of the general youth population (Bontempo and D'Augelli 2002; Narring et al. 2003; Remafedi et al. 1992; Savin-Williams and Ream 2007). In addition, recent research has found that LGB youth are more likely than heterosexual youth to be runaways or throwaways living on their own, but no more likely to be living as part of a homeless family (Corliss et al., in press).

Homeless LGB youth are at far greater risk for psychological symptoms than homeless heterosexual youth (see Gattis 2009 for review). Homeless LGB youth report significantly higher levels of depressive symptoms (Cochran et al. 2002; Noell and Ochs 2001; Whitbeck et al. 2004), anxious symptoms (Cochran et al. 2002), and other internalizing problems (Cochran et al. 2002; Gangamma et al. 2008) relative to homeless heterosexual youth. Homeless LGB youth also report higher levels of substance abuse symptoms (Bailey et al. 1998; Kipke et al. 1997; Van Leeuwen et al. 2006) and other externalizing problems (Cochran et al. 2002; Rice et al. 2008) relative to homeless heterosexual youth. Psychological symptoms are often reported both by currently homeless youth and those with a history of homelessness (Clatts et al. 2005; Rosenthal et al. 2007).

The studies that examine differences in psychological symptoms between heterosexual and LGB homeless youth, however, cannot answer the question whether homelessness is associated with increased psychological symptoms because there is no non-homeless comparison group. Indeed, the differences found between homeless LGB and homeless heterosexual youth may be a function of sexual orientation (and related stressful factors) rather than homelessness, given the disparities found between LGB and heterosexual youth in the general, youth population (Bontempo and D'Augelli 2002; Fergusson et al. 1999; Russell et al. 2002; Udry and Chantala 2002; see Marshal et al. 2008, in press for a meta-analysis). To examine and understand the potential adverse impact of homelessness on LGB youth, an alternative research design is needed that compares the psychological symptoms of LGB youth with and without homeless histories. Because such studies would focus exclusively on LGB youth, they would hold constant sexual orientation and, therefore, any potential health disparities associated with sexual orientation. Any differences that emerge would therefore be due to homelessness rather than to sexual orientation.

Although comparisons of psychological symptoms between homeless and non-homeless youth have been made in the general adolescent population (McCaskill et al. 1998; Votta and Manion 2003; Windle 1989), few studies have examined the symptoms of LGB youth with and without a history of homelessness. Young men who have sex with men (YMSM) who were currently homeless or had a history of homelessness reported significantly more depressive symptoms than YMSM who had never been homeless (Clatts et al. 2005). Likewise, YMSM who had ever run away, lived on the streets, or who were evicted from their home were more likely to use drugs, to use more drugs, and to inject drugs than YMSM who had never run away, lived on the streets, or were evicted (Kipke et al. 2007; Thiede et al. 2003). Only recently has research included young homeless lesbian and bisexual women (Walls et al. 2007), finding that homeless LGB youth experience greater hopelessness, suicidality, and substance use than non-homeless LGB youth. The current study examines the role of homelessness (versus no history of homelessness) on the psychological symptoms of LGB youth.

Another shortcoming of the existing research on homeless LGB youth is its exclusive reliance on the cross-sectional design (Gattis 2009). As such, research is unclear as to

whether experiences of homelessness may lead to greater psychological symptoms or, alternatively, whether youth with high levels of psychological symptoms are more likely to become homeless. Indeed, reviews of research on LGB youth (Elze 2005) and homeless LGB youth in particular (Gattis 2009) have called for longitudinal research. The current prospective longitudinal study examines the relationship of past experiences of homelessness (experienced prior to study accrual) on subsequent psychological symptoms and changes in psychological symptoms over time among LGB youth. Furthermore, the longitudinal design provides the opportunity to assess the duration of potential consequences of homelessness by, for example, examining whether a history of homelessness has long-term associations with the psychological symptoms of LGB youth. By examining changes in psychological symptoms over time, we also can examine if history of homelessness is associated with an indicator of symptoms that has been purified of any previous symptomatology and, by extension, any causes of that pre-existing symptomatology. Thus, one is able to assess the relationships between homelessness and a refined symptom outcome that ranges, in our case, over 6 months (from Time 1 to Time 2) and over 12 months (from Time 1 to Time 3). This study is the first to employ a longitudinal design to understand the potential long-term effects of homelessness on LGB youth.

As critical as it is to understand the role of homelessness history on psychological symptoms of LGB youth, it is as important to understand the factors that may explain why homelessness has health effects (i.e., potential mediators) in order to advance scientific understanding and inform intervention efforts. If we conceptualize homelessness as a major stressor in the lives of LGB youth, then from a stress, coping, and resiliency framework (Cohen and Wills 1985; Garmezy and Rutter 1983; Lazarus and Folkman 1984; Luthar et al. 2000; Meyer 2007), we can propose three theoretical pathways by which homelessness may be associated with greater psychological symptoms. First, homelessness itself may be a sufficiently stressful experience to have a direct association with subsequent psychological symptoms. Indeed, as noted earlier, homelessness has been associated with a variety of poor psychological outcomes (e.g., Bailey et al. 1998; Clatts et al. 2005; Cochran et al. 2002; Gangamma et al. 2008; Kipke et al. 1997; Noell and Ochs 2001; Walls et al. 2007; Whitbeck et al. 2004; Van Leeuwen et al. 2006). Second, homelessness may lead to experiencing additional stressors by the mechanism of stress proliferation (Pearlin et al. 1997, 2005). Experiences of homelessness may result in a variety of other stressful events (e.g., legal problems, injury or illness, being gay-bashed or robbed) and negative social relationships (e.g., being pushed around or placed in dangerous situations, having one's vulnerability exploited; see Reck 2009 for a qualitative account of the stressors experienced by gay and transgender homeless youth). These side-effects, in turn, may lead to more psychological symptoms. Third, homelessness may lead to lower availability or erosion of resiliency resources that serve to protect youth from the negative effects of homelessness. Indeed, experiences of homelessness may result in greater isolation from family and friends, resulting in compromised or eroded social support, lack of emotional confidants, and fewer sources of guidance. These, in turn, may place youth at risk for greater psychological symptoms.

Both the stress-proliferation and resiliency perspectives would be confirmed by mediation of the relationships between homelessness and subsequent psychological symptoms either by other stressors (i.e., stressful events, negative social relationships) or resiliency resources (i.e., social support). Although the direct effects of stress, negative social relationships, and social support on the psychological symptoms of LGB youth have been examined (e.g., Almeida et al. 2009; Bauermeister et al. 2010; Bontempo and D'Augelli 2002; Doty et al. 2010; Huebner et al. 2004; Needham and Austin 2010; Rosario et al. 2005, 2011; Rosario et al. 2002; Ryan et al. 2009; Ueno 2005; Williams et al. 2005), to our knowledge, no previous

studies have examined the role of these factors as potential mediators of the relationships between homelessness and symptoms among LGB youth.

