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Role of Social Environmental Protective Factors on Anxiety and Depressive Symptoms among Midwestern Homeless Youth

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Abstract

We employ a social stress framework, which examines the influence of multiple stressors (e.g., physical abuse, foster care placement) on an individual's ability to function (e.g., mental well-being), to longitudinally examine the effects of stressful life events on mental health and the role of the social environment in this process among 150 homeless youth. Results revealed that numerous stressors, such as physical abuse and running away from home more frequently, were associated with greater depressive symptoms and elevated anxiety. Having mentors and family and friends from home that youth can rely on resulted in more positive social support, which subsequently lowered the risk for depressive symptoms and anxiety at wave 2.

It is now estimated that 2.5 million children in the United States experience homelessness on a yearly basis (National Center on Family Homelessness, 2014). Homeless youth undergo high rates of abuse and neglect prior to leaving home (Tyler & Cauce, 2002) as well as numerous negative outcomes while on the street, including victimization (Tyler, Whitbeck, Hoyt, and Cauce, 2004), substance misuse (Hadland et al., 2011), and poor mental health (Brown, Begun, Bender, Ferguson, & Thompson, 2015; Stewart et al., 2004). Although some research has examined coping (Brown et al., 2015; Nyamathi et al., 2012) as well as

personal protective factors (i.e., individual and environmental factors that reduce the likelihood of problem behaviors) (Thompson, Bender, Ferguson, & Kim, 2015), among homeless youth in the presence of stressful life events there is a paucity of research that has longitudinally examined protective factors within youths' social environments, including supportive relationships and positive role models, on homeless youths' mental health. As such, we use longitudinal data from 150 homeless youth in the midwestern United States to examine the effects of stressful life events on mental health outcomes and the role that the social environment (i.e., positive role models and positive social support) plays in this process. Identifying protective factors within homeless youths' social environments is important because such factors have significant implications for reducing negative outcomes, including poor mental health.

Factors Associated with Mental Health

Homeless youth suffer from various mental health issues that are often linked to early life stressors. Mental health problems can detract from homeless youths' ability to function and manage various stressors. One early life stressor that numerous homeless youth experience is child abuse (Tyler & Cauce, 2002), which is connected to greater physical victimization (Tyler, Gervais, & Davidson, 2013) as well as higher levels of depressive symptoms (Bender, Ferguson, Thompson, & Langenderfer, 2014; Lim, Rice, & Rhoades, 2015). Staying on the streets for extended periods of time is another early life stressor that is likely to have an impact on mental health. Specifically, running away from home more often is tied to experiencing more physical victimization on the street (Tyler et al., 2013) and meeting criteria for major depression (Brown et al., 2015). Social relationships are also key in understanding mental health, as homeless youth who spend more time on their own report lower family support (Bao, Whitbeck, & Hoyt, 2000). Research comparing foster care placement among homeless youth finds that those with a foster care history run away from home more often compared with homeless youth without a history of foster care and youth who were physically abused experienced greater depressive symptoms regardless of foster care placement (Tyler & Melander, 2010). Research on foster care youth more generally finds that these youth are much more likely to experience negative outcomes compared with non–foster care counterparts (Taussig, 2002; Unrau & Grinnell, 2005; Vaughn, Ollie, McMillen, Scott, & Munson, 2007). Other work has found that emotion-focused coping, defined as attempts to decrease emotional suffering caused by a stressor, which tends to be detrimental because it does not resolve the actual source of the stress, is associated with depressive symptoms and poorer health (Unger et al., 1998). For example, homeless youth who utilize avoidant, emotion-focused coping styles, such as alcohol or drug use, are significantly more likely to suffer from depression (Brown et al., 2015).

Protective Factors

Recent studies conducted with homeless youth have examined correlates of social support (Barman-Adhikari, Bowen, Bender, Brown, & Rice, 2016), support from natural mentors (defined as nonparental adults) (Dang, Conger, Breslau, & Miller, 2014), types of support needs (la Haye et al., 2012), as well as resiliency and coping (Thompson et al., 2016). Social support is integral to enhancing homeless young people's sense of well-being (Barczyk,

Thompson, & Rew, 2014). The sources and types of social support youth utilize, however, often vary by gender, sexuality, and history of abuse (Barman-Adhikari et al., 2016). Furthermore, homeless youth draw from specific sources, such as family members or sexual partners, to meet particular support needs that are either tangible or emotional in nature (la Haye et al., 2012). Social connectedness can also mitigate risk, such that natural mentoring relationships among homeless youth have been tied to decreased sexual risk behaviors (Dang et al., 2014). Moreover, having lower deviant beliefs (e.g., following the rules) is a protective factor against involvement in property and violent crime as well as illicit drug use among homeless youth (Tyler, Kort-Butler, & Swendener, 2014). Understanding the dynamics of protective factors among homeless youth is essential to developing their ability to overcome life traumas and obtain stable housing (Thompson et al., 2016).

