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Psychological Distress Among Orphaned Youth and Youth Reporting Sexual Exploitation in Kampala, Uganda

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By

Elizabeth Wattles Perry

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Abstract

Psychological distress is an increasingly recognized public health priority in low-income countries due to its long-term physical, social, and economic impact. The purpose of this study was to compute the prevalence of self-reported psychological distress among youth living in the slums of Kampala, Uganda and examine how orphan status and self-reported experiences of commercial sexual exploitation (CSE) are related to psychological distress. Data were derived from a cross-sectional survey which consisted of a convenience sample of service-seeking youth (*N* = 1134) living in the slums or on the streets of Kampala, Uganda. Bivariate and multivariable multinomial regression analyses were used to determine associations between orphan status, self-reported experiences of sexual exploitation, and psychological distress defined as experiencing hopelessness only, worry only, and worry/hopelessness co-occurrence. Among youth participants, 83.2% (*n* = 937) reported at least 1 type of psychological distress; 51.3% (*n* = 578) reported experiencing both types. The reported prevalence of any type of psychological distress was much higher among single double orphans (90.0%), single orphans (83.8%), and youth who reported experiencing sexual exploitation (91.2%). Experiencing both types was associated with being a double orphan (adjusted odds ratio (AOR) = 2.92, 95% confidence interval (95% CI) = 1.77, 4.81), reporting CSE (AOR = 2.71, 95% CI = 1.67, 4.41), and increased age (AOR = 1.31, 95% CI = 1.20, 1.44). Psychological distress is prevalent among youth living in the slums of Kampala and is associated with orphan status and experiencing CSE independently. These findings underscore the urgent need to intervene with youth who have lost both parents and to prevent CSE among this vulnerable, underserved population.

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B.S., Kennesaw State University

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Author's Statement Page

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1.0 Introduction

1.1 Background

African countries are home to some of the youngest populations in the world. Children ages 0 to 14 make up between 35.82% to 50% of the population in sub Saharan Africa, compared to less than 19% in high-income countries (The World Bank, 2019b). The UN estimates that by 2055 Africa's youth aged 15-25 years is expected to more than double (United Nations Office of the Special Advisor on Africa, 2015). Uganda has one of the highest population growth rates (3.34%) and is home to one of the youngest populations in the world with 48.21% of the population between the ages of 0 and 14 years old (Central Intelligence Agency, 2020; The World Bank, 2019a).

According to UNICEF and the Uganda Bureau of Statistics, 23% of Ugandan children live below the poverty line. This measure, however, only takes into account monetary poverty; and thus, does not provide an accurate depiction of deprivation (UNICEF & Uganda Bureau of Statistics, 2019). A more holistic indicator of poverty is multidimensional depravation, which captures both material and social needs necessary to achieve an adequate standard of living. Multidimensional poverty or deprivation takes into account health care, education, social and family life, clean and safe drinking water, proper sanitation, housing that is not squalid or overcrowded, adequate clothing, and regular meals with sufficient nutrient intake (UNICEF & Uganda Bureau of Statistics, 2019). According to UNICEF, a child is considered to experience multidimensional depravation if they live in households with insufficient financial resources and are deprived of six or more indicators necessary to achieve an adequate standard of living. Per this definition, 56% of children in Uganda experience multidimensional deprivations and a low

standard of living (UNICEF & Uganda Bureau of Statistics, 2019). In Kampala, the capital of Uganda, five times more children are living in multidimensional poverty than monetary poverty.

People living in urban slums, areas with limited infrastructure, are at a greater risk for experiencing multidimensional deprivation. More than 60% of urban residents in Kampala live in slum areas (World Bank Group, 2015). Youth living in slum areas are more likely to experience conflicts, violence, forced labor, trafficking, negative health outcomes, and psychological distress (Blum, 2007; Culbreth, Swahn, Ndetei, Ametewee, & Kasirye, 2018; Kieling et al., 2011; Self-Brown et al., 2018; M. Swahn, Dill, Palmier, & Kasirye, 2015; M. H. Swahn, Culbreth, Salazar, Kasirye, & Seeley, 2016).

1.2 Psychological Distress

In 2012, the World Health Organization estimated that 7.4% of global disability adjusted life years, or one lost year of "healthy" life are caused by mental and behavioral disorders (Murray & et al, 2012). The importance of psychological distress has become increasingly recognized in low-income countries, including Uganda, due to its long-term physical, social, and economic impacts. By 2030, experts estimate that depression will be the third leading cause of disease burden in low-income countries (LICs) (Mathers & Loncar, 2006). Psychological distress is the state of emotional pain that includes a combination of depressive symptoms (e.g. lost interest, hopelessness) and anxiety (e.g. worry, feeling tense) (Ohayashi & Yamada, 2012). In low-income countries, monetary and multidimensional poverty, limited human development capacity, and country age structures contribute to poor mental health outcomes along children and youth, including psychological distress (Atilola, 2017). For example, in one study, people

experiencing monetary poverty experienced rates of high psychological distress that were 50% higher than people living above the income threshold (Caron & Liu, 2010).

The current prevalence estimates of adolescent psychological distress in sub-Saharan Africa suggest that 14.3% of children and youth experience mental health symptomatology (Cortina, Sodha, Fazel, & Ramchandani, 2012). Findings from the nationally representative Uganda Violence Against Children Survey suggest that youth ages 13-17 years who reported experiencing sexual violence in the past 12 months reported experiencing significantly higher rates of mental distress (48.9% of girls and 53.9% of boys) than youth who did not experience this type of violence (MGLSD, 2015). Ugandan youth who reported experiencing emotional violence in the last 12 months reported experiencing significantly higher rates of mental distress (51.3% of girls and 49.5% of boys) than youth who did not experience this type of violence (MGLSD, 2015). Additionally, 48.9% of girls and 48.5% of boys who experienced physical abuse in the last 12 months reported experiencing any type of mental distress, but there was no significant difference in rates of mental distress between those with and without a history of physical abuse (MGLSD, 2015).