The relationships between a history of homelessness and psychological symptomatology (and potential mediators thereof) must exist independent of other factors (i.e., rival explanations) that may have contributed to homelessness or its hypothesized consequences, such as psychological symptoms. For example, childhood sexual abuse may result in LGB youth's running away from home (Cochran et al. 2002; Rew et al. 2005); and, such abuse has been found to have lasting negative psychological implications for LGB youth (Friedman et al. 2008; Tyler 2008). Likewise, the developing sexual orientation of LGB youth may lead to conflicts with parents and result in youth being evicted from the home (Gangamma et al. 2008; Rew et al. 2005; Walls et al. 2007; Whitbeck et al. 2004). Moreover, development of sexual orientation by itself or at an early age may be stressful (Friedman et al. 2008; Rosario et al. 2011) and result in some level of psychological distress until self-acceptance is achieved (Friedman et al. 2008; Rosario et al. 2011). As such, it is unclear if it is homelessness itself or these other potential co-occurring or precipitating childhood experiences that might account for the subsequent psychological symptoms examined in this study.

The Current Study

LGB youth are disproportionately represented among homeless youth and LGB homeless youth have been found to experience significantly more psychological symptoms than homeless heterosexual youth. However, research on LGB homeless youth has not examined the longitudinal relationships between homelessness and psychological symptoms. Therefore, the current study compares LGB youth with and without a history of homelessness on subsequent internalizing and externalizing symptoms. We hypothesize that LGB youth with a history of homelessness will report more psychological symptoms at Times 1, 2, and 3 than youth without a history of homelessness even after controlling for early childhood covariates (sexual abuse and early development of sexual orientation) and for psychological symptoms at Time 1 when examining change in psychological symptoms over time. Furthermore, the study examines factors (i.e., stressful life events, negative social relationships, and social support) that are hypothesized to explain the anticipated relationships between homelessness and subsequent symptoms and changes in symptoms. We hypothesize that stressful events, negative social relationships, and social support will mediate the relationships between a history of homelessness and psychological symptoms, while being sensitive to the possibility that homelessness may have a direct effect on symptoms despite the mediators.

Method

Participants

One-hundred and sixty-four youth, ages 14–21 years, were recruited from three LGB-focused community-based organizations (CBOs, 85%) and two LGB college student organizations in New York City. Five youth were excluded because they did not meet eligibility criteria (i.e., ages 14–21; either identified as lesbian, gay, or bisexual or reported a history of same-sex attractions or behavior) and three were excluded because they provided duplicate or invalid interviews. The final sample consisted of 156 youth (49% female). The youth's mean age was 18.3 years (SD = 1.65). The youth identified as lesbian or gay (66%), bisexual (31%), or other (3%). Their ethnic backgrounds were diverse: Latino (37%), Black (35%), White (22%), or Asian and other ethnic backgrounds (7%).

Procedure

Youth provided voluntary and signed informed consent. The Commissioner of Mental Health for New York State waived parental consent for youth under age 18 years. Instead, an adult at each CBO served *in loco parentis* to safeguard the rights of every minor in the study. The university's Institutional Review Board and the recruitment sites approved the study.

All data were gathered by means of a structured interview, lasting approximately 2- to 3-h, at recruitment (Time 1) with follow-up interviews occurring 6 and 12 months later (Time 2 and Time 3, respectively). Interviews occurred in a private room at the recruitment sites at Time 1 and in a private location convenient for the youth at subsequent assessments. Interviewers were college educated and of the same sex as the youth. Youth were interviewed between October 1993 and June 1994, with follow-up interviews conducted through August 1995. The retention rate was 92% for the 6-month interview and 90% (n = 140) for the 12-month interview. Youth received $30 at each interview.

Measure of Homelessness

Youth's history of homelessness was assessed by two questions at Time 1 with, when appropriate, follow-up questions (Rotheram-Borus et al. 1988). One question assessed running away: “How many times have you run away or left home, including the most recent time as well as every time before? By ‘running away or leaving home,’ I mean when you left home you did not plan on coming back, and you stayed away at least overnight without your parents' permission or without their knowing where you were.” The other question assessed being evicted from the home: “How many times have you left your home because you were forced or asked to leave by your parents/guardians?” Follow-up questions asked the youth the age when they first experienced each event.

Three comments about our homeless measure follow. First, this measure, which assessed history of running away or eviction from their homes by parents rather than just current homelessness, is consistent with some research on homeless and runaway youth (e.g., Bailey et al. 1998; Cochran et al. 2002). Second, we focus on youth who are on their own, rather than on youth whose families are homeless, because, as stated earlier, LGB youth are at greater risk for the former, but not the latter (Corliss et al., in press). Third, our measure, in tandem with the sample, captures a broader range of youth than studies that have focused exclusively on youth who access homeless services or shelters. We include such youth, as well youth who are unstably housed or doubled up with friends, sexual partners, etc. Indeed, the exclusive use of youth who access shelters has been critiqued (Zerger et al. 2008).

Measures of Psychological Symptoms

Internalizing Symptoms—Depressive and anxious symptoms during the past week were assessed by means of the Brief Symptom Inventory (BSI; Derogatis 1993) at all assessments, using its “not at all” (0) to “extremely” (4) distressing response scale. The BSI has been previously validated among adolescent samples (Derogatis 1993). The mean of each subscale was computed, with high scores indicating elevated distress. Internal consistency (Cronbach's α) across the three assessments ranged from .80 to .82 for anxious symptoms and from .81 to .83 for depressive symptoms.

Externalizing Symptoms—Externalizing symptoms composed conduct problems and substance abuse symptoms. A 13-item index, based on the conduct problems identified in DSM-III-R (American Psychiatric Association 1987), was created for another study of gay and bisexual male youth (Rotheram-Borus et al. 1995). A count of the problems (e.g.,

skipping school, vandalism, stealing, fighting) endorsed by the youth was computed as the indicator of conduct problems at all three assessment times.

As part of the Alcohol and Drug Schedule (Rosario et al. 1997) symptoms associated with abuse of alcohol or illicit drugs were assessed at all three time periods. Eleven items, derived from the Diagnostic Interview Schedule for Children (National Institute of Mental Health 1992), assessed substance abuse symptoms (e.g., "Felt you needed or were dependent on alcohol and/or drugs"). A count of the number of items endorsed was computed as the index of substance abuse.

