Running head: WHERE RISK AND PROTECTIVE FACTORS OPERATE DIFFERENTLY

Where Risks and Protective Factors Operate Differently:

Homeless Sexual Minority Youth and Suicide Attempts

N. Eugene Walls, MSSW, MA, PhD and Cathryn Potter, MSW, PhD

Graduate School of Social Work, University of Denver

James Van Leeuwen, PhD[1]

University of Colorado Denver

Word count: 5,657

Address correspondence to:
N. Eugene Walls
Graduate School of Social Work
University of Denver
2148 S. High St.
Denver CO 80208
Phone: (303) 871-4367
Fax: (303) 871-2845
Email: ewalls2@du.edu

[1]James Van Leeuwen's time was supported by the Bonfils-Stanton Foundation and the Livingston Fellowship program.

Abstract

Using a sample of 628 homeless youth and young adults from eight U.S. cities, this study examines whether the relationship between having been in custody of social services and suicide attempts, and the relationship between engaging in survival sex and suicide attempts differ based on sexual orientation. Findings suggest that being in custody of social services is associated with a significant increase in likelihood of suicide attempts for heterosexual youth, it does not, however, significantly change the already increased risk of suicide attempts for sexual minority youth. Engaging in survival sex appears to be associated with increased risks of suicide attempts for both heterosexual and sexual minority youth, but the increase in likelihood is much stronger for heterosexual youth than for sexual minority youth. Implications for practice and future research are discussed.

Key words: suicide, gay, lesbian, bisexual, sexual minority, social services custody, child welfare, survival sex, homeless youth

Where Risks and Protective Factors Operate Differently: Homeless Sexual Minority Youth and Suicide Attempts

Introduction

Homelessness brings young people face-to-face with new risks as well as exacerbating already existing issues in their lives. The scholarship on homeless youth and young adults suggests that this pattern is true across numerous domains of life and that the risks increase with greater lengths of time spent on the streets. To view homeless youth as a monolithic group, however, not only obscures differential risk factors among subpopulations of the homeless youth community, but also fails to recognize the different social service needs that accompany these differential risks. The impact of social service agencies and practitioners ignoring the differential risks has the potential to result in great harm to these youth. In this study, we examine how sexual orientation changes the impact of two risk factors typically associated with increased suicidality: a history of being in custody of social services and of engaging in survival sex.

Using a dataset of 628 homeless youth and young adults from eight different U.S. cities, we demonstrate that sexual orientation is associated with significantly different risk patterns with regard to suicidality. We end the manuscript discussing the implications of these differential patterns on future research and raise questions about the implications for service providers attempting to meet the needs of homeless youth.

Literature Review

In this section we examine literature pertinent to this study. This includes a brief examination of differences in suicidality based on demographic factors, and psychiatric and substance abuse disorders which we include as controls in our statistical models. We then

examine suicidality in the context of both sexual minority youth and youth homelessness, including a review of what has been documented about suicidality for youth who reside at the intersection of the two -- homeless sexual minority youth. We complete this section by outlining the scholarship on suicide regarding the two primary variables of interest to the study -- having been in social services custody, and having engaged in survival sex.

Demographics

Gender. While the rate of completed suicides is higher among young men than young women, more adolescent females report suicidal ideation or attempts than adolescent males (Leslie, Stein, & Rotheram-Borus, 2002; O'Donnell, O'Donnell, Wardlaw, & Steueve, 2004). During their lifetime, females attempt suicide at a rate that is two to three times that of their male counterparts (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). They have higher rates of correlates of suicidality, including having been sexually abused (Boudewyn & Liem, 1995), experiencing hopelessness (Cole, 1989), experiencing depression (Wannan & Fombonne, 1998), and having a family history of suicidality (Sorenson & Rutter, 1991). While this increased rate of risk appears to hold among female street youth as well (Leslie et al., 2002; Molnar, Shade, Kral, Booth, & Watters, 1998), it has not consistently been reported in the literature on sexual minority female youth (D'Augelli, 2002; Walls, Freedenthal, & Wisneski, in press).

Age. Suicide completion rates vary by age increasing until age 60, though the patterns of risk vary by gender. An examination of completed suicides in 2004 in the United States found the estimated rate for boys aged 10-14 to be 1.71 per 100,000, while the estimated rate for girls aged 10-14 was .95. For older adolescents, aged 15 to 19, the rate for boys was 12.64, while the rate for girls was 3.52. For ages 20-24, the rate for boys was 20.87 while the rate for girls was 3.59 (Centers for Disease Control (CDC), 2007a). For non-fatal injuries where the intent was

classified as *self harm*, youth aged 10-14 had a rate per 100,000 of 41.64 for boys and 152.79 for girls. For ages 15-19, the rate was 235.83 for boys and 443.01 for girls. For ages 20 – 24 rates are 243.10 for boys and 304.46 for girls. These rates declined gradually from age 25 (CDC, 2007b).

Race and ethnicity. While some studies have documented variation in suicide rates, others have not (Leslie et al., 2002). Historically, findings have suggested that African Americans in the U.S. have the lowest rate of suicide among all U.S. racial/ethnic groups (Barnes & Bell, 2003; Joe, 2006), with a rate in 2004 of 7.33 injuries and deaths for African American youth compared to a rate of 10.62 for white youth (per 100,000, ages 15 to 24; CDC, 2007c). There has, however, been a significant increase in attempts among African American youth in the last decade (Price, Dake, & Kucharewski, 2001).

As with African Americans, the literature on suicidality among Latino/as in the U.S. is mixed. This may exist partly because the category of Latino/as consist of culturally heterogeneous groups which differ from one another in many aspects, including their history of migration, their geographical concentration in the U.S., and other demographic characteristics including family income and educational level (Ungemack & Guarnaccia, 1998). While Shaffer (1988; Shaffer et al., 1988) found that Latino/a adolescents had relatively low suicide rates compared to whites, attempt rates for Latino/a adolescents in the 9th to 12th grades in a national sample were higher than their white counterparts from 1991 to 2005 (CDC, 2006; Eaton et al., 2006).

Suicide among Asian Americans is understudied and what exists has predominately focused on Chinese, Japanese, and Filipino Americans, to the neglect of other Asian ethnicities (Leong, Leach, Yeh, & Chou, 2007). Rates of suicide among Japanese and Chinese Americans

have been documented to be lower than rates among whites (Diego, Yamamoto, Nguyen, & Hifumi, 1994). Disaggregating Pacific Islanders from other Asian American ethnic groups, Booth (1999) found that Pacific Islanders were among the highest completed suicide rates in the world, and suicide is the leading cause of injury-related death in Hawai'i (Galanis, 2006). Hawaiian youth had significantly higher lifetime prevalence rates of suicide attempts than non-Hawaiian students, particularly Hawaiian adolescents whose parents were less educated or who were socioeconomically disadvantaged (Yuen, Nahulu, Hishinuma, & Miyamoto, 2000).

Even though studies of suicidality among American Indians are complicated by regional differences, and cultural variation (Alcántara & Gone, 2007), there is consistent agreement that suicidality among American Indians is significantly higher than among other racial groups (CDC, 2005, Olson & Wahab, 2006), including rates among American Indian youth and young adults (CDC, 2005; Wissow, 2000). According to the CDC (2005), suicide is the second leading cause of death among American Indians ages 15- to 34-years.

Substance Abuse and Psychiatric Disorders

Suicidality tends to occur in the context of psychiatric and substance abuse disorders (Gould et al, 1998; Shaffer et al., 1996). Because comorbidity is common, such that the presence of substance abuse disorders are associated with higher rates of psychiatric disorders (Armstrong & Costello, 2002; Kelly, Lynch, Donovan, & Clark, 2001), it is frequently difficult to parse the impact of each separately on the risk for suicidality.