Youth who experience psychological distress in adolescence are at an increased risk of major depression, anxiety disorders, nicotine dependence, alcohol abuse or dependence, suicidal attempt, and other emotional, behavioral, and psychiatric problems later in life (Fergusson & Woodward, 2002; Mathers & Loncar, 2006; Silins et al., 2018). Female and male gendered youth that develop depression in adolescence are also at an increased risk for educational underachievement, unemployment, and early parenthood (Fergusson & Woodward, 2002; Hale, Bevilacqua, & Viner, 2015). Despite progress in understanding,

identifying, and treating psychological distress among adolescents, it is an inadequately addressed public health problem in low-income countries (Patel, Flisher, Nikapota, & Malhotra, 2008; Yatham, Sivathasan, Yoon, da Silva, & Ravindran, 2018).

The Social Ecological Model and Psychological Distress

Psychological distress is associated with risk factors that can be can be categorized by community, relational, and individual-level factors of the Social Ecological Model (Atilola, 2017; Cortina et al., 2012).

Community Level

Community and neighborhood factors and stressors may impact youth psychological distress. At the community level, uncontrollable stressors (Landis et al., 2007) such as lacking financial resources (Hinton, Nickerson, & Bryant, 2011), are associated with psychological distress among adolescents. Research suggests that the lack of or underenforcement of child protection laws (Atilola, 2017), community violence (Lambert, Nylund-Gibson, Copeland-Linder, & Ialongo, 2010; Paxton, Robinson, Shah, & Schoeny, 2004), and discrimination (Stirling, Toumbourou, & Rowland, 2015) are associated with increased child and youth psychological distress **.** Research on child and youth perceptions of neighborhood disorder and disadvantage, such as a low sense of community, neighborhood strain, and neighborhood poverty, has linked these factors with youth psychological distress (Aneshensel & Sucoff, 1996; Hadley-Ives, Stiffman, Elze, Johnson, & Dore, 2000; Kemp, Langer, & Tompson, 2016; O'Brien Caughy, Nettles, & O'Campo, 2007; O'Brien Caughy, O'Campo, & Muntaner, 2003; Xue, Leventhal, Brooks-Gunn, & Earls, 2005)**.**

Relational Level

Family and peer social networks play an integral role in child and youth development. Findings from Kemp and colleagues (2017) suggests that maternal functioning fully explained the relationship between neighborhood strain and child psychological distress, suggesting that some relational-level factors may serve as a protective factor for youth psychological distress. On the other hand, disturbed family environment (Blanco et al., 2014), stressful life events (i.e. with family/parents, romantic relationships, or friends and social activities) (Young & Dietrich, 2015) are associated with youth increases in worry (Hinton et al., 2011).

Individual Level

There are several individual-level factors that may contribute to psychological distress. It is well established that females are more likely than males to experience psychological distress and internalizing problems (Aptekar & Ciano-Federoff, 1999; Caron et al., 2012; Kessler et al., 2005; Needham & Hill, 2010; Rosenfield, Vertefuille, & Mcalpine, 2000). Age is also linked with psychological distress. Caron and colleagues (2012) found that participants between the ages of 15-24 had the highest rate of psychological distress, while persons in the 55 and older groups had the lowest rate. These findings were consistent with previous literature (Bijl, Ravelli, & van Zessen, 1998; Centers for Disease Control and Prevention, 2004; Jorm et al., 2005; McDonough & Strohschein, 2003). Factors related to physical health, including having a chronic illness, HIV/AIDS, or STIs can increase the risk of psychological distress (Arseniou, Arvaniti, & Samakouri, 2014; Berger-Greenstein et al., 2007; Do et al., 2014; Gibbie et al., 2006; Hidaka et al., 2008; Hysing, Elgen, Gillberg, Lie, & Lundervold, 2007; M. H. Swahn, Palmier, Kasirye, & Yao, 2012).

A history of abuse and exploitation has been linked with adolescent psychological distress. Violence victimization including child sexual abuse (Blanco et al., 2014; Brown, Cohen, Johnson, & Smailes, 1999)**,** rape, and physical violence is associated with psychological distress and hopelessness among adolescents (Howard & Wang, 2005; James, Reddy, Ellahebokus, Sewpaul, & Naidoo, 2017). Among Ugandan street and slum youth, violence victimizations such as rape and physical violence were associated with psychological distress and suicide ideation (Culbreth et al., 2018; M. H. Swahn, Palmier, et al., 2012). Two other individual-level factors that prior research has linked to psychological distress among youth are orphan status and commercial sexual exploitation.

Orphan Status

UNICEF and global organizations define orphan as a child under the age of 18 who has lost one or both parents to any cause of death. A single orphan is a child who has lost one parent and a double orphan is a child who has lost both parents. One of the main causes of the orphan crisis in recent history was HIV and AIDS related deaths (UNAIDS, UNICEF, & USAID, 2004). New HIV/AIDS infections and deaths have been on the decline in recent decades due to advances in science, however, orphan hood continues to significantly impact the young population in sub Saharan Africa where access to prevention, treatment, and support services are limited (UNAIDS, 2013). Despite improvements related to HIV/AIDS, in 2015 an estimated 52 million children in Africa had lost one or both parents to any cause of death (UNICEF, 2017). Other causes of orphan status include violence, other illnesses, and road traffic accidents (Swahn, Culbreth, Staton, & Kasirye, 2017).

A nationally representative survey of Ugandan children and youth found that one in five girls and boys were a single or double orphans (MGLSD, 2015). Orphan status makes children and youth more vulnerable to experiencing a range of adversities, impacting physical and emotional health and schooling (Goldberg & Short, 2016). Cumulative effects of these adverse childhood events have a lifelong negative impact on wellbeing and mental health (Chapman et al., 2004; Dube et al., 2001). Orphans in sub-Saharan Africa are at a higher risk for experiencing psychological distress including anxiety, depression, anger (Atwine, Cantor-Graae, & Bajunirwe, 2005), peer relationship problems, posttraumatic stress, delinquency, conduct problems, and suicidal ideation than non-orphans (Cluver, Gardner, & Operario, 2007).