Measures of Potential Mediators

Stressful Life Events—We used a checklist of stressful life events that had been developed for adolescents (Johnson and McCutcheon 1980), updated for use with gay male youth in New York City (Rotheram-Borus et al. 1995), and which we further refined for LGB youth in New York City. The 46-item checklist contains 12 items related to homosexuality and 34 items related to events occurring in several domains, for example, family, personal, peer, and school (e.g., gay-bashed, robbed, legal problems, injury or illness). The checklist was administered at Time 1. Youth were asked whether they had experienced (yes/no) each one of the stressful events within the past 3 months. A count of the number of events experienced was used as the indicator of stress.

Negative Social Relationships—The 12-item Social Obstruction Scale (Gurley 1990), originally developed for adolescents, was administered at Time 1 to assess the presence of negative social relationships, including being treated poorly, being ignored, and being manipulated by others (e.g., "Somebody treats me as if I were nobody;" "Someone pushes me around;" "Someone uses my vulnerability"). Items use a response scale that ranges from "definitely false" (1) to "definitely true" (4). The mean was computed, with higher scores indicating greater levels of negative social relationships (Cronbach's $\alpha = .85$).

Social Support from Family and Friends—Procidano and Heller's (1983) measures, designed to assess adolescents' perceived social support from family and from friends, were adapted, deleting items that might be confounded with psychological health. The two resulting 12-item measures were administered at Time 1, using a yes (1) or no (0) response format (e.g., "I rely on my [family/friends] for emotional support;" "My [family/friends] are good a helping me solve problems"). A count of the items endorsed was the index of social support from family (Cronbach's $\alpha = .90$) and friends (Cronbach's $\alpha = .80$).

Measures of Early Childhood Covariates

Childhood Sexual Abuse—At Time 1, sexual abuse was assessed with two items from the Sexual Risk Behavior Assessment—Youth (SERBAS-Y) for LGB youth (Meyer-Bahlburg et al. 1994). The youth was asked if she or he had ever, before age 13 years, had sexual activity with an adult or with another youth more than 5 years older than her or him, with sexual activity for abuse defined as oral, vaginal or anal sex, touching or being touched on the breasts or genitals, exposing oneself or someone exposing themselves, or someone rubbing their body against the youth in a sexual way. The youth also was asked, "Since you turned 13, did you ever have unwanted or uninvited sex with anyone?" A positive response to either item composed the measure of sexual abuse.

Age of Sexual Orientation Development—The SERBAS-Y (Meyer-Bahlburg et al. 1994) assessed age at developing sexual orientation and this age indicator has demonstrated acceptable test–retest reliability over 2 weeks (Schrimshaw et al. 2006). Youth were asked the ages when they were first erotically attracted to, fantasized about, and were aroused by

erotica focusing on the same sex. The mean age of these three milestones defined the age of first awareness of same-sex internal sexual orientation (Cronbach's α = .88), given a factor analysis of the items generated a single factor. Similar items assessed the ages at which youth first experienced attractions, fantasies, and erotic arousal for the other sex. The mean of these items was generated to assess the age of first awareness of other-sex internal sexual orientation (Cronbach's α = .89), given a factor analysis of these items generated a single factor. The youth also were asked the ages when they first experienced any of several sexual activities with the same sex, with the earliest age selected as the age of first same-sex sexual behavior or activity. Comparable items assessed the age at first other-sex sexual behavior or activity. The minimum age of an unfolding same-sex internal sexual orientation or experiencing sex with the same sex was computed as the measure of development of same-sex sexual orientation, as was a comparable measure of development of other-sex sexual orientation. The minimum age of developing a same-sex or other-sex sexual orientation composed the measure of sexual orientation development used here.

Measures of Other Covariates

In addition to sex, age, and ethnicity/race (all measured at Time 1), the tendency to provide socially desirable responses at Time 1 was assessed by means of the Marlowe-Crowne Social Desirability scale (Crowne and Marlowe 1964). We used the original true–false response format, but deleted 2 of 31 items we considered inappropriate for youth. A factor analysis found that 12 items loaded on a single factor. The number of these 12 items endorsed by the youth was computed as the measure of social desirability (Cronbach's α = .74).

Data Analysis

Descriptive statistics of homelessness are provided. Homeless mean comparisons were made using the *t* test. Pearson correlations assessed the associations between homelessness and other potential predictors with levels of psychological symptoms. Linear regression was used to examine the role of homelessness and potential mediators in understanding the internalizing symptoms (i.e., anxiety and depressive distress) and externalizing symptoms (i.e., conduct problems and substance abuse) of the youth. For the linear regressions, controls were imposed for early childhood stressors and other covariates that were significantly related to the variables of interest at the bivariate or zero-order level of analysis. In addition, controls were imposed for earlier levels of psychological symptoms assessed at Time 1, thus resulting in analysis of residualized change in psychological symptoms over time. To protect against Type I error, we used Fisher's protected *t* test, which requires that the R^2 of a particular step of the regression be significant ($p < .05$) before the significance levels of individual variables within that step are examined. Given these protections, we chose to interpret individual relationships that were significant at the $p < .10$ level.

Result

Of the 156 youth, 75 (48%) reported a history of homelessness, specifically, 57 had run away and 38 had been evicted from their homes by their parents; 20 youth experienced both forms of homelessness. The runaway and throwaway youth were combined into a homeless sample, given 27% experienced both events and given the modest overall sample of 156 youth. This resulted in a sample of 75 homeless youth and 81 (52%) youth who had never been homeless. The homeless and non-homeless youth did not differ significantly by sex, age, ethnicity/race, sexual identity as lesbian/gay vs. bisexual, or the tendency to provide socially desirable responses.

Homelessness and Its Potential Consequences for Psychological Symptoms

We examined the relationships between homelessness and subsequent internalizing (anxious and depressive symptoms) and externalizing symptoms (conduct problems and symptoms of substance abuse). Although an average of 4 years had elapsed between the first episode of homelessness and the Time-1 assessment of symptoms (i.e., mean age of first homeless episode = 14.0 years, SD = 3.2 and the mean age at the time of interview = 18.3 years, SD = 1.7), relationships were found between homelessness and psychological symptoms across assessment times. As presented in Table 1, youth with a history of homelessness reported significantly ($p < .05$) more depressive symptoms at Time 1 and Time 2, more anxious symptoms at Time 2, and more conduct problems and symptoms of substance abuse at Time 1, Time 2, and Time 3. The correlations among the psychological symptoms at Time 1 ranged from .10 to .28, with the exception of $r = .56$ between anxious and depressive symptoms. Given the relationships suggested relatively independent outcomes, we examined the outcomes separately.