Substance abuse. Although the use of substances has been correlated with increased suicidality among youth, the relationship is not necessarily straightforward. Differences have been documented among subgroups of youth, depending on the substance used, and the severity or progression of use. Association between alcohol and suicidality has been found in a number

of studies (Cherpitel, Borges, & Wilcox, 2004; Birckmayer & Hemenway, 1999; Van Leeuwen et al., 2004), while others have found that the connection depends upon frequency of use (Borowsky, Ireland, & Resnik, 2001) or meeting certain clinical thresholds (Esposito & Clum, 2002).

Similarly, other drug use and suicide risk have resulted in mixed empirical results. Some scholars have found evidence of a linkage, particularly around the use of inhalants (Best et al., 2004; Wilcox & Anthony, 2004), opioids (Wilcox, Conner, & Caine, 2004), cocaine (Kelly, Cornelius, & Lynch, 2002), methamphetamine (Callor et al., 2005), and intravenous drugs (Wilcox et al., 2004). In some cases, use of specific substances has been associated with suicide attempts, but not suicidal ideation (for example, see Kelly et al., 2002 regarding alcohol).

Psychiatric disorders. A history of hospital admissions for mental health reasons is one of the strongest risk factors for completed suicide among adolescents (Agerbo, Nordentoft, & Mortensen, 2002). The National Comorbidity Study, using one of the few national probability samples in the United States, found that all DSM diagnoses were associated with heightened risk of suicide attempt for adults and adolescents (aged 15 and older), with mood disorders being most strongly associated (Kessler, Borges, & Walters, 1999). Depressed mood disorders (Goldston, Daniel, Reboussin, 1998; Spirito & Esposito-Smythers, 2006), and bipolar disorder (Kelly et al., 2002) have also been found to be associated with suicide attempts in adolescent samples. Depressed mood (Spirito, Valeri, Boergers, & Donaldson, 2003; Swahn & Potter, 2001), having a comorbid psychiatric diagnosis and prior involvement in mental health services (Grohold, Ekeberg & Haldorsen, 2006; Swahn & Potter, 2001), and prior attempts (Swahn & Potter, 2001) are associated with continued suicidality.

Sexual orientation, homelessness, and suicidality.

Sexual orientation. Mental health issues are experienced by sexual minority youth at a rate higher than their heterosexual counterparts (Grossman & D'Augelli, 2006), including suicidal ideation and attempts (D'Augelli et al., 2005; Spirito & Esposito-Smythers, 2006). While methodological issues plagued earlier studies (Russell, 2003), more recent studies using representative samples have demonstrated between 25 and 35 percent of sexual minority adolescents report at least one suicide attempt (Remafedi, French, Story, Resnick & Blum, 1998; Russell & Joyner, 2001). This may -- at least in part -- be due to the multiple stressors that sexual minority youth face in their everyday lives (Proctor & Groze, 1994). These stressors may include feelings of being different than their peers (Savin-Williams, 1994), isolation both in their lives (Dietz, 1997; Jacobs, 1996) and in their school experiences (Mudrey & Medina-Adams, 2006; Peters, 2003), victimization and ridicule because of sexual orientation (D'Augelli et al., 2005; Ryan & Rivers, 2003), rejection by peers or family because of sexual orientation (D'Augelli et al., 2005; Hershberger, Pilkington, & D'Augelli, 1997), societal oppression and discrimination (McDaniel, Purcell, & D'Augelli, 2001), and actual violence (Bontempo & D'Augelli, 2002; Walls, Kane, & Wisneski, 2007). This pattern of increased risk has been demonstrated among subpopulations of sexual minority youth including urban and rural youth (Waldo, Hesson-McInnis, & D'Augelli, 1998) and lesbian and gay youth who access social services (Hunter, 1990; Walls et al., in press). *Homelessness.* Rates of mental health problems among homeless youth have been found to be higher than among their non-homeless counterparts (Cauce et al., 2000; McCaskill, Toro, & Wolfe, 1998) with rates of psychiatric distress approximately three times that of non-homeless youth (Robertson, Koegel, Mundy, Greenblatt, & Robertson, 1988). Prevalence of depression is higher (Rohde, Noell, Ochs, & Seeley, 2001) and the odds that homeless youth experienced dysthymia were thirteen times greater than the non-homeless youth

comparison group in one study (Rohde et al., 1991). While some mental health issues may have existed prior to becoming homeless for these youth, the experience of becoming homeless increases the risk for and can exacerbate the severity of many mental health problems (DeRosa, Montgomery, Hyde, Iverson, & Kipke, 2001; Whitbeck, Hoyt, Yoder, Cauce, & Paradise, 2001).

Suicidal ideation and attempts are among the more severe mental health issues for which homeless youth are at increased risk (Spirito & Esposito-Smythers, 2006; Van Leeuwen et al. 2006). While base rates of suicide attempts in the general youth population are estimated to be between 8 and 13 percent (Friedman, Asnis, Bock, & DiFiore, 1987; Garland & Zeigler, 1993), studies have demonstrated that approximately one-third of homeless youth have attempted suicide (Robertson, 1989; Stiffman, 1989). Additionally many of the general risk factors for youth suicide -- depression, substance abuse, conduct disorders, poor parent-child relationships, and physical and sexual abuse (reviewed in Gould, Greenberg, Velting, & Shaffer, 2003) -- are more prevalent in the homeless youth and young adult population, as well.

Homeless sexual minority youth. In one of the earliest studies comparing homeless sexual minority youth with homeless heterosexual youth, Kruks (1991) found that 53 percent of the homeless gay male youth reported at least one suicide attempt compared to 32 percent of the general homeless male youth participants. Since then, other studies have confirmed this increased risk for suicidality (Whitbeck, Chen, Hoyt, Tyler, & Johnson, 2004; Yoder, Hoyt, & Whitbeck, 1998). Likewise, numerous studies have suggested that homeless sexual minority youth experience a greater prevalence of mental health problems than do their homeless heterosexual counterparts (Cochran et al., 2002; Elze, 2002; Remafedi, Farrow, & Deisher, 1991). They are more likely to meet the diagnostic criteria for a post-traumatic stress disorder (Whitbeck et al., 2004) and more likely to have had a psychiatric hospitalization (Noell & Ochs,

2001). Homeless gay male youth, however, appear to be less likely to meet the criteria for conduct disorder than their homeless heterosexual male colleagues (Whitbeck et al., 2004). Walls, Hancock, and Wisneski (2007) found that homeless sexual minority youth were more likely to have experienced hopelessness, and suicidality than non-homeless sexual minority youth.

Child welfare. Personal histories of family violence (Joiner, Sachs-Ericson & Wingate, 2007; Randal, Wag, Herting & Eggert, 2006) and emotional maltreatment (Gibb et al., 2001) are associated with heightened risk for suicidality among adolescents. Homeless youth with histories of physical and sexual abuse have odds of attempting suicide that are 1.9 to 4.3 times that of non-abused homeless youth. Among sexual minority youth, parental psychological abuse is associated with increased risk of attempts (D'Augelli et al., 2005).

Little information on suicide rates among youth in the U.S. child welfare system exists however, the Patterns of Care study examined the prevalence of psychiatric disorders for children across various public sectors of care including child welfare (Garland et al., 2001). Major depression was found in 4.7 percent of child welfare youth a rate much higher than found in community samples of youth.

International studies have documented the connection between child welfare custody and suicidality. A Swedish national cohort study found that former child welfare clients were five to eight times more likely to have been hospitalized for suicide attempts than their peers in the general population (Vinnerljun, Hjer, & Linblad, 2006). A study of all completed adolescent suicides in Quebec found that 30 percent were for youth with prior involvement in the child welfare/juvenile justice system with 40 percent of the suicides occurring while the child was actively involved in the system (Farand, Chagnon, Renaud & Rivard, 2004). Prior involvement

in child welfare systems has also been found to predict second attempts among adolescent first time attempters (Stewart, Manion, Davidson & Cloutier, 2001).