Commercial sexual exploitation of children (CSEC)

Commercial sexual exploitation (CSE) of children is a global human rights and public health problem. U.S. law defines CSEC as the recruitment, harboring, transportation provision, obtaining, patronizing, or soliciting a person for the purposes of a commercial sex act induced by force, fraud, or coercion, or in which the person induced to perform such an act has not yet attained 18 years of age (Trafficking Victims Protection Reauthorization Act, 2013). Transactional sex, the exchange of sexual acts for the purposes of economic survival, involving children under the age of 18 is considered to be exploitative in nature and is classified as exploitation according to the Convention on the Rights of the Child and previous literature (Office of the High Commissioner UN Human Rights, 1989; Self-Brown et al., 2018; Williams, Binagwaho, & Betancourt, 2012).

Due to the illegal nature of the crime, barriers to reporting, and a lack of consistent data collection measures, the global prevalence of trafficking is difficult to quantify (Salisbury,

Dabney, & Russell, 2015); thus, current prevalence estimates are likely underestimated (International Labor Organization & Walk Free Foundation, 2017). Current global estimates suggest that 4.9 million people were victims of CSE in 2016, and of these, more than 1 million (21%) were children under 18 years of age (International Labor Organization & Walk Free Foundation, 2017). Youth in both rural and urban communities experience commercial sexual exploitation (Cole & Sprang, 2014).

In countries that experience high levels of multidimensional poverty, like Uganda, children and youth are at a high risk of experiencing sexual exploitation. The self-reported prevalence of CSEC is high among youth living in the slums of Kampala (Self-Brown et al., 2018; Swahn et al., 2016). There are numerous factors that may make children and youth more vulnerable to sexual exploitation including a history of physical and sexual abuse, including rape or dating violence (Roe-Sepowitz, 2012; Self-Brown et al., 2018; Varma, Gillespie, McCracken, & Greenbaum, 2015), and neglect (Curtis, Terry, Dank, Dombrowski, & Khan, 2008; Roe-Sepowitz, 2012). Other adverse experiences associated with CSEC include being female, living on the streets, and being a double orphan (Self-Brown et al., 2018; Swahn et al., 2016). CSEC is also associated with engaging in high-risk behaviors such as alcohol and substance use (Swahn et al., 2016). These risk factors and risk behaviors for CSEC, in addition to CSEC experiences, lead to CSEC youth experiencing, on average, a higher number of trauma exposures than non-CSEC youth (Briggs et al., 2013; Cole, Sprang, Lee, & Cohen, 2016). Because of this, CSEC youth are at an increased risk for psychological distress including posttraumatic stress symptomatology, complex trauma, suicidality, anxiety and depression (Cole et al., 2016; Farley, Baral, Kiremire, & Sezgin, 1998; Gibbs Van Brunschot & Brannigan, 2002; Tsutsumi, Izutsu, Poudyal, Kato, &

Marui, 2008). Research suggests that the effects of CSEC and associated adverse experiences may have a particularly unique effect on youth trauma symptoms and psychological distress (Cole et al., 2016).

Orphan Status and CSEC

Orphan status and CSEC are individual factors that can work in combination, are associated with each other, and impact psychological distress. For example, the associations between orphan status and high-risk sexual behavior such as early sexual debut, commercial sexual exploitation, and transactional sex have been well documented in the literature (Cluver, Orkin, Boyes, Gardner, & Meinck, 2011; Operario, Underhill, Chuong, & Cluver, 2011; Palermo & Peterman, 2009; Ranganathan et al., 2016). Furthermore, 34 of 52 sexually exploited, war-affected Congolese girls reported that the most traumatic life events they had experienced were parental abandonment, parental death, and sexual exploitation (O'Callaghan, McMullen, Shannon, Rafferty, & Black, 2013). To our knowledge, no study has explored the effect of orphan status and CSEC on psychological distress among urban street and slum youth in Kampala, Uganda.

1.3 Purpose of Current Study

Single and double orphan hood is common in sub-Saharan Africa. While there is significant literature on psychological distress and mental illness among orphans in sub-Saharan Africa, the current study explores the effect of orphan status among an especially vulnerable youth population. Furthermore, there is significant literature on the impact of CSEC on psychological distress in high-income countries, however, there is limited research on the impact of CSEC on psychological distress among urban street and slum youth in Uganda. This

study builds on the groundbreaking work by Swahn and colleagues (2016, 2017) and Self-Brown and colleagues (2018), who analyzed the only population-based study of its size involving slum and street youth in urban Uganda. Two factors that have not been examined thoroughly in this population in prior research is how orphan status and CSEC victimization might be independently related to psychological distress, and how these factors might interact. The purpose of this study was (1) to compute the prevalence of self-reported psychological distress among youth living in the slums of Kampala, Uganda and (2) investigate how orphan status and CSE experiences are related to psychological distress. Two hypotheses were posited:

Hypothesis 1: Orphan status would increase risk of psychological distress with youth with no parents being at a greater risk.

Hypothesis 2: Youth reporting a CSEC history would be at an increased risk of reporting psychological distress.

2.0 Method

2.1 Setting

Data were derived from the "2014 Kampala Youth Survey," a cross-sectional survey conducted in March and April of 2014 among urban service-seeking youth (*n* = 1134) ages 12-18 living in the slums or on the streets of Kampala, Uganda. Survey methodology has been well-described in previous literature (Culbreth et al., 2018; Self-Brown et al., 2018; Swahn et al., 2015; Swahn et al., 2016). The primary purpose of the 2014 Kampala Youth Survey was to quantify and understand youth alcohol use and other high-risk behaviors and exposures, including sexual risk behaviors and HIV among youth seeking services at Uganda Youth Development Link drop-in centers (UYDEL, n.d.).