Potential Mediators of the Relationships between Homelessness and Psychological Symptoms

Potential mediators were theoretical factors that might explain the relationships between a history of homelessness and subsequent psychological symptoms: stressful life events, negative social interactions, and social support. As hypothesized and presented in Table 1, youth with a history of homelessness reported significantly more stressful life events, more negative social relationships, and less support from friends at Time 1. Social support from family was not significantly related to homelessness. Therefore, it was not included in any mediational analyses because it could not explain the relationships between homelessness and symptomatology. The hypothesized mediators were moderately related to one another (r's ranged from −.11 to .40).

Covariates

Early Childhood Stressors—Of the entire sample, 97 youth (62.2%) reported a history of sexual abuse. Development of sexual orientation occurred at a mean age of 10.1 years (SD = 2.96). Homeless youth were marginally more likely to have been sexually abused and they were significantly younger than non-homeless youth when their sexual orientation developed (see Table 2). The validity of the two covariates as potential correlates of early psychological distress was confirmed by their relationships with internalizing and externalizing symptoms in that being sexually abused or developing a sexual orientation at an earlier age was related to more psychological distress (see Table 2).

Other Covariates—Findings indicated the need to control for sex, age, social desirability, and ethnicity/race in multivariate analyses either because the covariates were related to psychological symptoms or to the hypothesized mediators (see Table 2). Sex was significantly related to substance abuse at Time 1, with girls reporting more symptoms than boys. Age was significantly related to fewer conduct problems at Time 1 and fewer stressful life events. Social desirability was related to more internalizing and externalizing symptoms and to low levels of negative social interactions. Ethnicity/race was marginally ($p < .10$) related to depressive symptoms at Time 1, $F(3, 152) = 2.41$, conduct problems at Time 1 $F(3, 152) = 2.50$, and stressful life events, $F(3, 152) = 2.23$. Ethnicity/race was significantly ($p < .05$) related to family support, $F(3, 152) = 3.66$. Significant pairwise comparisons of Black, Latino, White, and youth of other ethnic/racial backgrounds indicated that Blacks reported more depressive symptoms than Latinos, but fewer conduct problems than Latinos. Further, Latinos reported more stressful life events than Whites and more family support than Blacks or youth of other ethnic/racial backgrounds.

Mediators of the Relationships between Homelessness and Psychological Symptoms

We formally tested for mediation according to the MacArthur rules (Kraemer et al. 2008). Consequently, homelessness had to temporally precede and be significantly related to psychological symptoms (Table 2) and a hypothesized mediator had to follow homelessness in time and be significantly related to homelessness (Table 2). As noted earlier, an average of 4 years had passed between youth's first experience with homelessness and the initial assessment of psychological symptoms and the hypothesized mediators (i.e., current support, current negative relationships, and stressful events experienced during the previous 3 months) at Time 1. Given these conditions, mediation would be demonstrated by the set of mediators explaining a significant proportion of the variance in internalizing or externalizing symptoms or by the mediators interacting with homelessness in predicting symptoms (Kraemer et al. 2008). The latter would indicate that the relation between homelessness and symptoms depended or varied with the level or quantity of the mediator(s). In our mediational analyses, internalizing and externalizing symptoms referred to such symptoms at Time 1 and to change in symptoms from Time 1 to Time 2 and from Time 1 to Time 3. In the analyses, statistical controls were imposed for early childhood stressors (i.e., sexual abuse and sexual orientation development) and other covariates significantly related to the potential mediators or psychological symptom indicators (see above for results). For the moderation-mediational analyses, the variables were centered about their means before the product term carrying the interaction was computed, as recommended by Cohen and colleagues (Cohen et al. 2003). A simple slopes analysis was conducted of any significant interaction that was found (Cohen et al. 2003).

Internalizing Symptoms—Table 3 contains the findings for the internalizing symptoms. The relationship between a history of homelessness and Time-1 depressive symptoms was mediated. In addition, more negative social relationships and less support from friends were uniquely related to more depressive symptoms. Similarly, the relationships between homelessness and change in anxious symptoms from Time 1 to Time 2 and from Time 1 to Time 3 were mediated. Furthermore, more negative social relationships proved important for understanding increased anxious symptoms at Time 2 among homeless youth. Of these youth, those with high levels of negative social relationships experienced the greatest increase in anxious symptoms; by comparison, homeless youth with low levels of negative social relationships did not differ from non-homeless youth on anxious symptoms (see Fig. 1). In addition, the marginally significant relationship between homelessness and change in anxious symptoms from Time 1 to Time 3 was mediated.

Externalizing Symptoms—Table 4 contains the meditational findings for externalizing symptoms. Mediation occurred for Time-1 conduct problems. At Time 1, we also found that negative social relationships and social support from friends were important for understanding the conduct problems of the youth. Homeless youth with high levels of support from friends at Time 1 had levels of conduct problems equal to those of the non-homeless youth; however, homeless youth with low levels of friend support had elevated levels of conduct problems (see Fig. 2). Likewise, homeless youth and non-homeless youth had similar levels of conduct problems under conditions of high levels of negative social relationships, but homeless youth were higher than non-homeless youth under conditions of low levels of negative social relationships (see Fig. 3). For conduct problems from Time 1 to Time 2, more negative social relationships increased conduct problems. Finally, mediation was indicated for the marginally significant relationship between homelessness and symptoms of substance abuse from Time 1 to Time 2 that remained after controlling for covariates.

Discussion

LGB youth who run away from home or are evicted from their homes by parents are over-represented in the homeless youth population (e.g., Corliss et al., in press; Freeman and Hamilton 2008; Gangamma et al. 2008; Rew et al. 2005; Whitbeck et al. 2004), and homeless LGB youth are at higher risk for psychological symptoms than are homeless heterosexual youth (e.g., Cochran et al. 2002; Van Leeuwen et al. 2006). However, past work comparing homeless LGB to homeless heterosexual youth cannot determine the extent to which psychological symptoms are due to homelessness. As such, we longitudinally examined the association of homelessness with subsequent internalizing and externalizing symptoms among LGB youth by comparing LGB youth with and without a history of homelessness. We also examined theoretical factors that might explain any relationships that emerged between homelessness and symptoms, while controlling for potential early childhood stressors and other potential confounds.