Child welfare and sexual minority youth. An analysis of data from seven population-based studies of high school students in the U.S. and Canada found that sexual minority youth are at higher risk for familial abuse than are heterosexual youth (Saewyc, et al., 2006). Intra-familial abuse may be triggered by "coming out" or by being suspected to be or discovered to be gay, lesbian, or bisexual (Savin-Williams, 1994; Wilbur, Ryan, & Marksamer, 2006). Precise estimates of the number of sexual minority youth served by public child welfare are not available, however, the literature suggests that these youth are over-represented because of family rejection and abuse related to sexual orientation (Child Welfare League of America & Lambda Legal, 2006; Lambda Legal Defense and Education Fund, 2001). Lenz-Rashid (2006) found that 34 percent of former foster care participants in her study reported being sexual minority at intake into the child welfare system. While studies suggest that these youth need additional support while in foster care (Rashid, 2004; Wilbur et al., 2006), most states are not responsive to those unique needs (Lambda Legal Defense and Education Fund, 2001; Mallon, 1997). Of course, many sexual minority youth -- like their heterosexual counterparts -- also reside in families with serious problems that are not related to the youth's sexual orientation (Wilbur et al., 2006).

Survival sex. Kidd and Kral (2002) found that the vast majority of the youth and young adults in their sample had attempted suicide at some point, and that trading sex for money, food, drugs, or shelter was linked to that suicidal behavior. Greene and colleagues (1999), found that 28 percent of the street youth sample and 10 percent of the shelter youth sample in their study had engaged in survival sex. Survival sex is also associated with a number of other risk factors

including victimization, criminal behavior, substance abuse, sexually transmitted infections, and pregnancy. Yates, MacKenzie, Pennbridge, and Swofford (1991) found that homeless youth who participated in survival sex were more likely to report a sexual abuse history. There is, however, at least one study that did not find a statistically significant relationship between survival sex and suicidal ideation (Rohde et al., 2001).

Survival sex and sexual minority youth. Homeless sexual minority youth appear to be more likely to engage in survival sex than homeless heterosexual youth (Feinstein, Greenblatt, Hass, Kohn, & Rana, 2001; Lankenau et al., 2005; Van Leeuwen et al., 2006), particularly for homeless bisexual and gay male youth (Kruks, 1991; Whitbeck et al., 2004). The likelihood of engaging in survival sex appears to increase with age among gay- and bisexually-identified street youth (Pennbridge et al., 1992). One study examining homeless drug-using male youth who have sex with males, however, found that opposite pattern -- male youth who were not gay-identified were actually more likely to have engaged in survival sex than their gay-identified counterparts (Newman, Rhodes, & Weiss, 2004).

Hypotheses

In this study we examine the relationship between suicidality, having been in custody of social services, and having engaged in survival sex. While most of the literature would suggest that having been in custody of social services and having engaged in survival sex should be associated with significant increases in suicidality, we are interested in whether these relationships differ based on sexual orientation. As such, we hypothesize significant interaction effects between sexual orientation and having been in custody of social services as well as between sexual orientation and having engaged in survival sex on the likelihood of reporting a suicide attempt among these youth.

Methodology

Participants

Study participants were homeless youth and young adults in eight U.S. cities on December 9, 2004 when Urban Peak coordinated the 2004 Public Health Survey through youth-serving agencies connected through the National Network for Youth and National Youth Policy Council. Urban Peak is a Denver-based non-profit organization that provides a comprehensive array of services to homeless youth and young adults in Denver and Colorado Springs, Colorado. Services include a youth shelter, transitional housing, comprehensive case management, mental health services, a drop-in center, youth leadership programming, and employment services, among others.

The cities with service providers that participated in the study included Austin, Boulder, Chicago, Colorado Springs, Denver, Minneapolis, Salt Lake City, and St. Louis. Staff from the various youth agencies were trained by Urban Peak staff on the research protocol and collected surveys from as many homeless youth as possible on the date of the survey (see Van Leeuwen, Boyle, & Yancy, 2004 for more information on the protocol). Data were collected from a total of 751 homeless youth. From the full sample, 42 respondents were dropped because their age was greater than 25 years, or because they did not answer the age question, resulting in a sample of 709 homeless youth. Of these, an additional 81 (11.42%) were dropped because of missing data on variables of interest to this study, resulting in a final sample size of 628 respondents. Analyses of the missing data patterns indicated that less than 4% of the sample was missing data on any single variable of interest to this study. Of the 11.42% of the age appropriate sample that were dropped from the final sample, the vast majority of them were missing data only on a single variable (81.48%).

Limitations

When interpreting the results from this study, a number of limitations should be considered. First, because this was not a random sample of homeless youth, the results should not be generalized to all homeless youth. Although, due to the large sample size and the number of cities involved in the project, it is reasonable to assume that the results from this study are more representative of homeless youth than many previous studies which have focused on one geographic locale. Second, because respondents were in contact with homeless youth providers and their services, the results may differ for homeless youth who are not in contact with such providers. Third, reporting bias may have influenced the results from this study because the surveys inquired about sensitive topics (e.g., family and personal substance use, sexual identity, and survival sex). While, it is possible that these sensitive topics were over- or under-reported, we attempted to decrease the impact of social desirability by insuring that the survey was anonymous.

Two final cautions should be stated that arise related more specifically to the analyses of the data. First, the questions used to capture the various constructs examined in the study were purposefully brief to foster increased participation by the youth, but, as such, do not take into account the multidimensionality of the constructs, nor the timing of the experiences. For example, we have no way of knowing whether reported suicide attempts occurred before or after the youth became homeless. Similarly sexual orientation is captured using a single question about sexual identity which simplifies a complex lived experience into one dimension of that experience. Finally, although we used the cluster option in Stata to control for non-independence of the data based on geographic location, we did not concern ourselves with examining and

understanding more directly the potential regional differences that might exist among the homeless youth in the study.

Measures

Demographics. Respondents were asked to indicate their gender as *male*, *female*, or *transgender*. Only six respondents (0.94%) indicated that they identified as transgender, and analyses indicated that transgender respondents did not differ significantly from female respondents on the dependent variable. As such, gender was examined using a dummy-coded variable for male. To capture race, respondents were given six response categories: *Anglo/white*, *African American*, *Asian/Pacific Islander*, *Latino/Hispanic*, *Native American*, and *Other*. *Other* responses were examined and recategorized into one of the five primary racial categories, or into a new *bi/multiracial* category based on the best fit. Slightly more than 2/3rds (66.13%) of respondents who selected *Other* indicated a bi- or multi-racial identity. Respondents were asked to indicate their age in years. The ages were then categorized into *under 15*, *15 to 19*, and *20 to 25* as these correspond to those used by the CDC. Finally, the survey included the question, "Do you identify as gay, lesbian, or bisexual?" with a yes/no response set.

Control variables. Respondents were asked, "In the last 30 days, have you spent more than 24 hours in the hospital?", and then, "If yes, was this hospital stay in the psychiatric or mental health unit?" From these, the mental health hospitalization variable was derived. While the survey contained numerous questions regarding substance use, moderate to strong correlations existed among most of the substance use variables. The variable inquiring about intravenous drug use was used as it captured what is typically considered one of the most serious substance abuse issues. The question had a yes/no response set and asked, "Have you ever used IV [intravenous] drugs?"

Primary variables. Respondents were asked, "Have you ever been in the custody of Social Services?" and "Have you ever traded sex for money, food, drugs, shelter, clothing, etc.?" Both questions had a yes/no response set.

Dependent variable. Respondents were asked, "Have you ever attempted suicide?" with a yes/no response set.

Analytic Approach

Three logistic regression models were run predicting prior suicide attempt. The first model included the demographic and control variables. The second model examined first order effects of sexual orientation, having been in custody of social services, and having engaged in survival sex. The final model examined the interaction effects of sexual orientation with social service custody and with engaging in survival sex. To take into account that data were collected in eight different U.S. cities, we used the cluster option in Stata 9.2 to control for possible non-independence among clustered data.

Results

Descriptive statistics for the demographic and psychosocial variables are listed in Tables 1 and 2. The sample represents broad geographic, gender, and ethnic diversity. Slightly more than 20% identified as sexual minority. A third of respondents report a lifetime suicide attempt, though less than 3% report prior mental health hospitalization. A third have been in the custody of social services, almost 10% report involvement in survival sex, and about 15% reporting having used IV drugs. These figures are in line with existing literature on homeless youth samples. Results of the next three regression models are included in Table 3.