Uganda Youth Development Link is an internationally funded nongovernmental organization that provides medical services, psychosocial services, and vocational skills training to high-risk youth in Uganda. UYDEL conducts outreach programs across nine districts in Uganda and has drop-in centers throughout Kampala (UYDEL, n.d.). Study recruitment occurred primarily via word of mouth at six UYDEL drop-in centers and surrounding neighborhoods across Kampala.

2.2 Recruitment and Data Collection

A convenience sample of youth (*N* = 1628) was approached to participate in the survey during the data collection period (March 19 to April 2). Of these youth, 131 declined to participate; the participation rate was 92%. Of the 1497 surveys collected, (including 43 pilot surveys), 320 were discarded due to technical issues with the online server. The final analytic sample (*n* = 1134) consisted of completed surveys from youth between 12 and 18 years of age (56% girls, 44% boys).

UYDEL Social workers and peer educators with previous experience working with youth at the drop-in centers were trained on the study methodology and survey questions. Trained UYDEL staff recruited potential participants at their specific drop-in center and administered the survey during face-to-face interviews using Google Nexus 7 tablets to simplify survey administration and data collection. The survey was translated into Luganda, a widely spoken local language in Uganda, by a certified Luganda instructor and was back-translated for accuracy. If necessary, the survey was read to participants in Luganda. According to Uganda law, youth are considered emancipated if they "cater for their own livelihood" and therefore, could give consent for themselves without parental consent. Youth who were willing to

participate in the survey read or were read the consent form and provided verbal consent to participate in the study. The inclusion criteria for this study included youth between the ages of 12 and 18 who were present on the day of the field visit; there were no exclusion criteria. The youth were given a small snack for participating in the study. Institutional Review Board (IRB) approvals were obtained from Georgia State University and the Uganda National Council for Science and Technology to conduct this study in Kampala.

The 2014 Kampala Youth Survey was created using measures from previously validated survey instruments to assess alcohol use, violence perpetration, violence victimization, the prevalence of alcohol marketing, sexual behaviors, and mental health. Survey participants were asked about their attitudes and beliefs about sex and alcohol, knowledge of HIV/STIs, and demographic information. Survey items were adapted from instruments including the U.S.-based Youth Risk Behavior Survey (Eaton et al., 2012), Global School-based Student Health Survey (GSHS) (World Health Organization, 2013), Kampala Youth Survey 2011 (Swahn, Gressard, et al., 2012; Swahn, Palmier, et al., 2012), Monitoring Alcohol Marketing Practices in Africa (MAMPA) 2012 questionnaire (de Bruijn, 2011), Alcohol Use Disorders Identification Test (AUDIT) Questionnaire (Conigrave, Hall, & Saunders, 1995), "Cut-Down, Annoyed, Guilty, and Eye-Opener" (CAGE) Questionnaire (National Institute on Alcohol Abuse and Alcoholism, n.d.), iMPPACS (Romer et al., 2009), AIDS Indicator Survey (Ministry of Health Uganda & USAID, 2011), and the Demographic Health Survey (USAID, n.d.).

2.3 Measures

The primary outcome variable, psychological distress, was created using a composite score consisting of two variables, one assessing worry and one assessing hopelessness. Worry

was assessed using the question, “In the past month, how often have you been so worried about something that you could not sleep at night?” Youth could answer *never, sometimes,* or *often.* Next, a dichotomous response for worry was made by collapsing the *sometimes* and *always* response options to create the dichotomous response options *yes* or *no.* Creating dichotomous response options allowed for a direct comparison to the item measuring hopelessness. Hopelessness was assessed using the question, "In the past year, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing your usual activities?" Youth could respond, *yes* or *no*. A psychological distress variable was created by combining the dichotomous worry and hopelessness variables. The responses for psychological distress were coded into four levels, *neither worry nor hopelessness*, *worry only*, *hopelessness only*, and *worry/ hopelessness co-occurrence.*

Predictor variables included orphan status and experiences of sexual exploitation. Orphan status was assessed using the question, “Are one or both of your parents alive?” Youth could answer *both parents alive, both parents dead,* or *one parent living.* Sexual exploitation was defined and explored in previous literature (Self-Brown et al., 2018) and was assessed using the behavior-based question, “Have you ever gotten money, food, or other things for having (in exchange for) sexual intercourse with someone?” Youth could answer *yes* or *no*. Sociodemographic variables included sex as a biological variable, and age.

2.4 Data Analysis

Descriptive statistics among youth were computed for predictor and sociodemographic variables. A multinomial logistic regression analysis was used to determine the association

between psychological distress and orphan status and sexual exploitation. All statistical analyses were conducted using IBM SPSS 25 statistical software (IBM Corp., 2017).

3.0 Results

3.1 Descriptive Statistics

Among youth participants (*n* = 1126, average age 16.14 years), 83.2% of youth (*n* = 937) reported some type of psychological distress (Table 1 and Figure 1). Among the full analytic sample, 51.3% (*n* = 578) reported experiencing worry/hopelessness co-occurrence, 25.4% (*n* = 286) reported experiencing worry only, 6.5% (*n* = 73) reported experiencing hopelessness only, and 16.8% (*n* = 189) reported experiencing neither hopelessness nor worry. Youth reported a high overall prevalence of worry (76.7%, *n* = 864) and a high overall prevalence of hopelessness (57.8%, *n* = 651).

There were more females in the sample (56.2%, n = 633) than males (43.8%, *n* = 493). Among female participants (*n* = 633), 54.5% reported experiencing worry/hopelessness co-occurrence compared to 47.3% among males. Among youth who reported experiencing worry/hopelessness co-occurrence, more females reported experiencing the co-occurrence (59.7%, *n* = 345) than males (40.3%, *n* = 233) (Figure 2).

