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PATTERNS OF MENTAL HEALTH AND THEIR ASSOCIATIONS WITH SPIRITUALITY
IN WOMEN EXPOSED TO ADVERSITY

by

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A Thesis

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Abstract

Intimate partner violence (IPV) and Human Immunodeficiency Virus (HIV) are independently associated with negative psychological outcomes. Spirituality has been linked to positive outcomes. The present study interviewed 183 women exposed to recent IPV and/or living with HIV. Latent profile analysis was used to identify patterns of mental health (depression, anxiety, and posttraumatic stress) and examine their associations with spirituality. Four profiles emerged: Very Low Distress, Low Distress, High Average Distress, and Very High Distress. Women in the Very Low and Low Distress groups reported higher spirituality than women in the High Average and Very High Distress groups. Findings contribute to the literature by highlighting the varying levels of mental health distress among women exposed to physical and socioemotional adversities and connecting these experiences to spirituality. Findings may contribute to the development of novel interventions aimed at improving mental health among women exposed to adversity by emphasizing benefits of incorporating spirituality.

Keywords: HIV, IPV, Psychopathology, Domestic violence, health

TABLE OF CONTENTS

Chapter		Page
1	Introduction	1
	IPV and HIV	1
	Interrelation of IPV and HIV	2
	Spirituality	4
	Aims and Hypotheses	6
2	Methods	
	Participants	6
	Procedures	6
	Measures	7
	Data Analytic Strategy	11
3	Results	13
	Fit Statistics	13
	Classes Structure	14
	Post Hoc Analyses	15
4	Discussion	15
	Discussion of Findings	15
	Limitations & Strengths	18
	Clinical Implications	19
	Conclusion	19
	References	22
	Appendices	
	A. IRB Approval	36
	B. Recruitment Flyer	39
	C. Consent Form	41
	D. Measures	46
	E. Mental Health Resources	55

Patterns of Mental Health and their Associations with Spirituality in Women Exposed to Adversity

Intimate partner violence (IPV) and Human Immunodeficiency Virus (HIV) both fit within the concept of adversity, defined by Luthar and Cicchetti (2000) as “negative life circumstances that are known to be statistically associated with adjustment difficulties” (p. 858). Women who have experienced IPV and women living with HIV have high rates of negative mental and physical health outcomes compared to women without these adversities (Dillon, Hussain, Loxton, & Rahman, 2013; M.F. Morrison et al., 2002). The negative consequences of adversity are profound, yet only examining risk provides a skewed view that fails to acknowledge potential protective factors, such as spirituality. Thus, the present study examines spirituality in relation to profiles of mental health among women survivors of IPV and women living with HIV.

IPV and HIV

IPV is commonly defined as physical or sexual violence and may also include verbal, emotional, or psychological coercion or intimidation that is harmful or injurious between past or present sexual or intimate partners (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Findings from a national survey indicate that 24% or nearly 33 million women in the United States have experienced sexual violence, physical violence, stalking, or other forms of violence from an intimate partner in their lifetime (Black, 2011). Additionally, 47% of women have experienced psychological aggression from an intimate partner in their lifetime (Black, 2011). IPV experiences are associated with negative mental health outcomes among women survivors, including: depressive symptoms, posttraumatic stress symptoms, anxiety symptoms, suicidal ideation, and substance use (Dillon et al., 2013; Golding, 1999).

HIV is a chronic illness that affects millions of women in the United States, with significantly higher rates among marginalized communities of color and lower socioeconomic status (SES). Specifically, data from the Center of Disease Control and Prevention (CDC) reports that women account for a quarter of a million current HIV diagnoses and one in five new HIV infections each year (CDC, 2011). Being HIV positive is associated with negative mental health outcomes, including: depressive symptoms (Morrison et al., 2002), posttraumatic stress symptoms (Matchtinger, 2012), anxiety symptoms (Morrison et al., 2002), and substance use (Owe-Larsson, Sall, Salamon, & Allgulander, 2009).

The Interrelation of IPV and HIV

IPV and HIV are two adversities that are highly prevalent among women and associated with similar problematic mental health outcomes, yet few studies have assessed them concurrently. There is some research to support their co-occurrence. Specifically, the estimated rate of IPV among women living with HIV is 55%, which is more than twice the national prevalence rate of IPV among women (Matchtinger, 2012). Further, the relationship between IPV and HIV is complex, such that IPV increases the risk of HIV infection and being HIV positive is associated with greater exposure to IPV (Campbell et al., 2008; Maman, Campbell, Sweat, & Gielen, 2000). This bidirectional relationship between IPV and HIV has been alluded to in the syndemic literature (Singer, 1994). Specifically, the term “syndemic” was coined by Merrill Singer to describe interrelated health problems that co-occur among individuals who experience poor physical and social conditions (Singer, 2009). Singer first conceptualized the SAVA (substance abuse, violence, and AIDS) syndemic among urban residents, and argued that related circumstances (e.g., poverty, instability, and poor health care) exacerbate the risk of HIV/AIDS, violence, and substance use (Singer, 1994). While syndemic theory emphasizes the

SAVA co-occurrence, there is research to suggest that one's HIV status and IPV experiences are related, independent of substance use (Siemieniuk, Krentz, & Gill, 2013). Specifically, IPV experiences are associated with sexual practices among women that may put them at risk of contracting HIV, even in the absence of illicit substance use (Siemieniuk et al., 2013). Given that IPV and HIV are highly prevalent among women, it is crucial to examine women's mental health in the midst of these adversities.

Although much research has examined the individual association between IPV and negative mental health as well as HIV and negative mental health, few studies have explored patterns of psychopathology among women exposed to both of these adversities. Previous research has revealed mixed results with respect to patterns of mental health distress among women survivors of IPV. Some research indicates that women survivors of IPV tend to experience differing levels of severity across depression, anxiety, and posttraumatic stress (Dillon et al., 2013; Matchtenger, 2012). However, a meta-analysis revealed that women survivors of IPV are at risk of experiencing comorbid depression, PTSD, and anxiety and are at especially high risk of experiencing depression and PTSD concurrently (Lagdon, Armour, & Stringer, 2014). A review of literature examining anxiety and depressive symptoms among adults indicates a wide range in the incidence, prevalence, and severity of anxiety and depressive symptoms among adults living with HIV (Chaudhury, Bakhla, & Saini, 2016). However, past research has not identified person-centered patterns of mental health among women exposed to IPV and HIV (i.e., how variables group together on an individual level vs at the level of the variables). Further, with much of the research focused on risk, even less is known about how such mental health patterns are associated with spirituality in women independently or concurrently exposed to IPV and HIV. Such an examination is critical to understanding the co-

occurrence of psychopathology, which may be more consistent with real life experiences of women exposed to these adversities.