Resiliency among Homeless Youth

There is a lack of research on resiliency (protective factors) among runaway and homeless adolescents as resiliency is difficult to define for this population (Tyler & Whitbeck, 2004). Resilience is generally viewed as having the capacity to overcome serious and cumulative developmental risks in order to avoid negative outcomes (Rak & Patterson, 1996). Similarly, protective factors can be defined as reducing the likelihood of dysfunction and disorder in the presence of stressful life events. Resiliency for homeless youth may involve navigating street life, where successful adaptation includes daily survival and avoiding harm. The unique conceptual issue of homeless youth is that being resilient on the street may include high-risk behaviors, such as trading sex for a place to stay for the night (Santa Maria, Narendorf, Ha, & Bezette-Flores, 2015) or coping with stress and challenges through the use of alcohol or drugs (Thompson et al., 2016). These high-risk activities that may be viewed as resilient by homeless youth can in turn lead to adverse mental health consequences (Kidd & Carroll, 2007).

We use a social stress framework (Aneshensel, 1999; Wheaton, 1999) to examine our two research questions: Do certain stigmatized statuses (i.e., gender, sexual minority) exacerbate the risk of depressive symptoms and anxiety beyond the social circumstance of time spent being homeless? Do protective factors (i.e., positive role models and positive social support) within homeless youths' social environments lower their risk for depressive symptoms and anxiety?

A Social Stress Framework

A social stress framework is useful for understanding the process that links the multiple stressors experienced by many homeless young people to anxiety and depressive symptoms. Stressors are "conditions of threats, demands or structural constraints that, by their very occurrence or existence, call into question the operating integrity of the organism" (Wheaton, 1999, p. 177). According to Wheaton (1999), it is important to measure a variety of stressors to avoid underestimating their impact, recognizing that stressors are intertwined with each other, and stressors may have direct or indirect effects on mental health. Although the majority of people in the general population adapt to stress, those with challenging social circumstances, such as homeless individuals, may suffer poorer mental health outcomes compared to nonhomeless individuals. The daily struggles that homeless

youth face, such as securing food and shelter, make the situation of homelessness, or more specifically, time spent being homeless, a unique social circumstance. Furthermore, the location of individuals within the social stratification system influences their chances of encountering stressors (Aneshensel, 1992). In other words, stressors tend to vary according to one's status in society and thus their impact on anxiety and depressive symptoms are likely to differ across social conditions.

Status strain, a type of stressor, occurs when majority and minority groups have differential access to and possession of power, prestige, and resources that ameliorate or exacerbate the risk for detrimental mental health outcomes (Pearlin, 1999). Gender and sexual orientation can be sources of status strains that may be important for understanding risk factors for poor mental health. Among homeless youth, sexual minorities experience unique stressors, including higher rates of child abuse (Cochran, Stewart, Ginzler, & Cauce, 2002; Rew, Whittaker, Taylor-Seehafter, & Smith, 2005; Whitbeck, Chen, Hoyt, Tyler, & Johnson, 2004) as well as higher levels of depressive symptoms (Tyler, 2008) compared with heterosexual homeless youth. Similarly, homeless female youth generally fair worse on mental health outcomes (Stewart et al., 2004), such as experiencing greater symptoms of depression, compared to their male counterparts (Bao et al., 2000). Finally, youth who run away numerous times and spend more time on the street are at greater risk for depression (Brown et al., 2015), physical victimization (Tyler et al., 2013), and risky sexual behavior (Tyler, Whitbeck, Hoyt, & Yoder, 2000). Thus, gender, sexual orientation, and amount of time spent on the street are markers of social placement that affect people's lived realities (Aneshensel, Rutter, & Lachenbruch, 1991), impacting both the stressors they encounter as well as the mechanisms they mobilize to counteract stress.

Data and Methods

One hundred fifty youth were interviewed in shelters and on the streets from July 2014 to October 2015 in two Midwestern cities. Selection criteria required participants to be between the ages of 16 and 22 and meet the definition of runaway or homeless. *Runaway* refers to youth under age 18 who have spent the previous night away from home without the permission of parents or guardians (Ennett, Bailey, & Federman, 1999). *Homeless* youth includes those who lack *permanent* housing, indicated by having spent the previous night with a stranger, in a shelter or public place, on the street, with friends (e.g., couch surfing), in a transitional facility, or other places not intended as a domicile (National Center for Homeless Education and National Association for the Education of Homeless Children and Youth, 2010).