More than half of the youth (59**.**6%, *n* = 671) reported that they were either a single (37.5%) or double (22.1%) orphan. Among youth indicating they were double orphans, 90.0% reported experiencing at least one type of psychological distress. Among youth that indicated they were single orphans, 83.8% reported experiencing at least one type of psychological distress. Youth with two parents alive (50.8%) were more likely to report no psychological distress compared to youth with one parent alive (36.0%) and no parents alive (13.2%). Youth

with both (42.7%) or one (38.8%) parent alive reported experiencing more worry only than youth with no parents alive (18.5%). Similarly, youth with both (43.8%) or one (42.5%) parent alive reported experiencing more hopelessness only than youth with no parents alive (13.7%). Among youth who reported worry/hopelessness co-occurrence (*n* = 578), 36.5% reported having one living parent, 35.5% reported both parents living, and 28.0% reported having no living parents. Among double orphaned youth (*n* = 250), 64.8% reported experiencing worry/hopelessness co-occurrence.

The overall prevalence of reported experience of sexual exploitation was 24.3% (*n* = 274). More females reported experiencing sexual exploitation (19.3%) than males (5.1%). Among youth who reported experiencing sexual exploitation, 91.2% reported experiencing at least one type of psychological distress. Among youth who reported a history of sexual exploitation (*n* = 274), 71.9% of youth reported a higher prevalence of worry/hopelessness co-occurrence compared to youth who reported hopelessness only (4.0%), worry only (15.3%) or no worry or hopelessness (8.8%) (Table 1).

3.2 Multinomial Regression Analyses

The results from the bivariate and multivariable multinomial regression analyses are presented in Table 2. The overall model, including orphan status, reporting a history of sexual exploitation, sex, and age was significantly associated with psychological distress (χ^2 = 123.41, *df* = 15, *p*= <0.0001).

Bivariate Analyses

Compared to youth with both parents alive, double orphaned youth had a 3.04 greater odds (95% CI 1.87, 4.93) of reporting worry/hopelessness co-occurrence compared to neither

worry nor hopelessness. Additionally, compared to youth with both parents alive, single orphans had a 1.45 greater odds (95% CI 1.008, 2.10) of reporting worry/hopelessness co-occurrence compared to neither worry nor hopelessness. Youth who reported experiencing sexual exploitation were at a 3.56 greater odds (95% CI 2.24, 5.64) of reporting worry/hopelessness co-occurrence compared to no worry and hopelessness.

Each additional year of age corresponded to a 1.37 (95% CI 1.25, 1.50) greater odds of youth report of worry/hopelessness co-occurrence among youth compared to reporting neither worry nor hopelessness. Furthermore, each additional year of age corresponded to a 1.18 (95% CI 1.02, 1.36) greater odds of reporting hopelessness only among youth compared to those that reported no psychological distress. With regard to reporting worry only, each additional year of age corresponded to 1.18 (95% CI 1.07, 1.31) greater odds of reporting worry only among youth compared to youth that reported no psychological distress.

Multivariable Analysis

After adjusting for sex, age, and CSEC, compared to youth with both parents alive, only double orphans had a 2.92 greater odds (95% CI 1.77, 4.81) of reporting worry/hopelessness co-occurrence compared to neither worry nor hopelessness (no psychological distress). CSEC was associated with a greater odds of reporting both worry and hopelessness together (AOR: 2.71, 95% CI: 1.67, 4.41) compared to reporting no psychological distress, after adjusting for age, sex, and orphan status.

Each additional year of age corresponded to a 1.31 (95% CI 1.20, 1.44) greater odds of youth report worry/hopelessness co-occurrence after adjusting for orphan status, sexual exploitation, and sex, compared to youth that reported no psychological distress. After

adjusting for orphan status, sexual exploitation, and age, each additional year of age corresponded to a 1.17 (95% CI 1.01, 1.35) greater odds of reporting hopelessness only among youth compared to those that report no psychological distress. Finally, each additional year of age corresponded to 1.18 (95% CI 1.07, 1.31) greater odds of youth report of worry only compared to youth that reported no psychological distress after adjusting for the other variables in the model.

Lastly, psychological distress of any type was not associated with sex in either the bivariate or multivariable analyses.

4.0 Discussion

4.1 Discussion of Research Questions

Psychological distress is a well-established public health problem that experts project will worsen in the next decade (Mathers & Loncar, 2006; C. Murray & et al, 2012). The purpose of this study was (1) to compute the prevalence of self-reported psychological distress among youth living in the slums of Kampala, Uganda and (2) investigate how orphan status and CSE experiences are related to psychological distress. This study builds on the work by Swahn and colleagues (2016, 2017) and Self-Brown and colleagues (2018), which found high rates of orphaning (76%) and CSE experiences (39%), as well an association between orphan status, transactional sex, and other adverse experiences. The current research expands prior work by studying the psychological outcomes of these prevalent adverse experiences. Hypotheses were partially supported.

In terms of psychological distress, results demonstrate that youth ages 12 to 18 years living in the slums of Kampala experience an overall high prevalence, with 83.2% of youth

reporting experiencing at least one type of psychological distress, and 51.3% reporting the co-occurrence of hopelessness/worry. The reported prevalence of psychological distress was much higher among single double orphans (90.0%), single orphans (83.8%), and youth who reported experiencing sexual exploitation (91.2%).

Compared to previous work exploring the prevalence of psychological distress among youth in sub-Saharan Africa, in the current study, the reported prevalence of experiencing at least one type of psychological distress was higher than the prevalence estimates from the Ugandan Violence Against Children Survey, which reported prevalence estimates for youth who had experienced violence (sexual, emotional, and physical) in the last 12 months ranging from 48.8%-53.9% (MGLSD, 2015). The reported prevalence of experiencing at least one type of distress from the current study is 2.53 times higher than the psychological distress reported among low-income youth from a high-income country (Caron & Liu, 2010). A meta-analysis that calculated the total weighted average from ten studies measuring the prevalence of child and youth mental health problems in six countries in sub-Saharan Africa suggests 14.3% of youth were identified as having psychopathology, or some form of psychological distress (Cortina et al., 2012). Individual studies considered in this meta-analysis reported an overall prevalence of psychological difficulties ranging from 2.7% to 71%.