Model 1: Demographics and controls. We did not find racial differences in suicide attempts in the sample, however, significant differences emerged in terms of gender, age, and the

two control variables. Males were almost half as likely as females and transgender respondents to report attempting suicide. Respondents between the ages of 15 and 19 were over five times as likely, and respondents between the ages of 20 and 25 were almost five times as likely to have attempted suicide as respondents under the age of 15. Those who indicated a recent mental health hospitalization were over 30 times as likely to report an attempt than those not reporting recent hopsitalization. Respondents who had used intravenous drugs were 2.5 times as likely to report attempting suicide than those who had not.

Model 2: First order effects. Based on previous literature, we anticipated that all three variables of interest would be associated with increased likelihood of having attempted suicide. Those who identified as sexual minority were almost three times as likely to have reported a suicide attempt as those who identified as heterosexual. Having been in the custody of social services was associated with an increased likelihood of attempting at almost 2 times the rate of those without social service history. Finally, those who engaged in survival sex were almost 3 times as likely to report an attempt as those who never engaged in survival sex. The age and mental health hospitalization effects from Model 1 hold in Model 2, but the gender differences become non-significant.

Model 3: Interaction effects. All results that were significant in Model 2, continued to be significant in Model 3, and both interaction effects tested were, likewise, significant. As illustrated in Figure 1, the relationship between being in custody of social services and risk for suicide attempts was strikingly different for homeless heterosexual youth, than for homeless sexual minority youth. For heterosexual youth who had not been in custody of social services, the predicted probability of reporting a suicide attempt was .2260 (holding all other covariates at their mean), as compared to a predicted probability of .4051 for those heterosexual homeless

youth who had been in custody of social services. For homeless sexual minority youth, however, little difference emerged in predicted probability of reporting an attempt based on whether or not they were ever in the custody of social services. Homeless sexual minority youth who had never been in the custody of social services had a predicted probability of .5684 of reporting an attempt, while those who had been in the custody of social services had a predicted probability of .5730.

Turning our attention to the interaction between sexual orientation and engaging in survival sex, we found a somewhat similar pattern. See Figure 2. The predicted probability of a suicide attempt for homeless, heterosexual youth who had engaged in survival sex was .5991, compared to a predicted probability of .2470 for their counterparts who had not. With sexual minority youth, we found a similar, but attenuated pattern. Sexual minority youth who had engaged in survival sex had a predicted probability of reporting a suicide attempt of 0.6550, while those who had not had a predicted probability of 0.5966.

Post-hoc examination of the patterns of engaging in survival sex indicated that homeless heterosexual female youth (10.33%) were significantly more likely to have engaged in survival sex than were homeless heterosexual male youth (5.40%; χ^2=4.22, p<.05). While homeless gay and bisexual male youth were more likely to have engaged in survival sex (26.00%) than homeless lesbian, gay, and bisexual female youth (16.46%), the difference did not reach a level of significance (χ^2=1.73, *ns*). Given these findings, we re-ran Model 3 adding additional terms to enable us to test a three-way interaction between gender, sexual orientation, and having engaged in survival sex. The three-way interaction variable did not, however, reach a level of significance.

Discussion

The descriptive findings from this study reinforce existing literature as to the high rates of suicidality among homeless youth in general, and homeless sexual minority youth more specifically. We found over-representation of sexual minority youth, and youth with social service histories among this homeless youth population. These patterns have implications for focusing on the special needs of these subpopulations of homeless youth. The findings further suggest that factors associated with risk for suicidality may function quite differently for homeless sexual minority youth, than for homeless heterosexual youth.

The increase in risk for suicide attempts for those who had been in custody of social services for homeless heterosexual youth is in line with existing scholarship. Given that children are taken into child welfare custody primarily due to neglect or abuse by their parents or guardians (Scannapieco & Connell-Clark, 2005), this finding is also in line with studies linking experiences of violence and trauma to increased risk of suicidality. The lack of difference in risk for suicide attempts among sexual minority youth based on social service history is, however, perplexing. Given that it would be reasonable to expect (and the empirical literature suggests) that youth who experience familial neglect and abuse should be at significantly greater risk than those who do not, this finding raises a number of questions. It is possible that sexual minority youth are removed from their home for either a wider range or qualitatively different set of issues than most heterosexual youth who are removed. This difference may be undergirding the different patterns we found regarding social service custody and suicidality. Another possibility is that because the level of victimization that homeless sexual minority youth experience is so high, it is possible that the addition of familial abuse and neglect does little to impact the risk of suicidality for these youth. This explanation would suggest, however, that victimization at the hands of one's family members is not qualitatively different than victimization by non-family

members for these youth, an explanation that seems unfeasible given that it runs counter to most existing research (Scannapieco & Connell-Clark, 2005).

Another possibility is that the victimization of sexual minority youth is not resulting in removal from the home as it would if the youth were heterosexual, or that child welfare workers are not interpreting common experiences of sexual minority youth (parental rejection, for example) as dangerous, when it is, in fact, risky for the youth. This difference in pattern could also emerge because the abuse of sexual minority youth is not coming to the attention of child protective services, or because child protective service agencies are using different standards in protecting heterosexual youth than they are sexual minority youth. Finally, another possibility is that sexual minority youth are running away at younger ages because of familial abuse, and therefore, are at decreased likelihood of coming to the attention of social services. If this were the case, we would expect to find that sexual minority youth were younger, on average, in our sample than were heterosexual youth. T-test of the age difference between the two groups suggest that this is not the case (t=.7178, *ns*).

The second primary concern from the study's findings regards the differential impact of engaging in survival sex on suicidality. Why is it that engaging in survival sex has a significantly more negative impact in terms of risk for suicidality for homeless heterosexual youth, than for homeless sexual minority youth? Here too, a number of possible explanations exist. It is reasonable to expect that gendered patterns of engaging in survival sex might exist, whereby a higher percentage of homeless heterosexual youth engaging in survival sex are female, while a higher percentage of homeless sexual minority youth engaging in survival sex are male. However, post-hoc analyses suggest this is not the case among our sample. Given the link between previous sexual abuse and engaging in survival sex (Tyler, Hoyt & Whitbeck, 2001), it

could be that engaging in survival sex is actually a proxy for prior sexual abuse, particularly given that females experience rates of sexual abuse at significantly higher levels than do males (Scannapieco & Connell-Clark, 2005). Another possibility could be that homeless sexual minority youth have better learned to neutralize sexuality-related stigma because of having to cope with living in a heterosexist world. If so, it seems reasonable to suggest that engaging in survival sex -- while still potentially dangerous on both a physical and emotional level -- may have a differential negative impact on homeless gay, lesbian, and bisexual youth.

The findings from this study of homeless youth and young adults in eight U.S. cities suggest that factors typically associated with suicidality may function differently for different subpopulations among the homeless youth community. Knowledge of these differences may be particularly useful to practitioners as they work with this population or as they plan culturally sensitive and effective interventions. The findings also raise numerous questions for future research on the experiences of sexual minority youth in the child welfare system. While differential treatment in the child welfare system based on sexual orientation has been documented in previous literature, these findings expose troubling patterns with potentially harmful consequences for sexual minority youth. Finally, the risks associated with survival sex for homeless youth is again highlighted by our findings. While it is associated with increases in risks for both homeless sexual minority and heterosexual youth, the differences in the impact suggest a need to look closer at the impact of survival sex on this population.

References

Agerbo, E., Nordentoft, M., & Mortensen, P. (2002). Familial, psychiatric, and socioeconomic risk factors for suicide in young people: A nested case-control study. *British Medical Journal, 325*, 74-77.

Alcántara, C., & Gone, J. P. (2007). Reviewing suicide in Native American communities: Situating risk and protective factors within a transactional-ecological framework. *Death Studies, 31,* 457-477.