Spirituality

Spirituality is increasingly studied as a protective factor in the context of a variety of adversities, including IPV and HIV. Spirituality is generally conceptualized as one's personal search for and relationship with a higher power or powers (Hill & Pargament, 2003; Park, 2007). More broadly, it is a sense of existential well-being that can be characterized by belief in the meaningfulness of one's own life (Arnette, Mascaro, Santana, Davis, & Kaslow, 2007). Although spirituality is conceptually related to religiosity (which is typically measured by participation in formally structured religious practices and rituals), it is distinct from religiosity in that spirituality specifically examines one's relationship with the divine in terms of subjective experiences (Zinnbauer et al., 1997). Previous research indicates that religiosity is associated with positive mental health outcomes among women in the context of IPV (Ludema et al., 2016). However, prior research has also suggested that spiritual-related world assumptions may be more impactful on mental health symptoms than religiosity (Lilly, Howell, & Graham-Bermann, 2015). Similarly, prior research among adults living with HIV indicated that religiosity, but not spirituality, was associated with worse overall functioning and less mastery over HIV-related medical care (Cotton et al., 2006). In this study, spirituality was not associated with negative outcomes. Therefore, spirituality is increasingly studied in the context of IPV and HIV.

Spirituality is utilized as a coping mechanism in the context of a variety of traumatic and adverse experiences (Bryant-Davis, 2005; Potter, 2007; Stevens-Watkins, Sharma, Knighton, Oser, & Leukefeld, 2014). Studies have shown that higher levels of spirituality are associated with positive outcomes among individuals exposed to IPV including: fewer mental health

symptoms (Mitchell et al., 2006; Watlington & Murphy, 2006), greater psychological wellbeing (Gillum, Sullivan, & Bybee, 2006), and lower likelihood of attempting suicide (Meadows, Kaslow, Thompson, & Jurkovic, 2005). Similarly, among individuals living with HIV, higher levels of spirituality are associated with positive outcomes including: slower progression of the virus (Ironson, Stuetzle, & Fletcher, 2006), better overall mental health (Simoni, 2002), and greater life satisfaction (Cotton et al., 2006).

Although spirituality is generally considered to be a protective factor in the context of adversity, spirituality is not uniformly associated with positive outcomes. For instance, a study conducted with U.S. adults revealed a trend that higher spirituality was associated with increased mental health distress (Kidwai, Mancha, Brown, & Eaton, 2014). A systematic review examining the relationship between spiritual care and medication adherence among adults living with HIV revealed spirituality is most often associated with positive outcomes (Oji et al., 2017). However, the meta-analysis also identified several studies indicating that spirituality is associated with treatment passivity and resistance to treatment engagement. Research identifying relationships between spirituality and negative outcomes has led researchers (including Ellison, Fang, Flannelly, and Steckler (2013) and Pargament, Murray-Swank, Magyar, and Ano (2005)) to call for a more balanced view of spirituality. These authors argue that researchers should consider potentially negative relationships between spirituality and outcomes and suggest that a balanced view of spirituality (i.e., as both a potential risk and potential protective factor) may allow for a more nuanced understanding of spirituality and its relationship with mental health. Given mixed findings regarding the relationship between spirituality and various outcomes, the present study utilized a person-centered approach to examine patterns in the relationship between various mental health outcomes and spirituality in a sample of women exposed to adversity.

Aims and Hypotheses

Thus, the current study's goal is to understand how patterns of mental health (defined here as: symptoms of depression, generalized anxiety, and posttraumatic stress) relate to spirituality among women independently or concurrently exposed to IPV and HIV. Given previous research examining mental health outcomes among women exposed to adversity, we hypothesized that distinct classes of mental health distress would emerge with classes characterized by low, average, and high psychopathology. As a majority of previous research has identified spirituality as a protective factor, we hypothesized that classes characterized by lower mental health distress would be associated with higher levels of spirituality. A secondary goal of the study was to also examine whether living with more than one syndemic, race/ethnicity, education, and religious affiliation predicted patterns of mental health distress.

Method

Participants

A total of 183 women between the ages of 22 and 62 were recruited from four community serving organizations in the Midsouth United States (two serving people living with HIV and two serving people experiencing partner violence). Of the 183 participants, two were excluded due to missing data on primary variables of interest, for a final study sample of 181 women. The sample was comprised of primarily women of color and from low SES backgrounds. Specifically, 70.5% were Black, 14.2% were multiracial, 9.8% were White, 2.7% were Latina, and 2.2% self-identified as "Other." Approximately, 74% of women were living below the poverty level (i.e., having a household income of less than \$20,000 per year) and the average age of participants was 35.43 years ($SD = 8.45$).

Procedures

Data was collected as part of a larger study examining risk and protective factors among women exposed to adversity (Howell, Thurston, Schwartz, Jamison, & Hasselle, In Press). Following university IRB approval (see Appendix A) and input regarding the study protocol from community partners, women were recruited from four local community organizations serving either survivors of IPV or individuals living with HIV. Participants were recruited via flyers (see Appendix B) displayed at community organizations, direct invitation from study staff, or referral from staff at community partner organizations. Participants were eligible if they were English speaking, 18 years of age or older, had a child between the ages of 6-14 (without severe cognitive impairments) for whom they were the primary female caregiver, and had experienced violence with a partner in the last six months and/or were living with HIV. After screening women to confirm eligibility, participants were consented (see Appendix C) and completed a battery of reliable and valid self-report questionnaires (see Appendix D), including those measuring their HIV status, IPV experiences, mental health functioning (posttraumatic stress, anxiety, and depressive symptoms), and spirituality were administered. Study staff conducted in-person interviews and data was recorded using an online survey on an iPad or computer. Upon completion of the study participants received a \$20 gift card and a referral list for local and affordable mental health resources (see Appendix E).

Measures

Demographics— A demographics questionnaire was administered to each participant to ascertain basic background information, including; age, education, ethnicity, and race. Given previous research suggesting that access to mental health resources varies based on high school graduation status (U.S. Census Bureau, 2016), we dichotomized the education variable into high school graduate versus non-high school graduate. Because the majority of our sample identified

as Non-Hispanic Black, we dichotomized race/ethnicity into Non-Hispanic Black versus other race/ethnicities.

Religious Affiliation (categorical) – Religious affiliation was assessed by asking participants to pick from the following that described their religious affiliation: none, Anglican, Baptist, Catholic, Methodist (including African Methodist Episcopal [AME]/Presbyterian), Muslim, Nondenominational, Pentecostal, 7th Day Adventist, or Other (with the option to fill in). Religious affiliation was dichotomized across Christian versus non-Christian given that the majority of our sample identified as Christian.