The high prevalence of psychological distress found in the current study compared to previous literature from both high and low- and middle-income countries (LMICs) (Caron & Liu, 2010; Cortina et al., 2012; MGLSD, 2015) suggests that youth living in urban slums in low-income countries may be at an increased risk for experiencing psychological distress compared to youth living in less deleterious conditions. These findings underscore the need to increase

the dissemination of public health interventions to improve physical and mental health outcomes for these underserved youth living in challenging conditions in LMICs.

With regard to orphan status and CSE, consistent with hypotheses, being a double orphan, CSE experiences, and age were associated with hopelessness/worry co-occurrence. Reporting being a double orphan was associated with worry/hopelessness co-occurrence. These findings are consistent with the literature linking orphan status and psychological distress (Atwine et al., 2005; Cluver et al., 2007; Cluver, Orkin, Gardner, & Boyes, 2012). Experiencing a tragedy or other negative situations, such as losing both parents, is an Adverse Childhood Experience (ACE), a category of experiences that is well studied and is associated with negative sequelae throughout the lifetime, including psychological distress (Chapman et al., 2004; Dube et al., 2001; Kerker et al., 2015).

Losing both parents during childhood also makes children and youth more vulnerable to other adversities, including monetary and multidimensional poverty, such as a lack of nurturing and support from caregivers, lack of food or shelter, and future violence victimization (Goldberg & Short, 2016; Kidman & Palermo, 2016; Swahn, Palmier, et al., 2012). For example, one study using nationally representative samples from 13 countries in sub-Saharan Africa found that paternal orphaning, paternal absence, and double orphaning was significantly associated with experiencing later sexual violence (Kidman & Palermo, 2016). Additionally, the cause of parent death may impact a child or youth and the adversity that they may experience. If a parent dies from AIDS or AIDS complications, the child or youth may have experienced stressors (e.g., stigma, contracting opportunistic infections) while the parent was alive and/or after parent

death that orphans of other causes may not necessarily experience (Centers for Disease Control and Prevention, 2009; Cluver & Gardner, 2007; Goldberg & Short, 2016; Peltzer et al., 2012).

An association between reporting being a single orphan and psychological distress of any type did not emerge. However, in the adjusted model, there was a marginally significant association between youth who reported being a double orphan and experiencing worry only. This marginal significance may have been the result of not having enough power in our sample due to the relatively small sample size. Additionally, while losing a parent is considered an ACE, it is likely not as significant as losing both parents. Research on youth resilience suggests that having at least one stable, caring, and supportive relationship with an adult may serve as a protective factor, fostering youth resilience and other positive outcomes in the face of adversity (Laursen & Birmingham, 2003; National Scientific Council on the Developing Child, 2015). Protective factors for youth emotional and behavioral problems that may be influencing this include having a remaining primary caregiver present, being loved, respected, wanted, and having boundaries and discipline (Cluver & Gardner, 2007). More research is needed to understand and tease apart the impact of single and double orphaning and reason for orphaning among vulnerable Ugandan youth living in urban slums.

Reporting CSE experiences was associated with worry/hopelessness co-occurrence, independent of orphan status. These findings are consistent with previous literature documenting the association between CSE and psychological distress (e.g., posttraumatic stress symptomatology, depression and anxiety, complex trauma, and suicidality) (Cole et al., 2016; Farley et al., 1998; Tsutsumi et al., 2008). Prior research suggests a high prevalence of CSE among this population (Self-Brown et al., 2018; Swahn et al., 2016). These studies also

underscore the impact of a history of adverse experiences, such as living on the streets, being an orphan, rape, and experiencing physical dating violence in their role as risk-factors for CSE among this population. For example, youth who are orphans may experience homelessness, predisposing them to experience CSE to provide necessities including food, shelter, and clothing for themselves or their younger siblings in their care. Future research should explore how transactional sex and reason for transactional sex impacts psychological distress and other health outcomes. This information would inform needed evidence-based interventions and development efforts to reduce the need to engage in transactional sex and other risk-behaviors, which will, in turn, improve physical and mental health outcomes.

Orphan status and CSE experiences had independent associations with worry/hopelessness co-occurrence. Prior research suggests that individual adverse childhood experiences may have unique effects on psychological distress (Chang, Jiang, Mkandarwire, & Shen, 2019; Cole et al., 2016). For example, in one study, youth who had CSE experiences had significantly higher overall posttraumatic stress disorder scores compared to youth who experienced sexual violence (Cole et al., 2016). Furthermore, research by Chang and colleagues (2019) suggests that there may be a dose-response effect between the number of adverse childhood experiences and subsequent psychological distress (Chang et al., 2019; Gonçalves Soares et al., 2016). Future research should explore how type and number of adverse events impact youth psychological distress among this population in order to provide effective interventions to serve the unique psychological needs of these youth.

Age was the only factor analyzed that was associated with all types of psychological distress (worry only, hopelessness only, and worry/hopelessness co-occurrence), with older

youth being at greater risk for problematic outcomes before and after controlling for all the variables in the multivariable model. These findings are consistent with previous literature suggesting that as youth age increases, psychological distress increases (Cluver, Fincham, & Seedat, 2009; Cluver, Orkin, Boyes, Gardner, & Nikelo, 2012; Cluver, Orkin, Gardner, et al., 2012; Sharp, Jardin, Marais, & Bolvin, 2015). For example, one longitudinal study of AIDS-orphans found that while controlling for gender and orphan type, orphan psychological distress (e.g., internalizing problems, depression, anxiety, PTSD) increased with time since parental death (Cluver, Orkin, Gardner, et al., 2012). Future research is necessary to explore the longitudinal impact of orphan status and other adverse childhood experiences on psychological distress and other health outcomes, following youth living in urban slums into adulthood. A longitudinal study would provide vital information necessary to better tailor evidence-based interventions to serve this population effectively.