Understanding the Link between Homelessness and Psychological Symptoms

Despite the approximate 4 years that had elapsed since the youth first experienced homelessness and when we first interviewed them, relationships were found between homelessness and internalizing and externalizing symptoms (9 of 12 possible correlations). Many of these relationships (6 of 12) remained significant or marginally so even after controlling for potential confounders, including early childhood stressors (i.e., childhood sexual abuse and age of sexual orientation development) that predated the study. Patterns of significant associations between homelessness and psychological symptoms were similar for internalizing (3 of 6) and externalizing (3 of 6) outcomes. Significant associations were more often identified for Time 1 outcomes (3 of 4) than Times 2 and 3 outcomes (3 of 6). This is most likely because at Times 2 and 3 we examined change in symptoms (by controlling for Time 1 symptoms) and, thus, reduced the amount of variance for homelessness to explain. Interestingly, symptoms generally abated over time (see Table 1), suggesting either regression to the mean or the LGB youth, both homeless and non-homeless, were able to work through their psychological distress.

Of the 6 relationships between homelessness and psychological symptoms, 1 was unaffected by the mediators and 5 were explained (i.e., mediated) by stressful life events, negative social relationships, and support from friends either directly or by means of their interaction with homelessness. The data indicated that LGB youth with a history of homelessness may be susceptible to negative psychological symptoms by one of three hypothesized ways.

First, the experience of homelessness was found to have a direct (unmediated) association with more substance abuse symptoms at Time 1. This finding suggests that homelessness, in and of itself, is a stressful event that can have a lasting relationship with the externalizing symptoms of LGB youth, even years after homelessness first took place. However, it should be noted that this direct-effect pathway was found in only one instance (1 of 6). Homelessness had indirect (mediated) effects on most other internalizing and externalizing symptoms.

Second, consistent with the stress-proliferation and resiliency-erosion perspectives, the experience of past homelessness was found to be associated with more stressful life events, more negative social relationships, and less support from friends. These factors, in turn, were associated with more subsequent psychological symptoms or changes in symptoms over time. Their impact was to attenuate and render nonsignificant the relationships between homelessness and psychological symptoms and, thus, explain how homelessness is related to symptoms (i.e., by means of stressful life events, more negative social relationships, and less support from friends). This mediational pathway was evidenced by 4 of the 6 significant

associations between past homelessness and psychological symptoms. The findings suggest that homelessness most often has indirect effects on subsequent psychological symptoms by placing homeless LGB youth at greater risk for a variety of stressful events, negative interpersonal situations, and erosion of supportive friendships that increase their risk for subsequent psychological symptoms.

Third, LGB youth with a history of homelessness may be susceptible to psychological symptoms because they are more adversely affected by negative social interactions or lack of support than are non-homeless youth with comparable interpersonal relationships. This pathway was evidenced in 2 of the 5 significant associations between past homelessness and subsequent internalizing and externalizing symptoms, with one of the outcomes, anxious distress from Time 1 to Time 2, evidencing both direct mediation (see above) and this mediation-moderation pattern. Specifically, homeless youth reported higher levels of psychological symptoms than did non-homeless youth when both experienced similarly high levels of negative social interactions or similarly low levels of social support from friends. For such homeless youth, these findings suggest that the combination of homelessness and either high negative social interactions or low social support has greater adverse implications for psychological symptoms than for LGB youth who only experience homelessness or only experience high negative social interactions or low support.

There are several reasons why LGB youth with a history of homelessness may be more adversely affected by negative social relationships or low levels of social support than non-homeless youth. It may be that homeless LGB youth lack coping resources possessed by non-homeless youth that blunt the amplifying effects of negative social interactions or low friendship support. For example, homeless LGB youth may have fewer supportive adults (e.g., teachers, counselors), financial resources, and other such resources to which non-homeless LGB youth may have access. A careful analysis is required of the coping resources available to and used by LGB homeless and non-homeless youth to manage common challenges they experience, such as those associated with gay-related stress. Alternatively, it may be that early traumatic experiences (e.g., disrupted attachment processes leading to homelessness) may erode resilience resources. In turn, the eroded resilience may render the youth vulnerable to, for example, lower social supports as a protective strategy or defense against potential exposure to trauma by others.

An unexpected fourth pattern emerged (see Fig. 3) in which homeless LGB youth had high levels of psychological symptoms regardless of the mediator, but the mediator made a difference for the non-homeless youth. Specifically, high levels of negative relationships were associated with similar levels of conduct problems regardless of history of homelessness. However, at low levels of negative social interactions, the homeless youth still had high levels of conduct problems whereas the non-homeless youth had fewer conduct problems. This pattern demonstrates a type of ceiling effect in which youth with either a history of homelessness or with a high level of negative social relationships, or both, all reported high levels of conduct problems. Although this pattern was not anticipated, it underscores the negative implications of homelessness for LGB youth.

The direct and meditational results concerning a history of homelessness on subsequent psychological symptoms were found despite having controlled for experiences of childhood stressors that could have confounded the association between homelessness and psychological symptoms. Although experiences of childhood sexual abuse and early sexual development were related to more psychological symptoms at the bivariate level (see Table 2), these two variables were rarely related to psychological symptoms in the multivariate analysis. Specifically, they were related to 1 of the 12 outcomes (i.e., substance abuse at Time 1) and homelessness was significantly associated with this outcome as well. This

suggests that, although sexual abuse and earlier sexual debut may contribute to LGB youth's either running away or being asked to leave home by parents, they are not potential explanations for why homeless LGB youth are at risk for high levels of psychological symptoms.

We were unsure of what gender differences in homelessness might emerge, given most extant studies focused on YMSM (e.g., Clatts et al. 2005; Thiede et al. 2003). We found no significant gender differences in homelessness, consistent with other research on homeless LGB youth that included lesbian and bisexual female youth (Walls et al. 2007). Future studies should confirm whether lesbian and bisexual young women are as likely as their gay and bisexual male peers to run away or be evicted from their homes by parents. Future studies also need to confirm our relative lack of gender differences in psychological symptoms.

Limitations of Study

This study has a number of limitations. First, the sample was modest in size, although it was adequate to detect medium effect sizes when comparing the homeless and non-homeless youth. However, a larger sample would have been required to compare runaway with throwaway youth with adequate power. Future studies should have sufficient cases to examine such issues. Second, the data are somewhat dated, but the findings are unique in that they compare homeless and non-homeless youth and provide the first longitudinal insights into the associations of homelessness with both subsequent psychological symptoms and mediators of these relationships. Thus, this study provides both a historical foundation to which future studies can be compared and a justification for future research in this area with more contemporary cohorts. Furthermore, given that homelessness continues to be a significant public health concern among LGB youth that has not abated since these data were collected, these findings continue to be relevant, raising awareness and documenting the potential long-term implications of homelessness for this population.