Armstrong, T., & Costello, E. (2002). Community studies on adolescent substance use, abuse, or dependence and psychiatric comorbidity. *Journal of Consulting and Clinical Psychology, 70,* 1224-1239.

Barnes, D. H., & Bell, C. C. (2003). Paradoxes of Black suicide. *The National Journal, 20,* 2-4.

Best, D., Manning, V., Gossop, M., Witton, J., Floyd, K., Rawaf, S., & Strang, J. (2004). Adolescent psychological health problems and delinquency among volatile substance users in a school sample in South London. *Drugs: Education, Prevention, & Policy, 11,* 473-482.

Birckmayer, J., & Hemenway, D. (1999). Minimum-age drinking laws and youth suicide. 1970-1990. *American Journal of Public Health, 89,* 1365-1368.

Bontempo, D. E., & D'Augelli, A. R. (2002). Effects of at-school victimization and sexual orientation on lesbian, gay, or bisexual youths' health risk behavior. *Journal of Adolescent Health, 30,* 364-374.

Booth, H. (1999). Pacific Island suicide in comparative perspective. *Journal of Biosocial Science, 31,* 433-448.

Borowsky, I., Ireland, M., & Resnik, M. (2001). Adolescent suicide attempts: Risks and protectors. *Pediatrics, 107,* 485-493.

Boudewyn, A. C., & Liem, J. H. (1995). Childhood sexual abuse as a precursor to depression and self-destructive behavior in adulthood. *Journal of Traumatic Stress, 8,* 445-459.

Callor, W. B., Petersen, E., Gray, D., Grey, T., Lamoreaux, T., & Bennett, P. J. (2005). Preliminary findings of noncompliance with psychotropic medication and prevalence of methamphetamine intoxication associated with suicide completion. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 26,* 78-84.

Cauce, A. M., Paradise, M., Ginzler, J. A., Embry, L., Morgan, C. J., & Lohr, Y. (2000). The characteristics and mental health of homeless adolescents: Age and gender differences. *Journal of Emotional and Behavioral Disorders, 8,* 230-239.

Centers for Disease Control and Prevention (CDC). (2005). Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. National Center for Injury Prevention and Control, CDC (producer). Retrieved from www.cdc.gov/ncipc/wisqars/default.htm, August 24, 2007.

CDC. (2006). *Health, United States, 2006.* Washington, D. C.: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for health Statistics.

CDC. (2007a). WISQARS [Online]. National Center for Injury Prevention and Control, CDC (producer). Retrieved from www.cdc.gov/ncipc/wisqars/default.htm, August 24, 2007.

CDC. (2007b). WISQARS [Online]. National Center for Injury Prevention and Control, CDC (producer). Retrieved from http://webappa.cdc.gov/sasweb/ncipc/mortrate.html, October 9, 2007.

CDC. (2007c). WISQARS [Online]. National Center for Injury Prevention and Control, CDC (producer). Retrieved from http://webappa.cdc.gov/sasweb/ncipc/nfirates2001.html, October 9, 2007.

Cherpitel, C. J., Borges, G. L., & Wilcox, H. C. (2004). Acute alcohol use and suicidal behavior: A review of the literature. *Alcoholism Clinical Exploratory Research, 28,* 18S-28S.

Child Welfare League of America (CWLA) & Lambda Legal. (2006). *Out of the margins: A report on regional listening forums highlighting the experiences of lesbian, gay, bisexual, transgender, and questioning youth in care.* Washington, DC: CWLA & Lambda Legal.

Cochran, B. N., Steward, A. J., Ginzler, J. A., & Cauce, A. M. (2002). Challenges faced by homeless sexual minorities: Comparison of gay, lesbian, bisexual and transgender homeless adolescents with their heterosexual counterparts. *Journal of Emotional and Behavioral Disorders, 8,* 230-239.

Cole, D. A. (1989). Psychopathology of adolescent suicide: Hopelessness, coping beliefs, and depression. *Journal of Abnormal Psychology, 98,* 248-255.

D'Augelli, A. R. (2002). Mental health problems among lesbian, gay, and bisexual youths ages 14 to 21. *Clinical Child Psychology and Psychiatry, 7,* 433-456.

D'Augelli, A. R., Grossman, A. H., Salter, N. P., Vasey, J. J., Starks, M.T., & Sinclair, K. O. (2005). Predicting the suicide attempts of lesbian, gay and bisexual youth. *Suicide and Life-Threatening Behavior, 35,* 646-660.

De Rosa, C. J., Montgomery, S. B., Hyde, J., Iverson, E., & Kipke, M. D. (2001). HIV risk behavior and HIV testing: A comparison of rates and associated factors among homeless and runaway adolescents in two cities. *AIDS Education and Prevention, 13,* 131-148.

Diego, A. T., Yamamoto, J., Nguyen, L. H., & Hifumi, S. S. (1994). Suicide in the elderly: Profiles of Asians and whites. *Asian American and Pacific Islander Journal of Health, 2,* 49-57.

Dietz, T. J., (1997). The impact of membership in a support group for gay, lesbian, and bisexual students. *Journal of College Student Psychotherapy, 12,* 57-72.

Eaton, D. K., Kann, L., Kinchen, S., Ross, J., Hawkins, J., Harris, W. A., Lowry, R., McManus, T., Chyen, D., Shanklin, S., Lim, C., Grunbaum, J. A., & Wechsler, H. (2006). Youth risk behavior surveillance -- United States, 2005. Atlanta, GA: *Morbidity and Mortality Weekly Report, 55,* 1-108.

Elze, D. (2002). Risk factors for internalizing and externalizing problems among gay, lesbian, and bisexual adolescents. *Social Work Research, 26,* 89-100.

Esposito, C., & Clum, G. (2002). Psychiatric symptoms and their relationship to suicidal ideation in a high-risk adolescent community sample. *Journal of the American Academy of Child and Adolescent Psychiatry, 41,* 44-51.

Farand, L., Chagnon, F., Renaud, J., & Rivard, M. (2004). Completed suicides among Quebec adolescents involved with juvenile justice and child welfare services. *Suicide and Life-Threatening Behavior, 34,* 24-35.

Feinstein, R., Greenblatt, A., Hass, L., Kohn, S., & Rana, J. (2001). *Justice for all? A report on lesbian, gay, bisexual and transgendered youth in the New York Juvenile Justice System.* New York: Urban Justice Center.

Friedman, J. M., Asnis, G. M., Boeck, M., & Difore, J. (1987). Prevalence of specific suicidal behaviors in a high school sample. *American Journal of Psychiatry, 144,* 1203-1206.

Galanis, D. (2006). *Overview of suicides in Hawai'i*. Honolulul, HI: Injury Prevention and Control Program, Hawai'i Department of Health.

Garland, A. F., Hough, R. L., McCabe, K. M., Yeh, M., Wood, P. A., Aarons, G. A. (2001). Prevalence of psychiatric disorders in youths across five sectors of care. *Journal of the American Academy of Child & Adolescent Psychiatry, 40,* 409-418.

Garland, A. F., & Zeigler, E. (1993). Adolescent suicide prevention: Current research and social policy implications. *American Psychology, 48,* 169-182.

Gibb, B. E., Alloy, L. B., Abramson, L. Y., Rose, D. T., Whitehouse, W. G., & Hogan, M. E. (2001). Childhood maltreatment and college students' current suicidal ideation: A test of the hopelessness theory. *Suicide and Life-Threatening Behavior, 31,* 405-415.

Goldston, D. B., Daniel, S.S., & Reboussin, B.A. (1998). Psychiatric diagnoses of previous suicide attempters, first-time attempters, and repeat attempters on an adolescent inpatient psychiatric unit. *Journal of the American Academy of Child & Adolescent Psychiatry, 37,* 924-932.

Gould, M. S., Greenberg, T., Velting, D. M., & Shaffer, D. (2003). Youth suicide risk and preventive interventions: A review of the past 10 years. *Journal of the American Academy of Child & Adolescent Psychiatry, 42,* 386-405.