Four trained and experienced interviewers conducted the interviews (two in each city). All interviewers had completed the Collaborative Institutional Review Board (IRB) Training Initiative course for the protection of human subjects in research. Interviewers approached youth at shelters and food programs and during street outreach. Interviewers varied the times of the day that they went to these locations, on both weekdays and weekends. This sampling protocol was conducted repeatedly over the course of the study. Informed consent was obtained from youth, who were informed that the study has three parts and if they agreed to participate, they would need to complete a baseline structured

interview, 30 days of texting (described elsewhere and not included as part of this study), and a follow-up, structured interview. Typically, 3–4 days prior to the end of their texting period youth were sent a text to schedule a date and time for their follow-up interview. The baseline and follow-up interviews, which were conducted in shelter interview rooms, local library, or outside (weather permitting) lasted 45 and 15 min, respectively. Participants received a $20 and $10 gift card to a local store for completing the baseline and follow-up interview, respectively. Being interviewed in a shelter/agency does not necessarily mean the youth was currently staying at a shelter. Although we preferred to interview all youth indoors at a private location (e.g., shelter/agency), this was not always possible given distance or lack of available transportation. In those cases, youth were interviewed at a library or outside in a park because this was more convenient for them. Referrals for shelter, counseling services, and food services were offered to all youth regardless of their decision to participate. Less than 3% of youth (*N* = 5) refused to participate or were ineligible. The university IRB approved this study.

Because some of the respondents were minors, we applied for and received a waiver of parental consent from the IRB. A waiver of parental consent is a more appropriate scientific approach with this population because many of the youth in this study would be considered mature minors. These youth have already made early transitions to adult behaviors and, in some cases, independence. With the waiver of parental consent, all study participants were treated as mature enough to give consent regardless of age. Finally, in cases where active child abuse was disclosed, our IRB protocol mandated that the information be reported to the appropriate staff at the agencies from which we recruited participants.

Measures

Because stressors tend to vary according to one's social location and their impact on mental health outcomes may differ across groups or social conditions, we examine *gender*, *sexual orientation*, and *number of times run*. Gender was coded 0 = *male* and 1 = *female*. Sexual orientation was coded 0 = *lesbian, gay, bisexual (LGB)* and 1 = *heterosexual*. Number of times run was a single-item indicator that measured the total number of times youth had ever run away from home (initial range 1–35 times). Due to skewness, this variable was transformed using the natural log. The following measures, which demonstrate excellent reliability (Bao et al., 2000; Tyler, Hoyt, Whitbeck, & Cauce, 2001; Unger et al., 1998), have been used extensively with homeless populations to explain mental health outcomes.

Physical abuse was a summed scale of 16 items from the Conflict Tactics Scale (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). Youth were asked, for example, how frequently their caretaker shook them or kicked them hard (0 = *never* to 6 = *more than 20 times*). A mean scale was created where a higher score indicated more types of abuse. Cronbach's alpha was .93.

Foster care was a single-item indicator that measured the total number of times that youth had lived in a different foster care home. Due to skewness, this variable was collapsed into the following categories: 0 = *no foster care homes*, 1 = *one foster care home*, 2 = *two different foster care homes*, 3 = *three to five different foster care homes*, and 4 = *six or more different foster care homes*. This collapsing strategy reduced the skewness to .599.

Physical victimization included six items such as "how often were you beaten up?" and "how often were you robbed?" since leaving home (0 = *never* to 3 = *many times*). A mean scale was created for which higher scores indicated greater physical victimization since being on the street. Cronbach's alpha was .85.

Social support included 10 items from the Social Provisions Scale (Cutrona & Russell, 1987) such as "there are people I can count on in an emergency" and "there is no one I feel comfortable talking about my problems with" (1 = *strongly agree* to 4 = *strongly disagree*). Certain items were reverse-coded and a mean scale was created where higher scores indicated greater support. The same items were asked at both wave 1 and wave 2, and Cronbach's alpha was .88 and .91, respectively.

Positive role models was measured by asking youth who they had in their life that they could rely on when needed, including mentor, family from home, caseworker, and friends from home. Each role model(s) was either present or not present in the youth's life (0 = *no* and 1 = *yes*).

The first dependent variable, *depressive symptoms*, included 10 items from the Center for Epidemiological Studies Depression scale (CES-D) (Radloff, 1977). The CES-D, which requires respondents to reflect upon their experiences during the past week, includes items such as "I was bothered by things that don't usually bother me" and "I had trouble keeping my mind on what I was doing" (0 = *never* to 3 = *5–7 days*). Certain items were reverse-coded and then a mean scale was created for which higher scores indicated more depressive symptomology. The same items were asked at both wave 1 and wave 2, and Cronbach's alpha was .79 and .81, respectively. This alpha reliability is consistent with studies of general population youth using the same 10-item short form of the CES-D (Bradley, Bagnell, & Brannen, 2010). The average score for a summed scale of the CES-D is higher among homeless youth in this study compared to the average score found by Bradley et al. (average score = 12.96 and 9.30, respectively).