Finally, our youth were recruited from gay-focused programs and organizations in New York City, raising questions about generalizability. Although the majority of LGB youth were unlikely to have access to such programs when our recruitment occurred, this may be changing as gay-straight alliances in high schools become more common and use of the Internet for social networking becomes widespread. If true, then our LGB youth who accessed supportive resources may be more comparable to current LGB cohorts than they were to past cohorts who lacked such support. This suggests that the findings from our study may be more generalizable today. Even if one were to insist that many current LGB youth still lack support and are more isolated than were our youth, such argument, if true, would only indicate that our findings may underestimate the elevated psychological distress experienced by LGB youth. Of course the extent to which our findings generalize will depend on future research conducted on non-urban samples and using other recruitment sources. Nevertheless, given the epidemic proportion of homelessness among LGB youth in New York City (Freeman and Hamilton 2008) and elsewhere (Corliss et al., in press), the findings have important implications for scientific understanding and local service programs.

Despite the limitations noted above, this study provides potentially important information concerning the implications of a history of homelessness for LGB youth's psychological adjustment. We identified differences between homeless and non-homeless LGB youth, not just among currently homeless youth. Given the longitudinal nature of the data, we found that a history of homelessness was not only associated with subsequent internalizing and externalizing symptoms, but was also related to changes in these symptoms over time. Furthermore, the study identified a number of mediators of the relationships between

homelessness and psychological symptoms. If replicated by other studies, the mediational findings should prove critical for understanding and reducing internalizing and externalizing symptoms among LGB young people with a history of homelessness.

Implications for Interventions

The findings that homelessness has long-term implications for subsequent psychological symptoms among LGB youth suggest the need for interventions. Primary prevention efforts are needed to reduce the prevalence of homelessness among youth, especially the overrepresentation of LGB youth in the homeless population. The findings also have direct implications for secondary prevention efforts with LGB youth who currently are homeless or who have had past experiences with homelessness. Such youth should be identified, given their higher level of psychological symptoms relative (1) to their non-homeless LGB peers as we found here and others have found (Clatts et al. 2005; Kipke et al. 2007; Thiede et al. 2003; Walls et al. 2007) and (2) to their homeless heterosexual peers as others have found (e.g., Cochran et al. 2002; Kipke et al. 1997; Van Leeuwen et al. 2006). Indeed, in the current study, youth with a history of homelessness reported levels of internalizing symptoms that were far higher (at Times 1 and 2) than norms reported for adolescent non-patients, whereas the non-homeless LGB youth were generally similar to the norms for the adolescent non-patients (see Table 1 and its note). For LGB youth who are currently homeless, our findings suggest that efforts should be made to provide shelters that are safe and supportive of LGB homeless youth (something that is often not the case in mainstream child welfare agencies and homeless shelters; Hunter 2008; Rosenwald 2009), as well as establishing more permanent housing to remove the stressors associated with homelessness from the lives of these youth.

Our findings also suggest that, even after youth are no longer homeless, they may require additional supportive resources so as to prevent or address the psychological consequences of their past homelessness (see also Clatts et al. 2005). Specifically, the findings suggest that attempts should be made to reduce the stressful life events and negative social relationships experienced, as well as enhance opportunities for supportive friendships. To the extent that some of the stressors experienced by LGB homeless youth are due to family conflicts, interventions with families to reduce conflicts (gay-related or otherwise) may serve both to reduce stress and the likelihood of repeated cycles of homelessness (e.g., Milburn et al. 2009; Slesnick and Prestopnik 2005, see Arnold and Rotheram-Borus 2009 for review). To the extent that the stressors experienced are due to victimization or harassment by peers, intervention programs that seek to reduce peer victimization (e.g., gay-straight alliances and enforcement of anti-bullying policies in schools) can reduce experiences of anti-gay victimization (Chesir-Teran and Hughes 2009; Goodenow et al. 2006; Walls et al. 2010). Programs designed to provide social support to LGB youth (e.g., gay-straight alliances or gay youth centers) may serve to establish new, more supportive friendships that can replace or counter negative relationships. It is critical that interventions to reduce stress and provide support are accessible to LGB youth with a history of homelessness or who are currently homeless, given the findings demonstrate resources are needed by these youth.

Implications of Interventions for Scientific Understanding

In addition to meeting the needs of homeless LGB youth, interventions offer a causal test of the meditational findings reported herein. Although the current study identified potential mediators of the relationships between homelessness and psychological symptoms (a critical step for designing interventions), the current study cannot establish causation. By comparing LGB homeless youth for whom supportive relationships have been increased (through support-enhancing interventions) to those LGB homeless youth on a wait-control list, for example, one would be able to test the causal role of supportive relationships on the

psychological health of homeless LGB youth. Future interventions that address the needs of homeless LGB youth would benefit from including a research or evaluation component so that they can extend the current study findings to test causal relationships.

Conclusion

In comparison with past research, which has predominantly compared homeless LGB and homeless heterosexual youth, the current study, by including a non-homeless comparison group, was able to provide information on the relationships between homelessness and psychological symptoms among LGB youth. As the first study to longitudinally examine the relationships between a history of homelessness and subsequent psychological symptoms among LGB youth, the study provides a significant contribution to understanding the negative long-term implications of homelessness for the psychological health and well-being of LGB youth. Further, by examining the potential mediating role of stressful life events, negative social relationships, and friend support, the study suggests potential factors that interventions may target in order to prevent or ameliorate the adverse psychological implications of homelessness for LGB youth. The authors strongly encourage greater attention to the needs of homeless LGB youth in order to address not only the psychological consequences of homelessness, but also to take steps to prevent the high prevalence of homelessness among LGB youth in the first place.