Surprisingly, no relation emerged between youth sex and any type of psychological distress. However, descriptively, more youth who reported worry/hopelessness co-occurrence were female: 59.7% were female and 40.3% were male. While our findings were consistent with one study on immigrants from low- and middle-income countries (Thapa & Hauff, 2005), they were inconsistent with many studies from both LMICs (Aptekar & Ciano-Federoff, 1999; Cluver et al., 2013; Culbreth et al., 2018; Nabunya & Ssewamala, 2014; M. H. Swahn, Palmier, et al., 2012) and high-income countries (Caron & Liu, 2010; Needham & Hill, 2010) which have consistently shown that females experience higher rates of psychological distress, including depression, anxiety, suicidal ideation, and suicide attempt than males. This inconsistency with prior research may be the result of measurement, worry and hopelessness were measured with

one question each and not a validated scale. Or, this could be due to unique characteristics of our youth population who reside in urban slums or on the streets, and, thus, distress may be more vast due to life stressors. Future studies should examine potential factors that may impact how sex intersects with psychological distress among living in the slums of Kampala.

4.2 Limitations

Key limitations for this study result from sampling design, measurement validity, and limited sample size. Due to the cross-sectional nature of this survey, causal and temporal relationships cannot be inferred. These data were also collected from a convenience sample, which limits generalizability. However, convenience samples are advantageous when collecting data from hard-to-reach populations such as urban street and slum youth in Kampala, methods which have been effectively used in previous research to reach this population (M. Swahn et al., 2015; M. H. Swahn, Gressard, et al., 2012; M. H. Swahn, Palmier, et al., 2012).

Some of the measures from the Kampala Youth Survey 2014 were not previously validated in this specific population. Additionally, some measures were used outside of the context of their original validation and, therefore, do not guarantee valid diagnostic measurements. The items measuring worry, hopelessness, and CSE experiences came from existing survey instruments and were assessed using one question each. While this may impact validity, these items were not used to diagnose or substantiate, but rather to give a broad indication of whether or not the youth participant was experiencing or had experienced these types of constructs. Future research is necessary to adapt, validate, and measure psychological distress and adverse childhood experiences among this population using previously validated instruments. There were no items that measured reason for orphaning; thus, the researchers

lack information about sex, cause of death, and timing of death for the deceased parent. Finally, this is self-report data and should be interpreted with appropriate caution.

While this is the first population-based survey among this population in Uganda, the sample may have lacked the appropriate power to detect associations between the individual hopelessness and worry outcomes and the predictor variables. Future population-based studies with adequate power are needed to address this limitation. The limitations mentioned above are worth noting and should be taken into consideration when interpreting these results and in designing future research studies with this population. However, this is the first study of this magnitude and the first study to address psychological distress among orphans and youth with CSE experiences in this hard-to-reach population.

4.2 Conclusions and Future Directions

Psychological distress is prevalent among these vulnerable Ugandan youth. Over half of the youth in this sample reported experiencing hopelessness and over three-quarters of youth reported experiencing worry. These findings underscore the urgent need for interventions to address and prevent psychological distress, worry, and hopelessness among all youth living in the slums of Kampala. It is also of utmost importance to be able to identify slum youth who are at an increased risk for psychological distress and future adverse experiences, including orphans and youth who have experienced CSE, in order to intervene to reduce and mitigate the risk of psychological distress and subsequent negative health outcomes among this population. Reducing the psychological distress among these young Ugandans can have a positive, long-term impact on Uganda's economy, culture, and reduce the burden on the healthcare system.

Uganda Youth Development Link, the organization that currently serves these youth, provides psychosocial support services (UYDEL, n.d.); however, funding for tailored and scaled-up efforts are necessary to adequately address the scope and unique psychosocial needs of this underserved population. Furthermore, current mental health services in Uganda are limited; 8% of girls and 5% of boys in a nationally representative survey reported receiving the support or services they needed after experiencing sexual violence (MGLSD, 2015). While there have been increased efforts to improve healthcare in Uganda by integrating mental health services into primary care visits in some hospitals, funding for and knowledge of the availability of these services is disproportionately low. There is also a lot of stigma related mental health issues. For example, there is one nationally funded mental health hospital for the entire country of Uganda called Butabika Hospital that is incredibly under-resourced, and often doesn't have enough or the appropriate medication available. In addition to this, the word Butabika means "everything is mixed up or astray," Which may stigmatize people who experience psychological distress and other severe mental health outcomes, creating an additional barrier to care (Molodynski, Cusack, & Nixon, 2017). One effective and promising way to address the need for mental health services in LMICs is to implement evidence-based mental health interventions delivered by lay-counselors (Murray et al., 2015; Singla et al., 2017). Emerging research is also exploring the implementation of mental health care in Kenya using this task-shifted approach delivered by teachers in the education sector and community health volunteers in the health sector (Dorsey et al., 2020). Future research should explore these types of mental health interventions with street and slum youth in Uganda.

While the aforementioned future research efforts are needed, these alone will be inadequate to ameliorate the long-term physical, social, and economic impacts of these pressing health concerns on youth living in the slums of Kampala. According to the constitution of the World Health Organization (WHO), the definition of health is the "complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 1948). Many public health efforts are directed toward defining and understanding health problems and fewer efforts are focused on defining and understanding the latter part of this definition. Thus, having a better understanding of and addressing the adverse health outcomes and pressing needs of these youth through coordinated research, intervention, and policy efforts is not sufficient. Holistic public health efforts anchored in culture that focus on understanding the impact of culture on both positive and negative health outcomes are crucial to achieving sustainable public health impact to reduce health disparities and the social determinants of mental health (Airhihenbuwa, 1989, 1995; Iwelunmor, Newsome, & Airhihenbuwa, 2014). Future research efforts also are needed to understand the indigenous aspects of this population that facilitate resilience, enable and nurture positive health behaviors, and recognize indigenous strengths and structures. These efforts may help researchers, practitioners, and policymakers use a strengths-based approach, utilizing the positive aspects of culture to achieve the WHO definition of health for this underserved population.