The second dependent variable, *anxiety*, included 10 items from the Endler Multi-Dimensional Anxiety Scale-State (Endler, Parker, Bagby, & Cox, 1991), such as "I fear defeat" and "I am unable to focus on a task" (1 = *not at all true* to 5 = *completely true*). A mean scale was created so that higher scores indicated more anxiety. The same items were asked at both wave 1 and wave 2, and Cronbach's alpha was .88 and .89, respectively.

Data Analytic Strategy

We use chi square and paired *t*-tests to compare protective factors at waves 1 and 2. To address our first research question, we use *t*-tests to compare means between males and females and between heterosexuals and LGBs to examine whether gender and sexual orientation exacerbate the risk for depressive symptoms and anxiety. We use correlations to assess associations between number of times run and all continuous variables. To address our second research question of whether protective factors (i.e., positive role models and positive social support) within the social environment lower the risk for depressive symptoms and anxiety among homeless youth, we estimate two fully recursive path models using the maximum likelihood estimator in Mplus 7.4 (Muthén & Muthén, 1998–2015) based on a social stress framework.

Results

Sample Characteristics

We interviewed 150 youth. One half of the sample was female (51%; N = 77). Participants ranged in age from 16 to 22 years (mean = 19.4 years). Approximately 41% of the sample was White, non-Hispanic, 26% were Black or African American, 10% Hispanic or Latino, 4% American Indian or Alaskan Native, and almost 19% were biracial or multiracial. Twenty-two percent of youth reported being LGB; of these, 13% were bisexual. Approximately 62% of youth had been in at least one foster home and of these, 15% had been in six or more different foster homes. The average age at which youth left home for the first time was 14.8 years, and the average number of times youth reported running away was 4.9 times. A total of 112 youth (75%) completed the follow-up interview.

Attrition Analysis

We performed statistical comparison of the means (chi-squared and t-tests) to determine whether those who dropped out between wave 1 and wave 2 were significantly different from those who were present at both waves. Results show that there were no significant differences by gender, sexual orientation, age, race, number of times youth had run away, or their depression levels at wave 1. Those that dropped out between waves did, however, have significantly higher wave 1 anxiety levels (mean difference = .21).

Chi square test results (see Table 1) revealed a significant change between waves for all role models. While there was an increase in youth who reported having a caseworker at wave 2 compared to wave 1 (48.2% vs. 38.1%, respectively), fewer youth at wave 2 reported having a mentor, family, or friends from home that they could rely on compared to wave 1. Paired t-test results, shown in Table 2, revealed that both depressive symptoms and anxiety levels were significantly lower at wave 2. There was no change in positive social support between waves.

Table 1. Frequency of Youth Reporting Positive Role Models in Their Lives by Wave

Positive Role Models	Wave 1 N = 147 (%)	Wave 2 N = 112 (%)	Chi Square Test
Caseworker	56 (38.1%)	54 (48.2%)	29.56**
Mentor	73 (49.7%)	40 (35.7%)	13.32**
Friends from home	101 (68.7%)	69 (61.6%)	5.12*
Family from home	112 (76.2%)	79 (70.5%)	20.66**

*p < .05, **p < .01

Table 2. Paired Sample t-Test between Protective Factors and Outcomes by Wave

Protective Factors and Outcomes	Mean		Paired t-Test
	Wave 1	Wave 2	
Social support	3.20	3.20	−0.098
Depressive symptoms	1.28	1.08	3.237**
Anxiety	2.18	1.88	4.431**

**p < .01

Mean Comparisons

Gender
Mean comparisons revealed that females had significantly higher wave 1 anxiety levels ($t = -2.113$; $p < .05$) but significantly lower levels of wave 1 social support ($t = 1.908$; $p < .10$) compared to their male counterparts. Males, however, reported higher rates of physical victimization since being on the street compared to females ($t = 3.470$; $p < .01$).

Sexual orientation
Although we also used mean comparisons (*t*-test) to compare LGB youth to heterosexual youth on all study variables, none of these findings were significantly different between the two groups (results not shown).

Number of times run
Correlation analyses revealed that youth who ran away from home more often reported lower levels of social support at waves 1 and 2 ($r = -.204$; $r = -.201$; $p < .05$, respectively) compared to youth who ran away less often. Young people who ran away more frequently were also significantly more likely to have experienced more physical abuse prior to running away ($r = .306$; $p < .01$), greater number of foster care placements ($r = .258$; $p < .01$), and to have experienced more physical victimization on the street ($r = .323$; $p < .01$). Finally, youth who ran away more frequently reported higher levels of depressive symptoms at wave 1 ($r = .258$; $p < .01$), as well as higher levels of anxiety at wave 1 ($r = .300$; $p < .01$) and wave 2 ($r = .215$; $p < .05$) compared to their counterparts who ran away fewer times.