Gould, M., King, R., Greenwals, S., Fisher, P., Schwab-Stone, M., Kramer, R., Flisher, A., Goodman, S., Canino, G., & Shaffer, D. (1998). Psychopathology associated with suicidal ideation and attempts among children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 37,* 915-923.

Greene, J. M., Ennett, S. T., & Ringwalt, C. L. (1999). Prevalence and correlates of survival sex among runaway and homeless youth. *American Journal of Public Health, 89,* 1406-1409.

Groholt, B., Ekeberg, O., & Haldorsen, T. (2006). Adolescent suicide attempters: What predicts future suicidal acts? *Suicide and Life-Threatening Behavoir, 36,* 638-635.

Grossman, A. H., & D'Augelli, A. (2006). Transgender youth: Invisible and vulnerable. *Journal of Homosexuality, 51,* 111-128.

Hershberger, S. L., Pilkington, N. W., & D'Augelli, A. R. (1997). Predictors of suicide attempts among gay, lesbian, and bisexual youth. *Journal of Adolescent Research, 12,* 477-497.

Hunter, J. (1990). Violence against lesbian and gay male youths. *Journal of Interpersonal Violence, 5,* 295-300.

Joe, S. (2006). Explaining changes in the patterns of black suicide in the United States from 1981 to 2002: An age, cohort, and period analysis. *Journal of Black Psychology, 32,* 262-284.

Joiner, T. E., Sachs-Ericsson, N. M., & Wingate, L. R. (2007). Childhood physical and sexual abuse and lifetime number of suicide attempts: A persistent and theoretically important relationship. *Behaviour Research and Therapy, 45,* 539-547.

Kelly, T., Cornelius, J., & Lynch, K. (2002). Psychiatric and substance use disorders as risk factors for attempted suicide among adolescents: A case control study. *Suicide and Life Threatening Behavior, 32,* 301-312.

Kelly, T., Lynch, K., Donovan, J., & Clark, D. (2001). Alcohol use disorders and risk factor interactions for adolescent suicidal ideation and attempts. *Suicide and Life Threatening Behavior, 31,* 181-193.

Kessler, R.C., Borges, G., & Walters, E. E. (1999). Prevalence of and risk factors for lifetime suicide attempts in the national comorbidity survey. *Archives of General Psychiatry, 56,* 616-626.

Kidd, S. A., & Kral, M. J. (2002). Suicide and prostitution among street youth: A qualitative analysis. *Adolescence, 37,* 411-430.

Krug, G. E., Dahlberg, L. L., Mercy, A. J., Zwi, A., & Lozano, R. (Eds.) (2002). *World report on violence and health.* Geneva: World Health Organization.

Kruks, G. (1991). Gay and lesbian homeless/street youth: Special issues and concerns. *Journal of Adolescent Health, 12,* 515-518.

Lambda Legal Defense and Education Fund (2001). *Youth in the margins: A report on the unmet needs of lesbian, gay, bisexual, and transgendered adolescents in foster care*. New York: Author.

Lankenau, S. E., Clatts, M. C., Welle, D., Goldsamt, L. A., & Gwadz, M. V. (2005). Street careers: Homelessness, drug use, and sex work among young men who have sex with men (YMSM). *International Journal of Drug Policy, 16,* 10-18.

Lenz-Rashid, S. (2006). Employment experiences of homeless young adults: Are they different for youth with a history of foster care? *Children and Youth Services Review, 28,* 235-259.

Leong, F. T., Leach, M. M., Yeh, C., & Chou, E. (2007). Suicide among Asian Americans: What do we know? What do we need to know? *Death Studies, 31,* 417-434.

Leslie, M. B., Stein, J. A., & Rotheram-Borus, M. J. (2002). Sex-specific predictors of suicidality among runaway youth. *Journal of Clinical Child and Adolescent Psychology, 31,* 27-40.

Lewinsohn, P. M., Rohde, P., Seeley, J. R., & Baldwin, C. L. (2001). Gender differences in suicide attempts from adolescence to young adulthood. *Journal of the American Academy of Child & Adolescent Psychiatry, 40,* 427-434.

Mallon, G. P. (1997). Toward a competent child welfare service delivery system for gay and lesbian adolescents and their families. *Journal of Multicultural Social Work, 5,* 3-4, 177-194.

McCaskill, P. A., Toro, P. A., & Wolfe, S. M. (1998). Homeless and matched housed adolescents: A comparative study of psychopathology. *Journal of Clinical Child Psychology, 27,* 306-319.

McDaniel, J. S., Purcell, D., & D'Augelli, A. R. (2001). The relationship between sexual orientation and risk for suicide: Research findings and future directions for research and prevention. *Suicide and Life-threatening Behavior, 31,* (Supplement), 84-105.

Molnar, B. E., Shade, S. B., Kral, A. H., Booth, R. E., & Watters, J. K. (1998). Suicidal behavior and sexual/physical abuse among street youth. *Child Abuse and Neglect, 22,* 213-222.

Mudrey, R., & Medina-Adams, A. (2006). Attitudes, perceptions, and knowledge of pre-service teachers regarding the educational isolation of sexual minority youth. *Journal of Homosexuality, 51,* 63-90.

Newman, P. A., Rhodes, F., & Weiss, R. E. (2004). Correlates of sex trading among drug-using men who have sex with men. *American Journal of Public Health, 94,* 1998-2003.

Noell, J. W., & Ochs, L. M. (2001). Relationship of sexual orientation to substance use, suicidal ideation, suicide attempts, and other factors in a population of homeless adolescents. *Journal of Adolescent Health, 29,* 31-36.

O'Donnell, L., O'Donnell, C., Wardlaw, D. M., & Stueve, A. (2004). Risk and resiliency factors influencing suicidality among urban African American and Latino youth. *American Journal of Community Psychology, 33,* 37-49.

Olson, L. M., & Wahab, S. (2006). American Indians and suicide: A neglected area of research. *Trauma, Violence, and Abuse, 7,* 19-33.

Pennbridge, J. N., Freese, T. E., & MacKenzie, R. G. (1992). High-risk behavior among male street youth in Hollywood, California. *AIDS Education and Prevention, 4,* 24-33.

Peters, A. J. (2003). Isolation or inclusion: Creating safe spaces for lesbian and gay youth. *Families in Society, 84,* 331-337.

Price, J. H., Dake, J. A., & Kucharewski, R. (2001). Assets as predictors of suicide attempts in African American inner-city youths. *American Journal of Health Behavior, 25,* 367-375.

Proctor, C. D., & Groze, V. K. (1994). Risk factors for suicide among gay, lesbian and bisexual youths. *Social Work, 39,* 504-513.

Randell, B. P., Wang, W., Herting, J. R., & Eggert, L. L. (2006). Family risk factors predicting categories of suicide risk. *Journal of Child and Family Studies, 15*, 255-270.

Rashid, S. (2004). Employment experiences of homeless young adults: Are they different for youth with a history of foster care? Unpublished dissertation. University of Berkeley. *Dissertation Abstracts International, 65,* 699.

Remafedi, G., Farrow, J., & Deisher, R. (1991). Risk factors for attempted suicide in gay and bisexual youth. *Pediatrics, 87,* 869-875.

Remafedi, G., French, S., Story, M., Resnick, M., & Blum, B. (1998). The relationship between suicide risk and sexual orientation: Results of a population-based study. *American Journal of Public Health, 88,* 57-60.

Robertson, M. J. (1989). *Homeless Youth in Hollywood: Patterns of Alcohol Use.* Berkeley, CA: Alcohol Research Group.

Robertson, M. J., Koegel, P., Mundy, P., Greenblatt, M., & Robertson, J. (1988, November). Mental health status of homeless adolescents in Hollywood. Paper presented at the meeting of the American Public Health Association, Boston, MA.

Rohde, P., Lewinsohn, P., & Seeley, J. R. (1991). Comorbidity of unipolar depression: Comorbidity with other mental disorders in adolescence and adults. *Journal of Abnormal Psychology, 100,* 214-222.