HIV Status (categorical)—HIV status was assessed by asking participants the following two questions: “Have you ever had a test for HIV?” with response options: *Yes, No, Don’t know, Refuse to answer*; and “What was the result of your most recent HIV test?” with response options: *Positive (you have HIV), Negative, Refuse to answer*. Responses to the second question were dichotomized into positive versus negative. There were no refuse to answer responses.

The Revised Conflict Tactics Scale (CTS2; categorical) - The CTS2 (Straus, 1979) is a 39-item self-report measure of the severity of psychological, physical, and sexual violence in a dating, cohabitating, or marital relationship over the past six months. Items are assessed on a seven-point Likert scale from 0 (*never happened*) to 6 (*happened more than 20 times*). The measure contains five subscales assessing physical assault (e.g., “My partner twisted my arm or hair”), psychological aggression (e.g., “My partner insulted or swore at me”), injury (e.g., “You had a broken bone from a fight with your partner”), sexual coercion (e.g., “My partner used threats to make me have sex”), and negotiation (e.g., “My partner explained his or her side of a disagreement to me”). A total score is generated by summing responses on the physical assault, psychological aggression, sexual coercion, and injury subscales. The CTS2 has good internal

consistency in studies examining the experiences of survivors of IPV (Straus, Hamby, Boney-McCoy, & Sugarman, 1996), with alpha coefficients ranging from .79 to .95, as well as adequate construct and discriminant validity (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Internal consistency in the present study was excellent at $\alpha = .95$. A dichotomous IPV prevalence score was obtained by recoding total scores into yes (CTS2 score ≥ 1) or no (CTS2 score = 0) variables.

Daily Spirituality Experience Scale (DSES; continuous) – The DSES (Underwood, 2002) is a 16-item self-report measure of participants' perceptions of daily experiences with the divine and the role of such experiences in daily life. The DSES includes major dimensions of spirituality, such as personal intimacy with God (e.g., "I feel God's presence"), strength and comfort (e.g., "I find strength in my religion or spirituality"), perceived divine love (e.g., "I feel God's love for me directly"), inspiration or discernment (e.g., "I ask for God's help in the midst of daily activities"), transcendence (e.g., "During worship, or at others times when connecting with God, I feel intense joy which lifts me out of my daily concerns"), and internal integration (e.g., "I feel deep inner peace and harmony"). Items are assessed on a five-point Likert scale from 1 (*many times a day*) to 5 (*never*) and scores on the DSES range from 16 to 75. In the present study, total scores were reverse coded such that higher scores indicated greater spirituality. The DSES has high internal consistency reliability, with alpha coefficients of .94 to .95 (Underwood, 2002). The measure also demonstrates adequate construct and discriminant validity (Underwood, 2002). Internal consistency in our study was excellent at $\alpha = .94$ and is consistent with previous research utilizing this measure with a similar sample of Black women survivors of IPV (Watlington & Murphy, 2006).

Center for Epidemiological Studies Depression Scale (CES-D; continuous) – The CES-D is a widely used measure of depressive symptoms and includes 20 items comprising six domains

(Radloff, 1977). Domains reflect major dimensions of depression: depressed mood (e.g., “I felt depressed”), feelings of guilt and worthlessness (e.g., “I thought my life had been a failure”), feelings of helplessness and hopelessness (e.g., “I felt that I could not shake off the blues even with the help from my family and friends”), psychomotor retardation (e.g., “I could not get going”), loss of appetite (e.g., “I did not feel like eating”), and sleep disturbance (e.g., “My sleep was restless”). Participants were asked to estimate how often they experienced these symptoms on a four-point Likert scale from 0 (*rarely or none of the time/less than one day*) to 3 (*most or all of the time/5-7 days*). Total scores on the CES-D range from 0 to 60, with higher scores indicating greater depressive symptoms. The CES-D has excellent internal consistency reliability, with alpha coefficients ranging from .90 to .93 (Radloff, 1977). The measure also demonstrates adequate construct and discriminant validity (Radloff, 1977). Internal consistency in this study was strong at $\alpha = .90$ and is consistent with previous research utilizing this measure with a similar sample of urban women living with HIV (Mistretta, Sloan, BrintzenhofeSzoc, Weber, & Berger, 2017).

Generalized Anxiety Disorder 7 (GAD-7; continuous) - The GAD-7 is a widely used measure of anxiety that assesses symptoms of worrying over the past two weeks (Spitzer, Kroenke, Williams, & Löwe, 2006). The GAD-7 assesses primary diagnostic features of the DSM-IV criteria A, B, and C for generalized anxiety disorder. Experiences with the seven core symptoms of generalized anxiety disorder (e.g., “Feeling nervous, anxious, or on the edge”) are assessed on a scale from 0 (*not at all*) to 3 (*nearly every day*). Total scores on the GAD range from 0 to 21, with higher scores indicating greater anxiety. The GAD-7 has good internal consistency reliability, with alpha coefficients ranging from .79 to .91 (Löwe et al., 2008). The measure also demonstrates adequate construct and discriminant validity (Spitzer et al., 2006). In the present study, internal consistency was strong at $\alpha = .91$ and is consistent with previous

research utilizing this measure with a similar sample of women survivors of IPV (Mittal et al., 2016).

Severity of Posttraumatic Stress Symptoms-Adults (National Stressful Events Survey PTSD Short Scale [NSESSS]; continuous)—The NSESSS is a 9-item measure assessing the severity of posttraumatic stress symptoms in adults following an extremely stressful event or experience (LeBeau et al., 2014). Items assess hyper-vigilance (i.e., “Being ‘super alert,’ on guard, or constantly on the lookout for danger?”), re-experiencing (i.e. “Having ‘flashbacks,’ that is, you suddenly acted or felt as if a stressful experience from the past was happening all over again?”), and loss of interest following a traumatic stressor (i.e. “Losing interest in activities you used to enjoy before having a stressful experience?”). Participants rate the frequency of traumatic symptoms over the past seven weekdays on a 5-point scale from 0 (*not at all*) to 4 (*extremely*). Total scores on the NSESSS range from 0 to 36, with higher scores indicating greater severity of posttraumatic stress symptoms. Total scores were calculated for the NSESSS by summing item scores. The NSESSS has good internal consistency with an alpha coefficient of .90 in a population diagnosed with PTSD (LeBeau et al., 2014). The measure has not yet been assessed for construct and discriminant validity given its recent development for the DSM 5 (LeBeau et al., 2014). However, internal consistency was strong in our study with $\alpha = .91$.