Multivariate Results
Path analysis results for depressive symptoms (only significant paths given) shown in Figure 1 revealed that being male ($\beta = -.281$; $p \leq .01$), running away from home more frequently ($\beta = .186$; $p \leq .05$) and experiencing more physical abuse ($\beta = .334$; $p \leq .01$) were all associated with higher rates of physical victimization on the street. Those who experienced more depressive symptoms at wave 1 were more likely to have run away more frequently ($\beta = .260$; $p \leq .01$), to have experienced more physical abuse ($\beta = .208$; $p \leq .05$), and to have been in fewer foster care placements ($\beta = -.197$; $p \leq .05$). Having a mentor and caseworker to rely on when needed were both positively linked with having more foster care placements ($\beta = .187$; $p \leq .05$ and $\beta = .186$; $p \leq .05$, respectively), whereas having family role models from home was associated with lower wave 1 depressive symptoms ($\beta = -.227$; $p \leq .01$). Wave 1 social support was positively correlated with mentor ($\beta = .222$; $p \leq .01$), family from home ($\beta = .162$; $p \leq .05$) and friends from home ($\beta = .266$; $p \leq .01$) and negatively associated with wave 1 depressive symptoms ($\beta = -.343$; $p \leq .01$). Heterosexual youth reported higher social support at wave 2 ($\beta = .144$; $p \leq .05$). Young people who reported higher social support at wave 1 were likely to report higher support at wave 2 ($\beta = .512$; $p \leq .01$). Similarly, wave 1 and wave 2 depressive symptoms were positively correlated ($\beta = .253$; $p \leq .01$). Finally, having higher positive social support at wave 2 was linked to lower depressive symptoms at wave 2 ($\beta = -.352$; $p \leq .01$). The model explained 39% of the variance in wave 2 depressive symptoms.
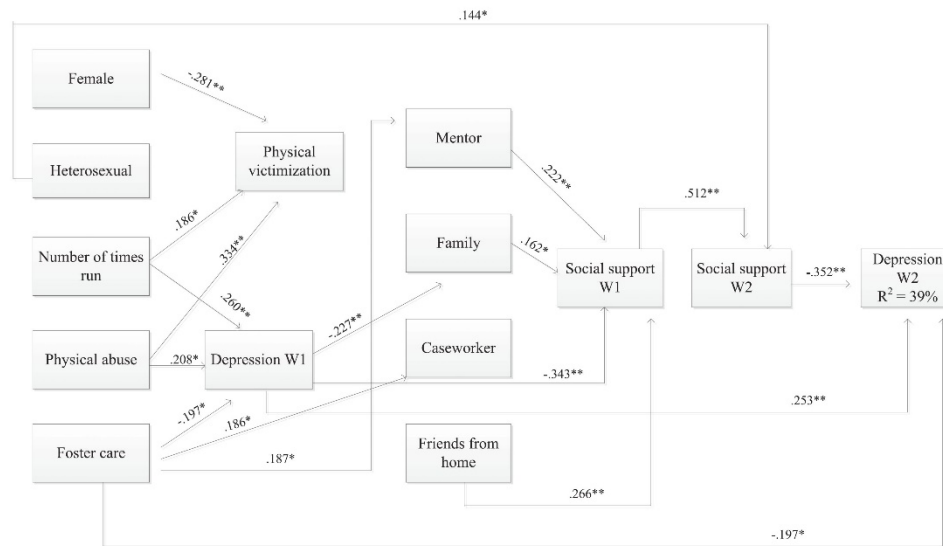
Figure 1. Correlates of homeless youths' depressive symptoms at wave 2 (only significant paths shown). **Note:** W = wave. **$p \le .01$, *$p \le .05$.