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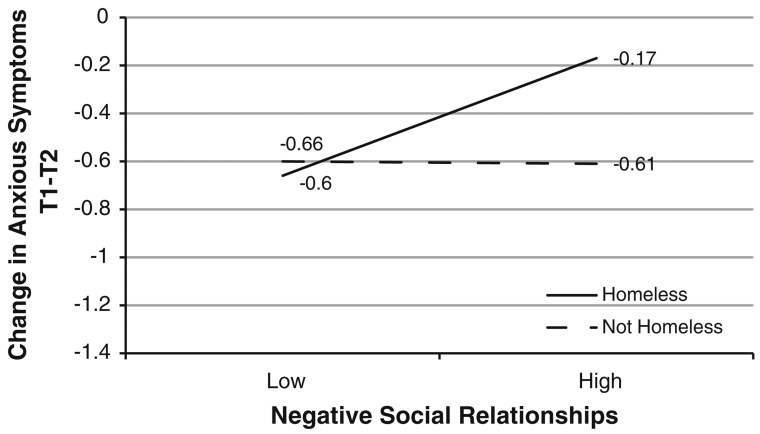

Fig. 1. Interaction between negative social relationships and homelessness on subsequent changes in anxious distress between Time 1 and Time 2

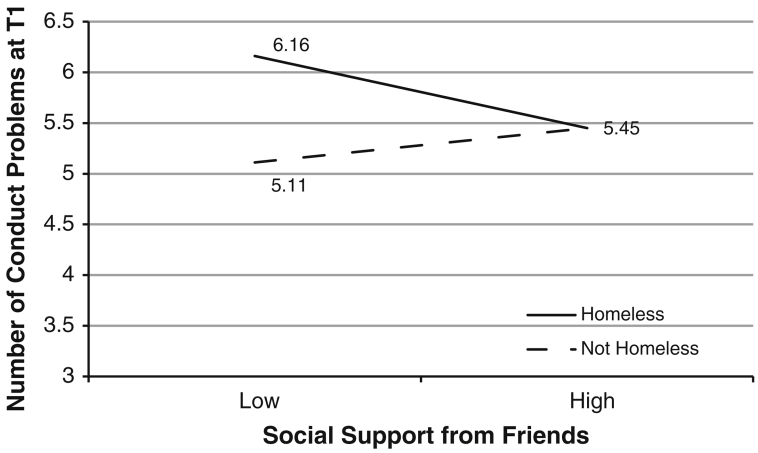

Fig. 2. Interaction between social support from friends and homelessness on subsequent conduct problems at Time 1

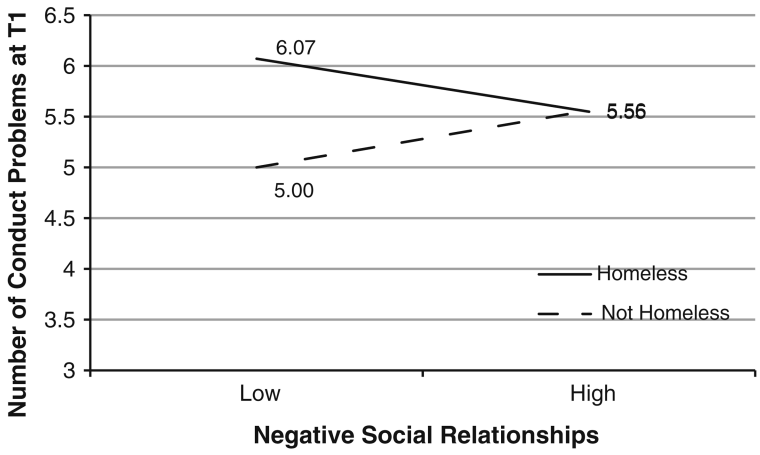

Fig. 3. Interaction between negative social relationships and homelessness on subsequent conduct problems at Time 1

Table 1

Mean differences between homeless and non-homeless youth on psychological symptoms and potential mediators

	Homeless *M* (SD)	Non-Homeless *M* (SD)	Total *M* (SD)	*t* test
Psychological symptoms				
Depressive symptoms T1	1.26 (0.90)	0.90 (0.80)	1.08 (0.87)	−2.66**
Anxious symptoms T1	1.34 (0.93)	1.11 (0.90)	1.22 (0.92)	−1.64
Conduct problems T1	2.33 (1.71)	1.48 (1.32)	1.89 (1.58)	−3.49***
Substance abuse symptoms T1	3.24 (3.51)	1.35 (2.47)	2.27 (3.15)	−3.85***
Depressive symptoms T2	1.07 (0.89)	0.72 (0.67)	0.89 (0.80)	−2.67**
Anxious symptoms T2	1.14 (0.82)	0.76 (0.83)	0.94 (0.85)	−2.73**
Conduct problems T2	1.69 (1.61)	1.21 (1.17)	1.44 (1.41)	−2.02*
Substance abuse symptoms T2	1.76 (2.53)	0.75 (1.51)	1.24 (2.12)	−2.99**
Depressive symptoms T3	0.81 (0.82)	0.69 (0.68)	0.75 (0.75)	−1.00
Anxious symptoms T3	0.83 (0.70)	0.67 (0.78)	0.75 (0.74)	−1.28
Conduct problems T3	1.52 (1.47)	1.16 (1.12)	1.34 (1.31)	−1.67†
Substance abuse symptoms T3	3.21 (3.51)	1.35 (2.20)	2.25 (3.04)	−3.92***
Potential mediators				
Stressful life events T1	8.39 (5.08)	6.68 (4.49)	7.50 (4.84)	−2.23*
Negative social relationships T1	2.32 (0.69)	2.01 (0.69)	2.16 (0.71)	−2.83**
Friend support T1	9.61 (2.65)	10.61 (1.95)	10.13 (2.36)	2.64**
Family support T1	5.81 (4.33)	6.80 (3.73)	6.33 (4.05)	1.53

Homelessness is a dichotomous variable such that youth with a history of homelessness (1) were compared to those without a history of homelessness (0). T1 = Time 1, T2 = Time 2, and T3 = Time 3 assessments. For comparison purposes, norms for adolescent non-patients are available (Derogatis 1993) for depressive symptoms (M = 0.82, SD = 0.79) anxious symptoms (M = 0.78, SD = 0.68)

† $p < .10$;

* $p < .05$;

** $p < .01$;

*** $p < .001$

Table 2

Bivariate correlations between psychological symptoms and homelessness, potential mediators, and covariates

	Homelessness	Depressive symptoms			Anxious symptoms			Conduct problems			Substance abuse symptoms		
		T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3
Homelessness	–	.21**	.22**	.08	.13	.22**	.11	.27**	.17*	.14†	.30**	.24**	.31**
Stressful life events T1	.18*	.12	.17*	.04	.16†	.24**	.16†	.28**	.19*	.13	.06	.14†	.13
Negative social relationships T1	.22**	.43**	.34**	.30**	.36**	.39**	.28**	.23**	.24**	.24**	.19*	.23**	.22**
Friend support T1	−.21**	−.35**	−.10	−.20*	−.13†	−.03	−.11	−.15†	.02	−.19*	−.03	−.02	.00
Family support T1	−.12	−.23**	−.07	−.26**	−.07	−.05	−.12	.11	−.16†	−.12	−.02	−.06	−.10
Childhood sexual abuse	.14†	.07	.16†	.05	.17*	.23**	.12	.16†	.03	.07	.04	.11	.16†
Age at developing sexual orientation	−.25**	−.19*	−.19*	−.13	−.16*	−.23**	−.06	−.23**	−.18*	−.17*	−.18*	−.14†	−.24**
Sex	.12	−.06	−.01	−.02	.02	.00	−.01	.02	−.05	−.09	.18*	.08	.08
Age	.02	−.04	.04	−.05	−.08	.08	−.02	−.23**	−.12	−.08	.10	−.09	.08
Social desirability	−.02	−.23**	−.20*	−.22**	−.15†	−.16†	−.20*	−.29**	−.25**	−.15†	−.21**	−.10	−.23**