Data Analytic Strategy

Analyses were conducted using MPlus 7.4 and IBM’s Statistical Package for the Social Science (SPSS) 22.0. Means, standard deviations, and Pearson correlations were obtained for all study variables (see Table 1). Cronbach’s alphas were calculated for each measure to ensure scale reliability. We then conducted a Latent Profile Analysis (LPA) to derive patterns of mental health distress based on depressive, anxiety, and posttraumatic stress symptom scores. Next, we used

chi-square tests to determine if spirituality differed across classes. Lastly, we conducted variable multinomial logistic regressions to determine if experiencing more than one syndemic (i.e., HIV and IPV), race/ethnicity, education, and religious affiliation predicted class membership, given previous research suggesting variability in mental health outcomes based on these variables (Chang, Weiss, Marques et al., 2014; Weber & Pargament, 2014).

LPA first utilizes all observations associated with the dependent variables and performs maximum likelihood estimation (Little & Rubin, 2014). The flexibility of LPA analyses accounts for the possibility that there is uncertainty in class membership by allowing prediction of the probability of membership in a group and, simultaneously, estimating the classes. This allows each individual's probability of class membership to be estimated such that each person may be classified in the most appropriate class (Hill, Degnana, Calkins, & Keane, 2006). In our analyses, we used the Bayesian information criterion (BIC) (Schwartz, 1978) and Akaike's information criterion (AIC; Akaike, 1973) to determine model fit. For both the BIC and AIC, lower values are indicative of a better fitting model. Additionally, we used a likelihood difference test, the Vuong-Lo-Mendall-Ruin (VLMR; Lo, Mendell, & Rubin, 2001; Vuong, 1989), which assessed which model fit best. We also used entropy as an indicator of how well the model classified individuals, with values close to 1 indicating better classification. LPA was used to investigate the plausibility of 1-, 2-, 3-, 4-, and 5-class solutions. Classes were added iteratively to determine the best model fit for the data according to statistical and interpretative methods. LPA assumes a simple parametric model and uses the observed data to estimate parameter values for the model (Mplus, Version 7.4). Post-hoc chi-square tests were conducted to determine mean differences in spirituality across the classes. Finally, variable multinomial logistic regressions were conducted to determine if living with more than one syndemic,

identifying as Non-Hispanic Black, having a high school education and above, and identifying as Christian predicted class membership.

Results

Of the overall sample, the vast majority ($n = 165$, 90.2%) endorsed experiencing IPV in the past six months and approximately one-third of participants ($n = 57$, 31.1%) endorsed having a positive HIV test result. Approximately one-fifth of the sample ($n = 39$, 21.3%) had experienced IPV in the last six months and were also HIV positive. The majority of our sample identified as some denomination of Christian (86.3%), including 49.2% Baptist, 28.4% non-denominational, 4.4% Pentecostal, 2.2% Catholic, 1.6% Methodist, and 0.5% Seventh Day Adventist. A total of 8.7% indicated that they did not have a religion, 3.9% identified as “other” (e.g., “Spiritual”), and 1.1% as Muslim.

Fit Statistics.

The LPA revealed that the 2-class solution was better than the 1-class solution, evidenced by the significance of the VLMR value (see Table 2). The 3-class solution was considered better than the 2-class solution due to both lower AIC and BIC values and a significant VLMR value. The 4-class solution was considered better than the 3-class solution due to both lower AIC and BIC values than the 3-class solution, a higher Entropy value, and a significant VLMR value. The 5-class solution, despite having a slightly slower AIC value than the 4-class model, was not statistically different from the 4-class solution according to the VLMR value and had a higher BIC value and lower Entropy value. As a result, the 4-class solution was deemed the best-fitting model, $BIC = 2826.67$, $AIC = 2740.32$, $Entropy = .89$. These four classes, which were labeled: Very Low Distress, Low Distress, High Distress, and Very High Distress, are described below

according to their key characteristics (See Figure 1). Further, subsequent chi-square tests revealed mean differences in spirituality across the four classes (see Table 3 and Figure 2).

Classes Structure.

Class 1: Very Low Distress. This class ($n = 21$, 11.60%) was characterized by conditional means that were lower than the overall sample means and lowest across all classes. Women in this class reported significantly higher spirituality ($M = 64.38$; $SD = 2.00$) than women in the High Average Distress Class ($M = 57.84$, $\chi^2 [1] = 6.45$, $p < .05$) and women in the Very High Distress class, $M = 54.08$, $\chi^2 [1] = 7.70$, $p < .01$. Spirituality did not significantly differ between this class and the next class - Low Distress.

Class 2: Low Distress. This class ($n = 44$, 24.3%) was characterized by conditional means that were lower than the overall sample means, but higher than the means of the Very Low Distress class. Women in this class reported significantly higher spirituality ($M = 64.43$; $SD = 1.56$) than women in the High Average Distress ($M = 57.84$, $\chi^2 [1] = 7.83$, $p < .01$) and Very High Distress ($M = 54.08$, $\chi^2 [1] = 8.82$, $p < .01$) classes. Spirituality did not significantly differ between this class and the Very Low Distress class.

Class 3: High Average Distress. This class ($n = 81$, 44.8%) was characterized by conditional means that were higher than the overall sample means, but lower than the Very High Distress group. As noted above, women in this class reported significantly lower spirituality than women in the Low Distress and Very Low Distress groups. Spirituality did not significantly differ between this class ($M = 57.84$, $SD = 1.63$) and the Very High Distress class ($M = 54.08$, $SD = 3.13$).

Class 4: Very High Distress. This class ($n = 35$, 19.3%) was characterized by conditional means that were greater than the overall sample means, and highest across all classes. As noted

above, spirituality did not significantly differ between this class and the High Average Distress class, though spirituality was significantly lower in this class than both the Low Distress and Very Low Distress groups.

Post Hoc Analyses.

After the four mental health distress classes were formed, we conducted variable multinomial logistic regressions to examine whether living with multiple syndemics (i.e., HIV and IPV), race/ethnicity, education, and religious affiliation predicted class membership. Results indicated that class membership was significantly influenced by living with multiple syndemics. Specifically, women living with more than one syndemic were more likely to be in the Low Distress Class ($\beta = 1.56, SE = .63, p < .05$) or the High Average Distress class ($\beta = 1.48, SE = 0.54, p < .01$) than the Very Low Distress class. Class membership was significantly influenced by race/ethnicity. Specifically, Non-Hispanic Black women were more like to be in the Very High Distress class than the Low Distress class, $\beta = 1.06, SE = 0.63, p < .05$. Education and religious affiliation did not significantly influence class membership, $ps > .05$.

Discussion

Findings add to a growing body of literature highlighting the relationship between mental health and spirituality among women exposed to physical and socioemotional adversities of HIV and IPV. Existing literature has yielded differing findings regarding the severity of symptoms across depression, anxiety, and posttraumatic stress among women exposed to adversity. Previous research has also revealed conflicting findings about the relationship between spirituality and positive outcomes, specifically in the context of HIV. This study uniquely adds to the literature by examining latent profiles of depression, anxiety, and posttraumatic stress among women independently and concurrently exposed to IPV and HIV while also examining how said mental

health distress profiles are associated with spirituality. On average, participants in our sample had depressive symptom scores below the clinical cut-off of 16 for clinical depression (Radloff, 1977), anxiety scores above the clinical cut-off of 5 for mild anxiety (Spitzer et al., 2006), and posttraumatic stress scores in the mild range for PTSD (LeBeau et al., 2014).