Path analysis results for anxiety (only significant paths given) shown in Figure 2 revealed that being male ($\beta = -.281$; $p \le .01$), running away from home more frequently ($\beta = .186$; $p \le .05$) and experiencing more physical abuse ($\beta = .334$; $p \le .01$) were all associated with higher rates of physical victimization on the street. Those who experienced more anxiety at wave 1 were more likely to be female ($\beta = .194$; $p \le .01$), to have run away more often ($\beta = .293$; $p \le .01$), to have experienced more physical abuse ($\beta = .263$; $p \le .01$), and to have been in fewer foster care placements ($\beta = -.174$; $p \le .05$). Having a mentor to rely on when needed was positively linked with having more foster care placements ($\beta = .201$; $p \le .05$). Youth who had higher levels of social support at wave 1 were more likely to have a mentor ($\beta = .252$; $p \le .01$), family from home ($\beta = .201$; $p \le .05$) and friends from home to rely on ($\beta = .247$; $p \le .01$), and also reported lower levels of wave 1 anxiety ($\beta = -.290$; $p \le .01$). Heterosexual youth reported higher social support at wave 2 ($\beta = .144$; $p \le .05$). Young people who reported higher social support at wave 2 also reported higher levels of wave 1 social support ($\beta = .508$; $p \le .01$). Similarly, anxiety at wave 1 and 2 was positively associated ($\beta = .574$; $p \le .01$). Finally, having greater positive social support at wave 2 was associated with lower anxiety at wave 2 ($\beta = -.236$; $p \le .05$). The model explained 44% of the variance in wave 2 anxiety.
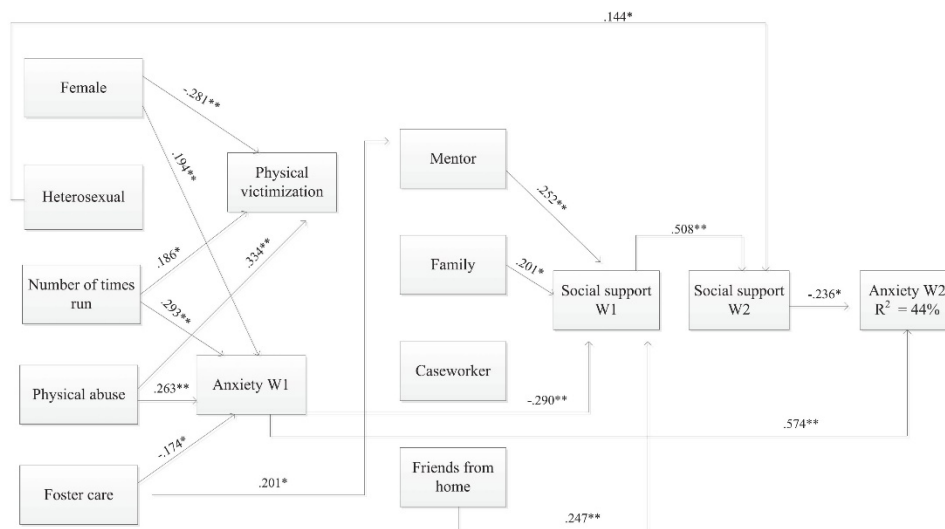
Figure 2. Correlates of homeless youths' anxiety at wave 2 (only significant paths shown).
Note: W = wave. **$p \leq .01$, *$p \leq .05$.

Although our findings reflect the positive influence of role models and social support on mental health outcomes, gender and sexual orientation were not significantly associated with poorer health with the exception of females experiencing greater anxiety at wave 1. However, LGB youth did report lower levels of social support at wave 2 compared to heterosexual youth. One marginally significant finding is worth noting: LGB youth reported higher levels of physical victimization on the street ($\beta = -.133$; $p = .07$) compared to heterosexual youth.

Indirect Effects
Five variables had a significant indirect effect on depressive symptoms (see top half of Table 3). First, number of times run had a significant indirect effect not only through wave 1 depressive symptoms, but also through wave 1 depressive symptoms, and then social support at waves 1 and 2. In other words, youth who ran away more frequently have higher levels of depressive symptoms which, in turn, lead to lower levels of social support and subsequent higher depressive symptoms. Second, physical abuse had a significant indirect effect on depressive symptoms through two paths. Physical abuse indirectly affected depressive symptoms at wave 2 through depressive symptoms at wave 1. Also, youth who experienced more physical abuse reported higher depressive symptoms at wave 1, which was linked to lower social support at waves 1 and 2 and, subsequently, higher depressive symptoms at wave 2. Third, wave 1 depressive symptoms were linked to wave 2 depressive symptoms via lower social support at both waves. Fourth, having a mentor to rely on was connected to higher wave 1 social support, which was associated with greater wave 2 social support and, subsequently, lower wave 2 depressive symptoms. Finally, wave 1 social support was indirectly linked to wave 2 depressive symptoms through social support at wave 2.