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Appendix

Table 1. Demographic characteristics and prevalence among youth living in the slums of Kampala with psychological distress (defined as no worry/hopelessness, worry only, hopelessness only, and worry/helplessness co-occurrence) (*n* = 1126)

	No worry/ hopelessness (*n* = 189) 16.8%	Worry Only (*n* = 286) 25.4%	Hopelessness Only (*n* = 73) 6.5%	Both (*n* = 578) 51.3%	Total (n = 1,126)
Age, *M* (*SD*)	15.4 (1.9)	16.0 (1.8)	16.0 (1.9)	16.5 (1.6)	16.14 (1.79)
Sex, *n* (%)					
Male	83 (43.9%)	141 (49.3%)	36 (49.3%)	233 (40.3%)	493 (43.8%)
Female	106 (56.1%)	145 (50.7%)	37 (50.7%)	345 (59.7%)	633 (56.2%)
Orphan Status, *n* (%)					
Both alive	96 (50.8%)	122 (42.7%)	32 (43.8%)	205 (35.5%)	455 (40.4%)
One alive	68 (36.0%)	111 (38.8%)	31 (42.5%)	211 (36.5%)	421 (37.4%)
None alive	25 (13.2%)	53 (18.5%)	10 (13.7%)	162 (28.0%)	250 (22.2%)
CSEC, *n* (%)					
Yes	24 (12.7%)	42 (14.7%)	11 (15.1%)	197 (34.1%)	274 (24.3%)
No	165 (87.3%)	244 (85.3%)	62 (84.9%)	381 (65.9%)	852 (75.7%)

Eight observations deleted due to missing responses for worry and hopelessness questions (0.71% of total sample, *N = 1134)*

Table 2. Bivariate and Multivariate associations between demographic characteristics, risk factors, and psychological distress (defined as worry/hopelessness co-occurrence, hopelessness only, and worry only) among youth living in the slums of Kampala (*n* = 1126)

	Unadjusted OR			Adjusted OR		
	Worry Only	Hopelessness Only	Worry/Hopelessness co-occurrence	Worry Only	Hopelessness Only	Worry/Hopelessness co-occurrence
Age, M (SD)	**1.18 [1.07, 1.31]**	**1.18 [1.02, 1.36]**	**1.37 [1.25, 1.50]**	**1.18 [1.07, 1.31]**	**1.17 [1.01, 1.35]**	**1.31 [1.20, 1.44]**
Sex, n (%)						
Male	1.00	1.00	1.00	1.00	1.00	1.00
Female	0.81 [0.56, 1.17]	0.81 [0.47, 1.38]	1.16 [0.83, 1.62]	0.79 [0.53, 1.14]	0.78 [0.45, 1.35]	0.89 [0.62, 1.27]
Orphan Status						
Both alive	1.00	1.00	1.00	1.00	1.00	1.00
One alive	1.28 [0.86, 1.92]	1.37 [0.76, 2.45]	**1.45 [1.008, 2.10]**	1.30 [0.86, 1.95]	1.38 [0.77, 2.48]	1.37 [0.94, 1.99]
None alive	1.67 [0.97, 2.88]	1.20 [0.52, 2.77]	**3.04 [1.87, 4.93]**	*1.72 [0.99, 2.99]*	1.23 [0.53, 2.85]	**2.92 [1.77, 4.81]**
CSEC						
No	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.18 [0.69, 2.03]	1.22 [0.56, 2.64]	**3.56 [2.24, 5.64]**	1.05 [0.60, 1.84]	1.10 [0.49, 2.45]	**2.71 [1.67, 4.41]**

Referent category is the absence of worry and hopelessness

Statistically significant associations are bolded

Final adjusted model statistics: Likelihood Ratio Test: χ^2 = 123.41, *df* = 15, *p*= <0.0001

Figure 1. Psychological Distress Among Youth living in the slums of Kampala (*n* = 1126)

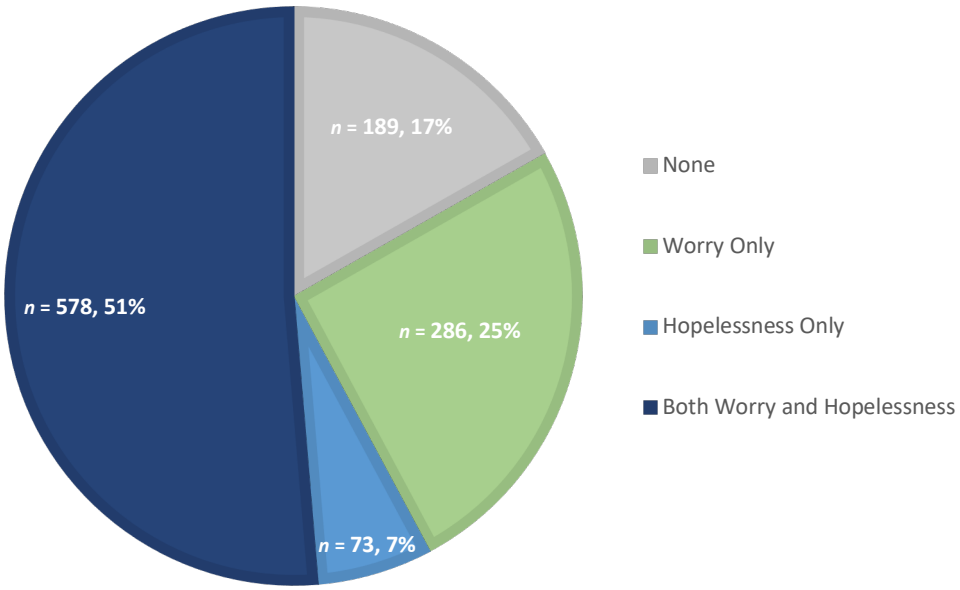

Figure 2. Sex Differences in Youth Psychosocial Distress (*n* = 1126)