Four distinct classes were identified: a Very Low Distress group, a Low Distress group, a High Average Distress group, and a Very High Distress group. Almost half of the sample (44.80%) comprised the High Average Distress group while the Very Low Distress group comprised the smallest percentage of the sample (11.60%). This indicates that the majority of women exposed to HIV and/or IPV adversities experienced significant levels of mental health distress. This is consistent with previous research indicating that women survivors of IPV (Dillon, Hussain, Loxton, & Rahman, 2013) and women living with HIV (Matchtinger, 2012; Morrison et al., 2002) tend to experience significant mental health distress. Our findings also showed that women living with both IPV and HIV were more likely to be members of the Low Distress class or High Average Distress class relative to the Very Low Distress class. This finding suggests that living with more than one syndemic may be related to higher risk for experiencing greater mental health distress. Findings also indicated that Black women were more likely to be in the Very High Distress class relative to the Average Distress class. This suggests that Black women who experience one or more physical or socioemotional adversities may experience greater mental health distress than their non-Black counterparts. Given the social construction of race, it will be important to explore the underlying cause of this association in future research.

The patterns that emerged in our study suggest that women tended to experience similar severity levels of depression, anxiety, and posttraumatic stress symptoms. These findings were somewhat expected, given that some previous research with women survivors of IPV has found

high comorbidity across depressive, anxiety, and posttraumatic stress symptoms (Lagdon et al., 2014). However, our findings are also at odds with previous research indicating that women survivors of IPV tend to have differing levels of severity across depression, anxiety, and posttraumatic stress (Dillon et al., 2013). It is more difficult to place our cumulative findings in the context of available literature exploring mental health among women living with HIV given that these women tend to report high levels of posttraumatic stress (Matchtnger, 2012) and depression (Morrison et al., 2002), but less is known about their anxiety.

Interestingly, spirituality was higher in both the Very Low Distress and the Low Distress groups relative to the High Average Distress and Very High Distress groups. These findings were consistent with previous research showing that higher spirituality is associated with better overall mental health among women survivors of IPV (Gillum, Sullivan, & Bybee, 2006) and women living with HIV (Simoni, 2002). Furthermore, previous work has shown relationships between spirituality and positive physical health outcomes among women who have experienced IPV or who are living with HIV, including: slower progression of the HIV virus (Ironson, Stuetzle, & Fletcher, 2006), engagement in more healthy behaviors (Ironson et al., 2002), longer life expectancy (Ironson et al., 2002), and more positive parenting (Mitchell et al., 2006). Taken together, prior research showing that spirituality can be a highly effective coping mechanism for women of color exposed to adversity (Arnette, Mascaro, Santana, Davis, & Kaslow, 2007; Simoni, 2002) and our current study findings suggest that interventions with spiritual components may be particularly relevant for women. Still our findings must also be interpreted in the context of research indicating that spirituality is sometimes associated with negative outcomes (Oji et al., 2017). Such research may partially explain why several culturally sensitive interventions incorporating spiritual components for women exposed to adversity (Zhang et al., 2013) have

found relatively weak changes in mental health (McCain et al., 2008; Taha, 2015). Future research should continue to explore what specific spirituality or existential well-being components are associated with positive versus negative outcomes and how these components could be included in interventions that would be both culturally responsive and effective.

Limitations & Strengths

The present findings should be considered within the context of several limitations. The cross-sectional design of our study limits our ability to make temporal or causal statements about the relationship between mental health distress and spirituality. For example, higher spirituality may buffer against poor mental health leading to lower mental health distress in women. Alternatively, experiencing lower mental health distress may allow women to engage more closely with their spiritual side leading to their reports of higher levels of spirituality. Future longitudinal research is needed to better disentangle these relationships. Further, we did not measure religiosity or participation in religious activities, which may play a role in the relationship between mental health distress and spirituality in the context of adversity. Despite these limitations, this study is innovative in its examination of patterns of mental health distress among women exposed to both socioemotional and physical adversities rather than taking a variable centered approach. This more complex examination of mental health functioning addresses gaps in the literature regarding the cumulative impact of mental health distress.

The present sample was comprised of women seeking services for IPV or HIV, thus it may not be representative of women who are not actively utilizing services. Future research is needed to examine the experiences of women who are not engaged in care, as such women may have a different experiences of spirituality and mental health distress. Lastly, our data were collected from multiple community organizations in the Midsouth U.S., which reduced site-

specific bias; however, all participants lived in the same U.S. region, which may suggest sample homogeneity. This is especially notable given the very high levels of spirituality in our sample, a factor that is common to this Bible-belt region of the U.S. Future research could explore mental health and spirituality among women in diverse regions to increase external validity.

Clinical Implications

Our findings have important implications for clinical work. First, community organizations serving women survivors of IPV who may also be living with HIV should conduct targeted mental health screenings. Without screenings it will be difficult to know who needs to be targeted for mental health interventions. Second, women living with more than one syndemic need specific focus with respect to their mental health distress given greater mental health risk. Third, future strength-based interventions could harness spirituality and spiritual values to address the mental health needs of women exposed to physical and socioemotional adversity. Indeed, previous interventions utilizing spiritual components such as “spiritual growth groups” have shown significant improvements in physical functioning among women living with HIV (McCain et al., 2008). Future research should consider an exploration of specific spiritual or religious components that would be culturally-responsive and sufficiently dosed to be effective in mental health symptom reduction. Community organizations serving women exposed to adversity could consider involving religious leaders or incorporating spiritual components to their interventions, such as spiritual support groups and spiritually-based coping skills to promote spiritual well-being and social support. Further, incorporating spiritual components into well-established and efficacious interventions, such as Cognitive Behavioral Therapy, Interpersonal Therapy, and Mindfulness-Based approaches known to successfully improve mental health functioning could provide clinically relevant steps for moving this work forward.

Conclusion

Distinct patterns of mental health distress exist among women exposed to adversity. Women living with more than one syndemic are more likely to endorse patterns of greater mental health distress compared to women with one syndemic. Further, these patterns of mental health distress are related to their perceived spirituality. Results have implications for how community organizations, researchers, and clinicians should conceptualize risk and protective factors among women exposed to adversity. Firstly, women living with more than one syndemic may be at greater risk of experiencing higher mental health distress. Secondly, women may experience similar severity of symptoms across mental health domains. Thirdly, women who endorse high spirituality may report experiencing less mental health distress in the context of adversity. Future research and clinical work should consider mental health distress and spiritual connections to fully examine outcomes among women survivors of IPV and women living with HIV. In doing so, interventionists may be able to utilize a strengths-based approach that will help reduce stigma and promote adaptation in the context of adversity.