Table 3. Full Model Results for Depressive Symptoms and Anxiety

Variables	Direct Effect		Indirect Effect		Total Effect	
	Estimate	SE	Estimate	SE	Estimate	SE
Depressive symptoms						
Female	−.028	.109	.047	.064	.019	.105
Heterosexual	−.062	.081	−.030	.061	−.092	.090
Number of times run	.010	.103	.182**	.069	.193*	.098
Physical abuse	−.062	.111	.196**	.071	.134	.102
Foster care	−.197*	.096	−.094	.069	−.291**	.097
Physical victimization	.107	.114	−.053	.060	.055	.135
Depressive symptoms wave 1	.253**	.098	.133*	.066	.386**	.094
Mentor	.024	.097	−.103*	.048	−.079	.100
Family	−.075	.113	−.078	.046	−.153	.109
Caseworker	.051	.088	−.026	.036	.025	.097
Friends from home	.054	.094	−.064	.048	−.010	.104
Social support wave 1	−.109	.146	−.180*	.084	−.289*	.116
Social support wave 2	−.352**	.133	—	—	—	—
Anxiety						
Female	−.107	.086	.151*	.067	.043	.100
Heterosexual	−.006	.079	−.013	.063	−.019	.090
Number of times run	.129	.088	.164*	.073	.294**	.111
Physical abuse	−.024	.084	.123	.070	.099	.095
Foster care	−.110	.083	−.143*	.072	−.254**	.096
Physical victimization	−.159	.093	−.023	.036	−.182	.106
Anxiety wave 1	.574**	.081	−.007	.050	.567**	.103
Mentor	.032	.084	−.031	.037	.001	.091
Family	.042	.087	−.024	.033	.017	.109
Caseworker	.064	.079	−.011	.023	.053	.093
Friends from home	−.039	.087	.004	.035	−.035	.088
Social support wave 1	.101	.104	−.120	.069	−.019	.108
Social support wave 2	−.236**	.096	—	—	—	—

*$p \leq .05$, **$p \leq .01$

Three variables had a significant indirect effect on anxiety (see bottom half of Table 3). First, being female had a significant indirect effect on wave 2 anxiety. That is, females reported higher wave 1 anxiety, which was positively associated with anxiety at wave 2. Second, number of times run had a significant indirect effect: those who ran away more frequently reported greater anxiety, which was positively linked to anxiety at wave 2. Third, young people who reported more foster care placements expressed lower wave 1 anxiety and subsequently, lower anxiety at wave 2.

Discussion

We set out to examine two research questions: Do certain stigmatized statuses (i.e., gender, sexual minority) exacerbate the risk of depressive symptoms and anxiety beyond the social circumstance of time spent being homeless? Do protective factors (i.e., positive role models and positive social support) within homeless youths' social environments lower their risk for depressive symptoms and anxiety? Although the majority of homeless youth experience numerous stressors due to daily survival issues and their early experiences of abuse, we expected that additional status strains such as gender and sexual orientation, which are often associated with poorer mental health (Bao et al., 2000; Cochran et al., 2002; Tyler, 2008), would further exacerbate their risk. Moreover, the challenging social circumstance of being homeless also increases risk for depression (Brown et al., 2015; Lim et al., 2015).

Addressing our first research question, our results reveal that females experience significantly more anxiety compared to males, and having higher anxiety at wave 1 was indirectly associated with higher anxiety at wave 2 for females. Females also report having less social support compared to males. While this finding is counterintuitive among general population studies of young people (Rueger, Malecki, & Demaray, 2010), this mental health finding is consistent with some previous studies on homeless youth (Bao et al., 2000; Stewart et al., 2004). Within a social stress framework, gender is a marker of subordinated social placement (Aneshensel et al., 1991) that shapes people's experiences and the way women cope with stress. Female homeless youth are at elevated risk for numerous victimization experiences, such as sexual violence and exploitation (Tyler et al., 2004), which could negatively impact their perceptions of social support.

We found only one significant difference by sexual orientation: LGB youth reported lower levels of social support at wave 2 compared to heterosexual youth. This lack of significant findings regarding sexual orientation is at odds with both prior research (Cochran et al., 2002; Whitbeck et al., 2004) and the social stress framework. Although we expected sexual minorities to have poorer health outcomes, this was not the case in our study. The daily struggles for survival that homeless youth face may override obstacles related to their sexuality. In addition, the life challenges that many LGB homeless youth experience may actually make them stronger and thus more resilient. Moreover, both groups have similar kinds of positive role models in their life, which further reduces the negative impact of early stressors on mental health outcomes.

We also find that youth who run from home more frequently experience more negative outcomes and report lower levels of social support. Being away from home over an extended period of time likely results in broken ties for many youth and reduces their available social support, which is consistent with prior research (Bao et al., 2000). Additionally, daily survival is difficult and the longer youth are on the street, the greater their chances for adverse health outcomes. Thus, the answer to our first question is that the stigmatized status of being LGB does not exacerbate the risk for anxiety and depressive symptoms beyond the social circumstance of length of time being homeless whereas gender does to some extent.

For our second question, we found that the stressors of physical abuse and number of times run are positively associated with physical victimization as well as with higher wave 1

depressive symptoms and anxiety. Additionally, our results show that higher anxiety and depressive symptoms at wave 1 are associated with similarly high rates at wave 2. In terms of protective factors, we find that having higher levels of positive social support from others as well as having positive role models in one's life (i.e., mentor) reduces the risk for depressive symptoms and anxiety among homeless youth. In other words, these social environment protective factors are essential for homeless youth's well-being (Barczyk et al., 2014).