Rohde, P., Noell, J., Ochs, L., & Seeley, J. R. (2001). Depression, suicidal ideation and STD-related risk in homeless older adolescents. *Journal of Adolescence, 24,* 447-460.

Russell, S. T. (2003). Sexual minority youth and suicide risk. *American Behavioral Scientist, 46,* 1241-1257.

Russell, S. T., & Joyner, K. (2001). Adolescent sexual orientation and suicide risk: Evidence from a national study. *American Journal of Public Health, 91,* 1276-1281.

Ryan, C., & Rivers, I. (2003). Lesbian, gay, and bisexual and transgender youth: Victimization and its correlates in the U.S.A. and U.K. *Culture, Health, & Sexuality, 5,* 103-119.

Saewyc , E. M., Skay, C. L., Pettingell, S. L., Reis, E. A., Bearinger, M.R., Murphy, A., & Combs, L. (2006). Hazards of Stigma: The sexual and physical abuse of gay, lesbian and bisexual adolescents in the United States and Canada. *Child Welfare: Special Issue LGBTQ Youth in Child Welfare, 85,* 195-214.

Savin-Williams, R. C. (1994). Verbal and physical abuse as stressors in the lives of lesbian, gay male, and bisexual youths: Associations with school problems, running away, substance use, prostitution, and suicide. *Journal of Consulting and Clinical Psychology, 62,* 261 - 269.

Scannapieco, M. & Connell-Carrick, K. (2005). *Understanding child maltreatment: An ecological and developmental perspective.* New York: Oxford.

Shaffer, D. (1988). The epidemiology of teen suicide: An examination of risk factors. *Journal of Clinical Psychiatry, 49,* 36-41.

Shaffer, D., Garland, A., Gould, M., Fisher, P., & Trautman, P. (1988). Preventing teenage suicide: A critical review. *Journal of the American Academy of Child and Adolescent Psychiatry, 27,* 675-687.

Shaffer, D., Gould, M., Fisher, P., Trautman, P., Moreau, D., Kleinman, M., & Flory, M. (1996). Psychiatric diagnosis in child and adolescent suicide. *Archives of General Psychiatry, 53,* 339-348.

Sorenson, S. B., & Rutter, C. M. (1991). Transgenerational patterns of suicide attempt. *Journal of Consulting and Clinical Psychology, 59,* 861-866.

Spirito, A. & Esposito-Smythers, C. (2006). Attempted and completed suicide in adolescence. *Annual Review of Clinical Psychology, 2,* 237-266.

Spirito, A., Valeri, S., Boergers, J., & Donaldson, D. (2003). Predictors of continued suicidal behavior in adolescents following a suicide attempt. *Journal of Clinical Child and Adolescent Psychology, 32,* 284-289.

Stewart, S. E., Manion, I. G., Davidson, S, & Cloutier, P. (2001). Suicidal children and adolescents with first emergency room presentations: Predictors of six-month outcome. *Journal of the American Academy of Child and Adolescent Psychiatry, 40,* 580-587.

Stiffman, A. R. (1989). Suicide attempts in runaway youths. *Suicide and Life-threatening Behavior, 19,* 147-159.

Swahn, M. H. & Potter, L. B. (2001). Factors associated with the medical severity of suicide attempts in youths and young adults. *Suicide and Life-Threatening Behavior, 32*, (Supplement), 21-29.

Tyler, K. A., Hoyt, D. R., & Whitbeck, L. B. (2001). The impact of childhood sexual abuse on later sexual victimization among runaway youth. Journal of Research on Adolescents, 11(2), 151-156.

Ungemack, J. A., & Guarnaccia, P. J. (1998). Suicidal ideation and suicide attempts among Mexican Americans, Puerto Ricans and Cuban Americans. *Transcultural Psychiatry, 35,* 307-327.

Van Leeuwen, J. M., Boyle, S., Salomonsen-Sautel, S., Baker, D. N., Garcia, J. T., Hoffman, A., & Hopfer, C. J. (2006). Lesbian, gay, and bisexual homeless youth: An eight-city public health perspective. *Child Welfare Journal, 85,* 151-170.

Van Leeuwen, J., Hopfer, C., Hooks, S., White, R., Petersen, J., & Pirkopf, J. (2004). A snapshot of substance abuse among homeless and runaway youth in Denver, Colorado. *Journal of Community Health, 29,* 217-229.

Van Leeuwen, J., Boyle, S., & Yancy, A. (2004). *Urban Peak Public Health Survey Report 2004: A Multi-city Collaborative.* Denver, CO: Urban Peak Development and Public Affairs. Retrieved from http://urbanpeak.civicore.com/Admin/Resources/ Resources/ 68.doc, September 22, 2007.

Vinnerljung, B., Hjern, A., & Lindblad, F. (2006). Suicide attempts and severe psychiatric morbidity among former child welfare clients -- a national cohort study. *Journal of Child Psychology and Psychiatry, 47,* 723-733.

Waldo, C. R., Hesson-McInnis, M., & D'Augelli, A. R. (1998). Antecedents and consequences of victimization of lesbian, gay, and bisexual young people: A structural model comparing rural university and urban samples. *American Journal of Community Psychology, 26,* 307-334.

Walls, N. E., Freedenthal, S., & Wisneski, H. (in press). Suicidal ideation and attempts among sexual minority youth receiving social services. *Social Work.*

Walls, N. E., Hancock, P., & Wisneski, H. (2007). Differentiating the social service needs of homeless and non-homeless sexual minority youth. *Journal of Children and Poverty, 13,* 177-205.

Walls, N. E., Kane, S. B., & Wisnesk, H. (2007). *Gay-straight alliances and school experiences of sexual minority youth.* Manuscript submitted for publication. Retrieved from https://portfolio.du.edu/pc/port.detail?id=85539, August 26, 2007.

Wannan, G., & Fombonne, E. (1998). Gender differences in rates and correlates of suicidal behavior amongst child psychiatric outpatients. *Journal of Adolescence, 21,* 371-381.

Whitbeck, L. B., Chen, X. J., Hoyt, D. R., Tyler, K. A., & Johnson, K. D. (2004). Mental disorder, subsistence strategies, and victimization among gay, lesbian, and bisexual homeless and runaway adolescents. *Journal of Sex Research, 41,* 329-342.

Whitbeck, L. B., Hoyt, D. R., Yoder, K., Cauce, A. M., & Paradise, M. (2001). Deviant behavior and victimization among homeless and runaway adolescents. *Journal of Interpersonal Violence, 16,* 1175-1203.

Wilbur, S., Ryan, C., & Marksamer, J. (2006). *CWLA best practice guidelines: Serving LGBT youth in out-of-home care.* Washington, DC: CWLA.

Wilcox, H. C., & Anthony, J. C. (2004). The development of suicide ideation and attempts: An epidemiologic study of first graders followed into young adulthood. *Drug and Alcohol Dependence, 76,* S53-S67.

Wilcox, H. C., Conner, K. R., & Caine, E. D. (2004). Association of alcohol and drug use disorders and completed suicide: An empirical review of cohort studies. *Drug and Alcohol Dependence, 76S,* S11-S19.

Wissow, L. S. (2000). Suicide attempts among American Indian and Alaskan Natives. In E. R. Rhoades (Ed.), *American Indian Health* (pp. 260-280). Baltimore, MD: The John Hopkins University Press.

Yates, G. L., MacKenzie, R. G., Pennbridge, J., & Swofford, A. (1991). A risk profile comparison of homeless youth involved in prostitution and homeless youth not involved. *Journal of Adolescent Health, 12,* 545-548.

Yoder, K. A., Hoyt, D. R., & Whitbeck, L. B. (1998). Suicidal behavior among homeless and runaway adolescents. *Journal of Youth and Adolescence, 27,* 753-771.

Yuen, N. Y. C., Nahulu, L. B., Hishinuma, E. S., & Miyamoto, R. H. (2000). Cultural identification and attempted suicides in native Hawaiian adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 38,* 360-367.