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Table 1.

Means, Standard Deviations, and Correlations of Variables

	DSES	CES-D	NSESSS	GAD-7
DSES	59.41 (13.75)	-.29**	-.20**	-.29**
CES-D		22.89 (12.83)	.74**	.78**
NSESSS			1.62 (1.10)	.73**
GAD-7				9.71 (6.48)

Note. Diagonal of table provides means (and standard deviations) for continuous variables. DSES = Daily Spirituality Experience Scale; CES-D = Center for Epidemiological Studies Depression Scale; NSESSS = Severity of Posttraumatic Stress Symptoms-Adults (National Stressful Events Survey PTSD Short Scale [NSESSS]); GAD-7 = Generalized Anxiety Disorder 7 (GAD-7).

** $p < .01$

Table 2.

Comparison of Model Fit for Each Latent Class Analysis of Mental Health Distress

Classes per Model	BIC	AIC	Entropy
2	2903.34	2861.76	0.92
3	2847.02	2783.05	0.88
4	2826.67	2740.32	0.89
5	2843.25	2734.50	0.88

AIC = Akaike Information Criterion, BIC = sample size-adjusted Bayesian Information Criterion

Table 3.

Mental Health Distress Profile Conditional Responses and Spirituality Outcome Means for each Latent Class

Class	Depressive Symptoms <i>M (SD)</i>	Posttraumatic Stress Symptoms <i>M (SD)</i>	Anxiety Symptoms <i>M (SD)</i>	Spirituality <i>M (SD)</i>
Very Low Distress (<i>n</i> = 21)	5.54 (0.98)	0.26 (0.07)	0.53 (0.21)	64.38 (2.00)
Low Distress (<i>n</i> = 44)	11.57 (1.04)	0.79 (0.11)	4.67 (0.45)	64.43 (1.56)
High Average Distress (<i>n</i> = 81)	26.38 (1.30)	1.98 (0.13)	10.85 (0.73)	57.84 (1.63)
Very High Distress (<i>n</i> = 35)	38.90 (1.81)	3.06 (0.14)	19.22 (0.82)	54.08 (3.13)

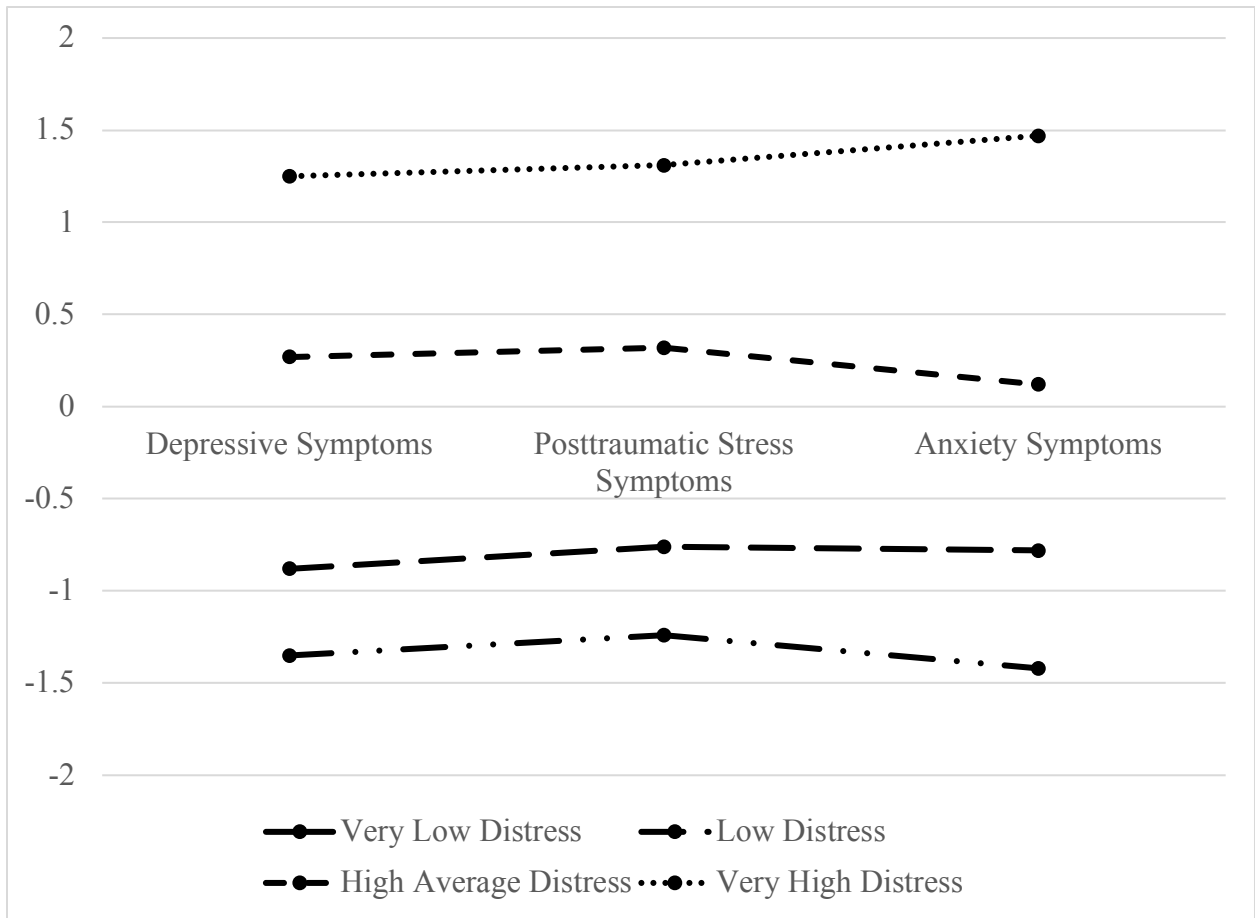


Figure 1.