Contrary to expectations and prior research (Tyler & Melander, 2010; Unrau & Grinnell, 2005; Vaughn et al., 2007), those with more foster care placements did not experience poorer mental health. In fact, we find just the opposite. That is, experiencing more foster care placements was directly associated with lower wave 2 depressive symptoms and indirectly associated with lower levels of anxiety through mentoring and social support. One possible explanation for why youth with histories of foster care experienced lower levels of anxiety and depressive symptoms may be that they were removed from an abusive and neglectful family and, through placement, they were able to obtain the necessary treatment and counseling to help them effectively cope. Because the homeless youth participants in our study may have grown up in different states other than the one in which the study was conducted, we are unable to speculate on the potential effects of child welfare policies on their foster care histories. Future research, however, could more broadly examine the influence of state foster care legislation on perceptions of social support among homeless youth.

Moreover, our findings show that being in more foster placements is linked to having a caseworker and mentor, identified as individuals the youth can turn to and rely on when needed. As such, foster care may put youth in touch with social support systems, which helps to reduce the negative effects of stress. This finding is consistent with previous studies, which note the resilient qualities of individuals previously in foster care (Daining & DePanfilis, 2007; Samuels & Pryce, 2008).

Our findings have implications for a social stress framework, which is typically applied to general population samples. We suspect that our lack of significant differences in sexual minorities may be due to the fact that we were looking at mental health outcomes, which are generally associated with social support. Because both sexual minority and heterosexual youth report having positive role models in their life and similar levels of support overall, this may have accounted for the lack of significant findings between these two groups. Additionally, because our entire sample is experiencing the unique social circumstance of being homeless, and few differences emerged, this suggests that the effects of stress on outcomes may be contextually dependent. Given the daily stresses of finding food and shelter and remaining safe, one's sexual orientation may be less salient for this group of youth. However, gender matters to some extent and thus fits within the stress process framework. Our findings suggest that at least some youth transform their adverse experiences (i.e., stressors) into beneficial resources by learning how to navigate the system to their benefit, which is a form of resilience and coping.

Some limitations should be noted. First, all data are based on self-reports and the retrospective nature of some of the measures may have resulted in recall bias. Also, our sample

is based on homeless youth in the Midwest and this group may have different characteristics than those in other geographic locations. Thus, our findings cannot be generalized to other homeless youth populations. Additionally, although we defined number of times that youth ran away from home as a stressor, it is also plausible that running away multiple times is a reaction to stress. For example, experiencing chronic familial abuse, which is a stressor, may lead some youth to run away from home and thus, running away is a response to stress. Finally, the abbreviated time period of 1 month between waves 1 and 2 may have been insufficient time to see improvements in depressive symptoms and anxiety, which may have come about due to treatment. Conversely, this may be insufficient time to trigger such mental health issues. That is, our results show that physical abuse and number of times run were both positively associated with wave 1 depressive symptoms and wave 1 anxiety, but these stressors were not directly linked with wave 2 mental health outcomes.

Despite these limitations, this article also has numerous strengths and contributes to our understanding of mental health outcomes and the importance of protective factors within youths' social environments using a social stress framework. According to a social stress framework, the location of individuals within the social system influences their chances of encountering stressors which, in turn, impacts their likelihood of becoming emotionally distraught (Aneshensel, 1992). Our study indicates that gender (a status strain), and more centrally, amount of time spent on the street (social constraint), exacerbate the risk for anxiety and/or depressive symptoms among homeless youth. Social support and mentoring, however, is important for reducing negative health outcomes for this group of young people. Future studies should examine the specific dynamics of homeless youths' role model relationships, such as type and frequency of provided support. Additionally, it would be helpful to discern the stability of these role models and whether long-standing role models are more effective in reducing negative outcomes for homeless youth or whether the mere presence of positive role models in one's life (i.e., the perception that they have people they can rely on) is enough to reduce the deleterious effects of early life stressors on mental health outcomes.

Our findings also have implications for service providers. Although we know that homeless youth suffer from numerous mental health problems (Brown et al., 2015; Stewart et al., 2004), our results show that having positive social support available does reduce the negative effects of anxiety and depressive symptoms over time. This suggests that focusing on ways to improve positive social support for youth (i.e., support from prosocial individuals rather than deviant ones) is extremely important for improving mental health outcomes. Peer-based intervention work with homeless youth, for example, has found significant improvements in mental health and peer support among youth receiving mentoring from peers who had previously been homeless (Stewart, Reutter, Letourneau, & Makwa-rimba, 2009). Relatedly, we achieved one of our original project goals in identifying positive individuals in the youths' life that could be counted on to provide positive support. In addition to the positive role models examined in this article, youth also reported teachers and pastors as other supportive outlets. These individuals are important because youth trust them and go to them for guidance and advice; therefore, such individuals can have a positive effect on the lives of homeless youth. Agencies could potentially

target these role models as sources of intervention to encourage prosocial behaviors and promote well-being among homeless youth.

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