Table 1: Demographic Characteristics of Sample

Variable	*N*	%
City		
Austin	70	11.15
Boulder	19	3.03
Chicago	99	15.76
Colorado Springs	24	3.82
Denver	199	31.69
Minneapolis	97	15.45
Salt Lake City	34	5.41
St. Louis	86	13.69
Gender		
Female	257	40.92
Male	365	58.12
Transgender	6	0.96
Race/ethnicity		
Anglo/white	230	36.62
African American	220	35.03
Latino/a	66	10.51
bi-/multi-racial	41	6.53
Native American	35	5.57
Asian/Pacific Islander	8	1.27
Sexual Orientation		
Gay, lesbian, or bisexual	129	20.54
Heterosexual	499	79.46

Table 2: Psychosocial Characteristics of Sample

Variable		*n*	%
Suicide attempt			
	Yes	218	34.71
	No	410	65.29
Mental health hospitalization			
	Yes	17	2.71
	No	611	97.29
Intravenous drug use			
	Yes	92	14.65
	No	536	85.35
Survival sex			
	Yes	62	9.87
	No	566	90.13
Custody of social services			
	Yes	211	33.60
	No	417	66.40

Table 3: Logistic Regression of Suicide Attempts on Demographics, Control Variables, First Order and Interaction Variables

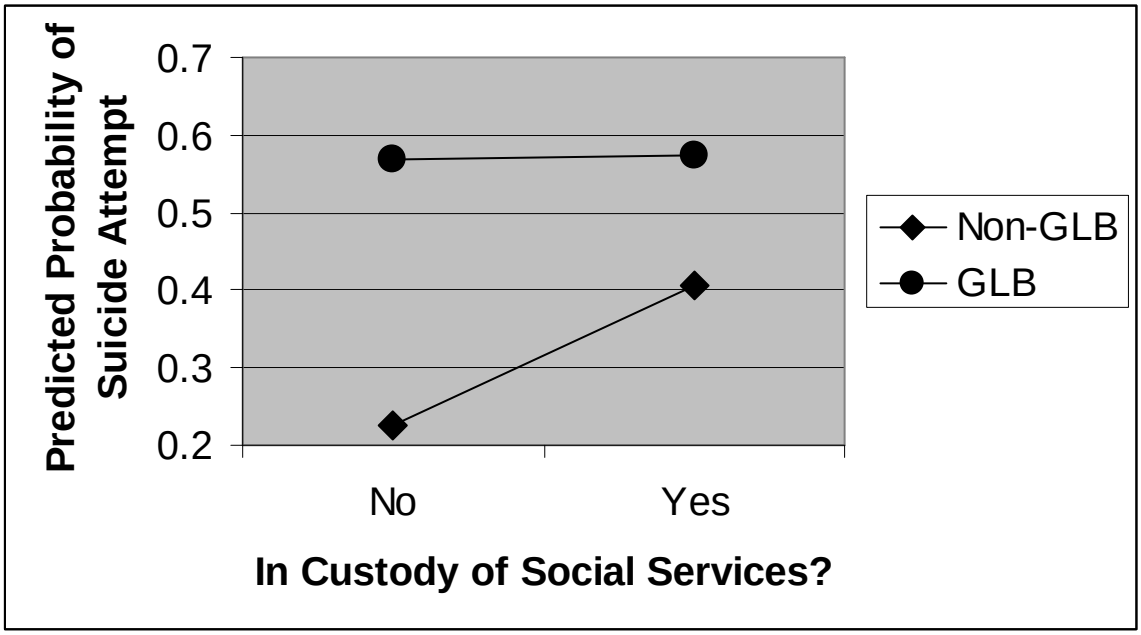
	Model 1	Model 2	Model 3
Male	.505	.634	.649
	(.1714)*	(.2504)	(.2609)
Native American	1.145	1.077	1.150
	(.4726)	(.4754)	(.4714)
African American	.626	.656	.645
	(.1835)	(.1772)	(.1774)
Asian/Pacific Islander	.876	1.304	1.343
	(.7411)	(1.2728)	(1.4342)
Latino/a/Hispanic	.856	.973	.976
	(.1904)	(.1964)	(.2005)
Bi-/multi-racial	.753	.587	.579
	(.3145)	(.2250)	(.2214)
Age, 15-19	5.234***	4.939**	5.431***
	(2.4166)	(2.5046)	(2.6695)
Age, 20-25	4.818**	4.849**	5.465**
	(2.4783)	(2.7540)	(3.0234)
Mental health hospitalization	30.871***	31.810***	35.016***
	(29.4456)	(28.4717)	(31.1297)
Intravenous drug use	2.492**	1.988*	2.197*
	(.7394)	(.5499)	(.6928)
Gay, lesbian, or bisexual		2.794***	4.509***
		(.5970)	(1.6078)
Social services custody		1.882***	2.332***
		(.3577)	(.4545)
Survival sex		2.948***	4.556***
		(.9033)	(1.5085)
GLB X social services custody			.437*
			(.1490)
GLB X survival sex			.282**
			(.1140)
N	628	628	628

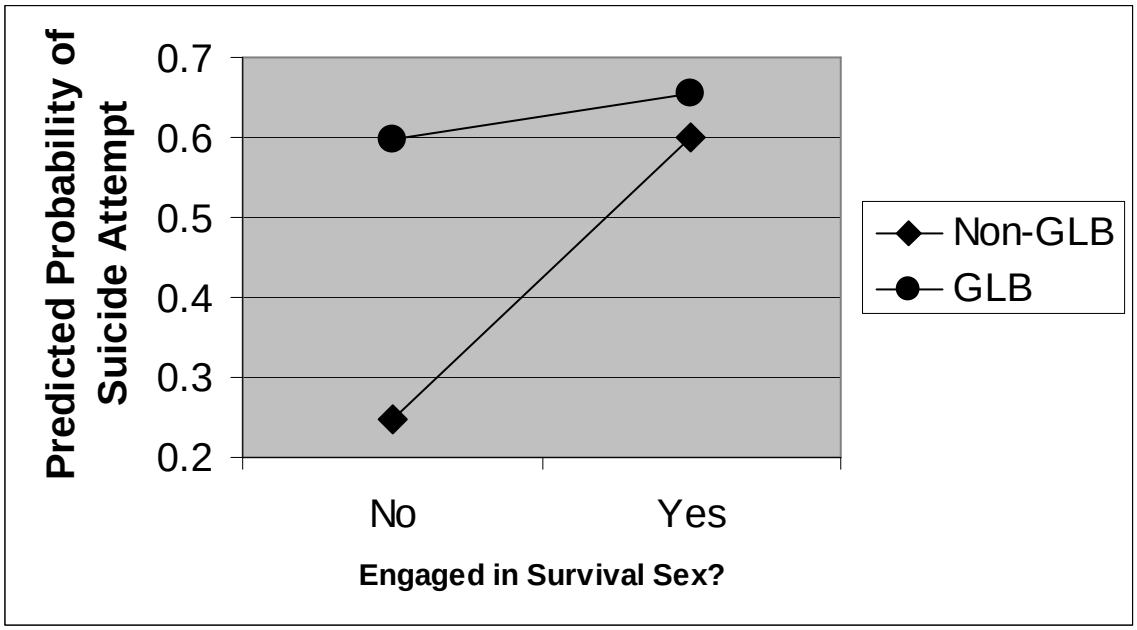
Note. ***$p<.001$, **$p<.01$, *$p<.05$. Robust standard errors of odds ratios in parentheses.

Figure Captions

Figure 1. Interaction effect between sexual orientation and having been in social services custody.

Figure 2. Interaction effect between sexual orientation and engaging in survival sex on suicide attempts.


Predicted Probability of Suicide Attempt
0.7
0.6
0.5
0.4
0.3
0.2
No
Yes
In Custody of Social Services?
Non-GLB
GLB


Predicted Probability of Suicide Attempt
0.7
0.6
0.5
0.4
0.3
0.2
No
Yes
Engaged in Survival Sex?
Non-GLB
GLB