Four Class Latent Profile Analysis Plot of Z-scores across Depressive, Posttraumatic and Anxiety Symptoms

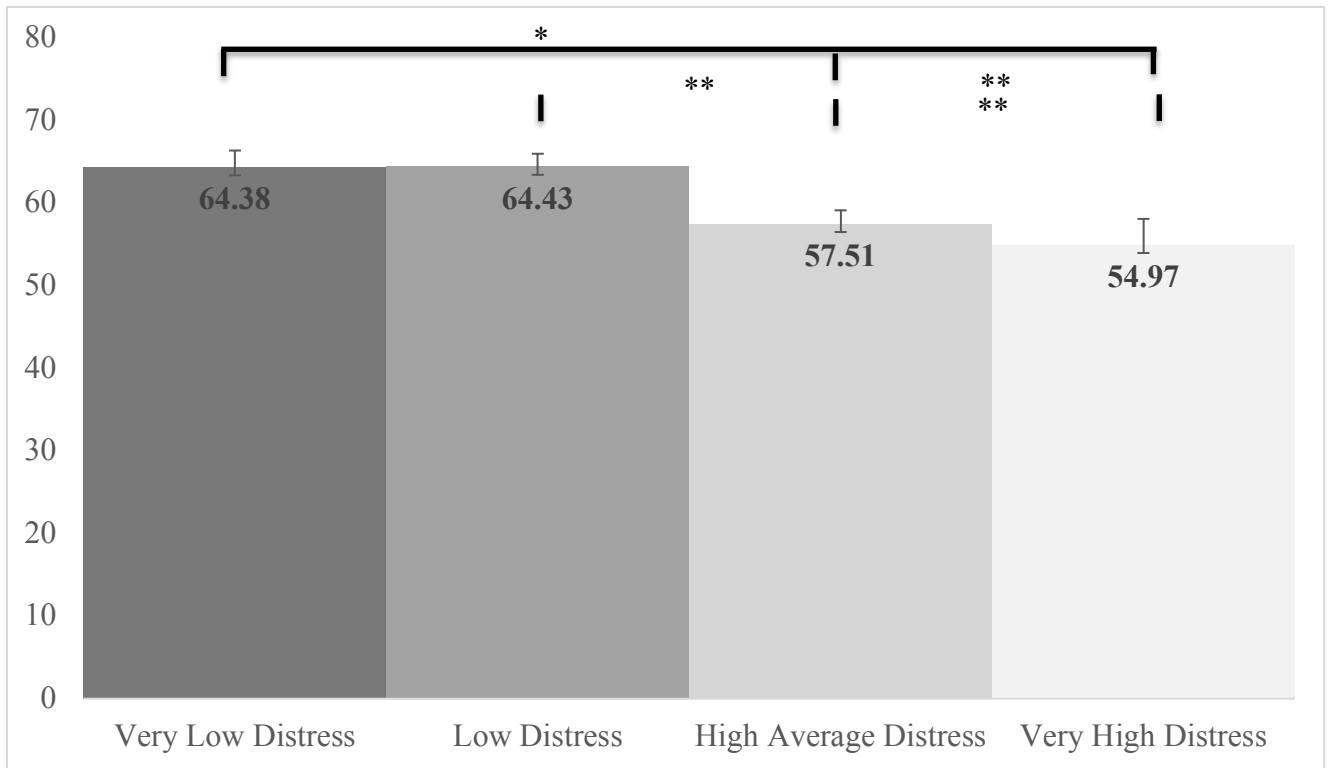


Figure 2.

Comparisons of Spirituality across Mental Health Distress Classes

Note. *Indicates a difference of $p < .05$ and ** indicates a difference of $p < .01$.

Appendix A IRB Approvals

Hello,

The University of Memphis Institutional Review Board, FWA00006815, has reviewed and approved your submission in accordance with all applicable statuses and regulations as well as ethical principles.

PI NAME: Idia Thurston

CO-PI: Kathryn Howell

PROJECT TITLE: Risk and Protective Factors in HIV-Positive Mothers: Examining the Intersection of HIV, Intimate Partner Violence, and Substance Use on Parenting

Abbreviated Title: Parenting Through Hardship (PaTH) Study

FACULTY ADVISOR NAME (if applicable):

IRB ID: #3230

APPROVAL DATE: 3/27/2015

EXPIRATION DATE: 3/27/2016

LEVEL OF REVIEW: Expedited

Please Note: Modifications do not extend the expiration of the original approval

Approval of this project is given with the following obligations:

1. If this IRB approval has an expiration date, an approved renewal must be in effect to continue the project prior to that date. If approval is not obtained, the human consent form(s) and recruiting material(s) are no longer valid and any research activities involving human subjects must stop.
2. When the project is finished or terminated, a completion form must be completed and sent to the board.
3. No change may be made in the approved protocol without prior board approval, whether the approved protocol was reviewed at the Exempt, Expedited or Full Board level.
4. Exempt approval are considered to have no expiration date and no further review is necessary unless the protocol needs modification.

Approval of this project is given with the following special obligations:

Thank you,
James P. Whelan, Ph.D.

Institutional Review Board Chair

The University of Memphis.

Note: Review outcomes will be communicated to the email address on file. This email should be considered an official communication from the UM IRB. Consent Forms are no longer being stamped as well. Please contact the IRB at IRB@memphis.edu if a letter on IRB letterhead is required.

Hello,

The University of Memphis Institutional Review Board, FWA00006815, has reviewed and approved your submission in accordance with all applicable statuses and regulations as well as ethical principles.

PI NAME: Kathryn Howell

CO-PI: Idia Thurston

PROJECT TITLE: Risk and Protective Factors in Violence-Exposed Mothers: Examining the Intersection of Intimate Partner Violence, HIV, and Substance Use on Parenting

Abbreviated Title: Parenting Through Hardship (PaTH) Study

FACULTY ADVISOR NAME (if applicable):

IRB ID: #3098

APPROVAL DATE: 2/6/2015

EXPIRATION DATE: 2/6/2016

LEVEL OF REVIEW: Expedited

Please Note: Modifications do not extend the expiration of the original approval

Approval of this project is given with the following obligations:

1. If this IRB approval has an expiration date, an approved renewal must be in effect to continue the project prior to that date. If approval is not obtained, the human consent form(s) and recruiting material(s) are no longer valid and any research activities involving human subjects must stop.
2. When the project is finished or terminated, a completion form must be completed and sent to the board.
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James P. Whelan, Ph.D.

Institutional Review Board Chair

The University of Memphis.

Note: Review outcomes will be communicated to the email address on file. This email should be considered an official communication from the UM IRB. Consent Forms are no longer being stamped as well. Please contact the IRB at IRB@memphis.edu if a letter on IRB letterhead is required.

The PaTH Study

Parenting Through Hardships

Psychology researchers from The University of Memphis are conducting interviews in partnership with community organizations serving People Living with HIV.

- ✓ Is English your primary language?
- ✓ Are you 18 years of age or older?
- ✓ Are you the female primary caretaker for a child between the ages of 6-14?

- ❖ **Interviews will take about 1 hour to complete**

- ❖ **You will receive a \$20 gift card for completing the interview**

- ❖ **If interested, please talk to your case manager**

**For additional information about participating, contact Dr. Idia Thurston at
(901)-678-4690 or by email at idia.thurston@memphis.edu**

University of Memphis IRB Number: 3230 Approved on: 4/11/2014

Appendix C Consent Form

Consent to Participate in a Research Study: **Parenting Through Hardships**

WHY ARE YOU BEING INVITED TO TAKE PART IN THIS RESEARCH?