Dichotomous variables were coded 1 and 0, with 1 for homelessness, childhood sexual abuse, and being female

† $p < .10$;

* $p < .05$;

** $p < .01$

Table 3

Hierarchical regression examining the mediation of the association between homelessness and internalizing symptoms over time

DV	IV	Step 1 β	Step 2 β	Step 3 β
Depressive symptoms, T1				
	Homelessness (H)	.16**	.07	
	Stressful life events (SLE)		−.09	
	Negative social relationships (NSR)		.36****	
	Friend support (FS)		−.27****	
	H × SLE			−.01
	H × NSR			.16
	H × FS			−.01
	ΔR^2	.17****	.19****	.01
Change in depressive symptoms, T1–T2				
	Homelessness (H)	.12	.09	
	Stressful life events (SLE)		.04	
	Negative social relationships (NSR)		.17†	
	Friend support (FS)		.02	
	H × SLE			.10
	H × NSR			.22†
	H × FS			−.10
	ΔR^2	.19****	.03	.04
Change in depressive symptoms, T1–T3				
	Homelessness (H)	−.05	−.06	
	Stressful life events (SLE)		−.11	
	Negative social relationships (NSR)		.22**	
	Friend support (FS)		−.08	
	H × SLE			.05
	H × NSR			.09
	H × FS			−.15
	ΔR^2	.15**	.04	.02
Anxious symptoms, T1				
	Homelessness (H)	.07	.01	
	Stressful life events (SLE)		−.03	
	Negative social relationships (NSR)		.34****	
	Friend support (FS)		−.05	
	H × SLE			.08
	H × NSR			.11
	H × FS			.09
	ΔR^2	.09†	.10****	.01

DV	IV	Step 1 β	Step 2 β	Step 3 β
Change in anxious symptoms, T1–T2				
	Homelessness (H)	.14*	.11	
	Stressful life events (SLE)		.13	
	Negative social relationships (NSR)		.14†	
	Friend support (FS)		.09	
	H × SLE			.10
	H × NSR			.21*
	H × FS			−.10
	ΔR^2	.37****	.04**	.04**
Change in anxious symptoms, T1–T3				
	Homelessness (H)	.14†	.10	
	Stressful life events (SLE)		.03	
	Negative social relationships (NSR)		.10	
	Friend support (FS)		−.09	
	H × SLE			.09
	H × NSR			.08
	H × FS			−.06
	ΔR^2	.25****	.02	.01

Controls were imposed for childhood sexual abuse, age at developing sexual orientation, sex, age, ethnicity/race, and social desirability. At Time 2 (T2) and Time 3 (T3) controls also were imposed for the same symptom at Time 1 (T1), generating change in symptoms from T1 to T2 and from T1 to T3. Step 1 shows the relationships between homelessness and symptoms after controlling for the aforementioned covariates. Step 2 shows the relationships between homelessness and symptoms after also controlling for the linear effects of the hypothesized mediators. Step 3 shows the extent to which the relationships between homelessness and symptoms vary with the level of the mediators

† $p < .10$;

* $p < .06$;

** $p < .05$;

*** $p < .01$;

**** $p < .001$

Table 4

Hierarchical regression examining the mediation of the association between homelessness and externalizing symptoms over time

DV	IV	Step 1 β	Step 2 β	Step 3 β
Conduct problems, T1				
	Homelessness (H)	.22**	.16*	
	Stressful life events (SLE)		.15†	
	Negative social relationships (NSR)		−.01	
	Friend support (FS)		−.11	
	H × SLE			−.01
	H × NSR			−.25*
	H × FS			−.27*
	ΔR^2	.24***	.04†	.05*
Change in conduct problems, T1–T2				
	Homelessness (H)	.00	−.01	
	Stressful life events (SLE)		.05	
	Negative social relationships (NSR)		.19*	
	Friend support (FS)		.13†	
	H × SLE			−.08
	H × NSR			.16
	H × FS			.12
	ΔR^2	.25***	.05*	.01
Change in conduct problems, T1–T3				
	Homelessness (H)	−.00	−.02	
	Stressful life events (SLE)		.00	
	Negative social relationships (NSR)		.06	
	Friend support (FS)		−.09	
	H × SLE			−.02
	H × NSR			.11
	H × FS			.17
	ΔR^2	.15*	.01	.01
Substance abuse symptoms, T1				
	Homelessness (H)	.23**	.24**	
	Stressful life events (SLE)		−.03	
	Negative social relationships (NSR)		.08	
	Friend support (FS)		.08	
	H × SLE			.08
	H × NSR			.17
	H × FS			.06
	ΔR^2	.27***	.01	.02

DV	IV	Step 1 β	Step 2 β	Step 3 β
Change in substance abuse symptoms, T1–T2				
	Homelessness (H)	.15†	.13	
	Stressful life events (SLE)		.00	
	Negative social relationships (NSR)		.11	
	Friend support (FS)		−.05	
	H × SLE			.07
	H × NSR			−.02
	H × FS			−.17
	ΔR^2	.22***	.01	.01
Change in substance abuse symptoms, T1–T3				
	Homelessness (H)	.06	.05	
	Stressful life events (SLE)		.09	
	Negative social relationships (NSR)		.01	
	Friend support (FS)		.05	
	H × SLE			.11
	H × NSR			.00
	H × FS			.06
	ΔR^2	.59***	.01	.01

Controls were imposed for childhood sexual abuse, age at developing sexual orientation, sex, age, ethnicity/race, and social desirability. At Time 2 (T2) and Time 3 (T3) controls also were imposed for the same symptom at Time 1 (T1), generating change in symptoms from T1 to T2 and from T1 to T3. Step 1 shows the relationships between homelessness and symptoms after controlling for the aforementioned covariates. Step 2 shows the relationships between homelessness and symptoms after also controlling for the linear effects of the hypothesized mediators. Step 3 shows the extent to which the relationships between homelessness and symptoms vary with the level of the mediators

† $p < .10$;

* $p < .05$;

** $p < .01$;

*** $p < .001$