You are being invited to take part in a research study about how risk and protective factors may affect your parenting practices. You were invited because you are 18 years of age or older and the primary female caregiver (meaning you are the legal guardian) for a child age 8-12 for whom you provide day-to-day care. If you volunteer to take part in this study, you will be one of about 75 people to do so.

WHO IS DOING THE STUDY?

The people in charge of this study are Dr. Kathryn Howell and Dr. Idia Thurston, of The University of Memphis Department of Psychology. There may be other study staff assisting at different times during the study.

WHAT IS THE PURPOSE OF THIS STUDY?

The purpose of this study is to look at how experiences such as: relationship violence, risky sexual behaviors, substance use, mental health, social support, and well-being affect parenting in positive and negative ways. This study will help us understand how these experiences may impact mothers and children in the Memphis area.

ARE THERE REASONS WHY YOU SHOULD NOT TAKE PART IN THIS STUDY?

You should not take part if you are NOT a primary female caregiver of a child ages 8-12.
You should not take part if you do NOT have day-to-day contact with a child ages 8-12.
You should not take part if you are NOT 18 years of age or older.
You should not take part if you CANNOT speak English fluently.
You should not take part if your child has severe cognitive impairments.
You should not take part if you have NOT experienced violence with a partner in the last 6 months.

WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST?

The interview for this study will take place in a private room at the Family Safety Center. This is a one time interview that will take about 1 hour to complete. You can only take part in this study once. You may be contacted at a later date for other future studies, if you choose to provide the researchers with your contact information.

WHAT WILL YOU BE ASKED TO DO?

If you agree to be part of the research study, you will be interviewed by a study staff member who will be asking questions about your parenting style, you and your child's experiences with violence, and risk and protective factors. The study staff member will enter your answers into an iPad®, and you will be offered a copy of the questions so that you can follow along during the interview. At the end of this consent form and again at the end of the survey, you will be

provided with a list of local and affordable community resources that are available to you should you want additional information about the topics covered or wish to contact someone to discuss past or current issues with which you may be dealing.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

To the best of our knowledge, participation in this study would cause no more than minimal risk and discomfort. Some participants may experience embarrassment, distress, or upsetting emotions when discussing their experiences with the potentially sensitive topics of relationship violence, risky sexual behaviors, substance use, and mental health. An additional potential risk could be the negative consequences of having sensitive information you shared in this study revealed. If you become upset or concerned by the questions or wish to get more information about any of these topics, please contact one of the resources on the list provided or contact the study investigators, Dr. Kathryn Howell at 901.678.1541 or Dr. Idia Thurston at 901.678.4690. Steps have been taken to protect your privacy and confidentiality by not linking your responses to your name. To manage discomfort, our study staff will be trained to identify potential distress and offer local referrals for counseling and social services. You also have the choice to end the study at any time or skip questions that feel uncomfortable. In general, researchers have taken steps to minimize the risks of this study but there may be unknown risks. Please note that the University of Memphis does not have any funds budgeted for compensation for injury, damages, or other expenses.

WILL YOU BENEFIT FROM TAKING PART IN THIS STUDY?

There is no direct benefit to you for taking part in this research. You will receive a \$20 gift card as compensation for your time. You will also receive a handout with contact information for local services. Once all participants have been interviewed, researchers will look at all the information as a whole for patterns in risk and protective factors that may affect parenting practices. This information will help others design programs to improve health and prevent negative consequences for families exposed to violence. Should you wish to receive a summary of study findings at the end of this study, you may do so by contacting the researchers, Dr. Kathryn Howell at 901.678.1541 and Dr. Idia Thurston at 901.678.4690.

DO YOU HAVE TO TAKE PART IN THE STUDY?

If you decide to take part in this study, it should be because you really want to volunteer. You will not lose any benefits or rights that you would normally have if you choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering. If you decide not to take part in this study, your decision will have no effect on the quality of care and services you receive at the Family Safety Center.

IF YOU DON'T WANT TO TAKE PART IN THE STUDY, ARE THERE OTHER CHOICES?

You are not required to take part in this study. If you choose not be in the study, there are no other choices except not to participate.

WHAT WILL IT COST YOU TO PARTICIPATE?

There are no financial costs associated with taking part in this study. It will require about 1 hour of your time.

WILL YOU RECEIVE ANY REWARDS FOR TAKING PART IN THIS STUDY?

You will receive a \$20 gift card as compensation for your time. You will be given the full payment upon completion of the interview. If you choose to end the study early, you will still receive the gift card for your time.

WHO WILL SEE THE INFORMATION THAT YOU GIVE?

We will make every effort to keep private all information that identifies you to the extent allowed by law. However, there are some situations when we may have to show your information to others. For example, the law requires us to tell authorities if you report information about a child being abused or if you are a danger to yourself or someone else. Also, we may have to show information that identifies you to people from organizations, such as The University of Memphis, who would check that we did the study correctly.

All information gathered in this study will be confidential and questionnaire responses will be saved in a password-protected online database that only study staff can access. Your responses will be identified using a random code number that cannot be traced back to you. When we share findings from this study in presentations or publications, information from all participants will be combined so you will never be personally identified.

CAN YOUR TAKING PART IN THE STUDY END EARLY?

If you participate in this study you can choose to end at any time. If you no longer want to be a part of this study, we can delete all of your information from the database. You will not be treated differently by study or Family Safety Center staff, if you decide to stop taking part in the study at any time.

The study staff may need to withdraw you from participating in the study if you become overly distressed, if you are not able to follow along, if the study is more risk than benefit to you, or if the study has to end early for a variety of scientific reasons. If we have to withdraw you early, you will still receive the \$20 gift card for your time.

ARE YOU PARTICIPATING OR CAN YOU PARTICIPATE IN ANOTHER RESEARCH STUDY AT THE SAME TIME AS PARTICIPATING IN THIS ONE?

You may take part in this study if you are currently involved in another research study.

WHAT IF NEW INFORMATION IS LEARNED DURING THE STUDY THAT MIGHT AFFECT YOUR DECISION TO PARTICIPATE?

Any new information that might change your willingness to stay in this study will be provided to you immediately. You may need to complete a new informed consent form if the information is provided after you have joined the study.

WHAT HAPPENS TO MY PRIVACY IF I AM INTERVIEWED?

Your privacy will be protected to the extent allowable by law. Any information gathered during the interview is separated from your identifying information. The study staff is trained to maintain confidentiality while conducting research.

WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS, CONCERNS, OR COMPLAINTS?

Before you decide to take part in this study, please ask us any questions. If you have questions, suggestions, concerns, or complaints about the study after you participate, you can contact the study investigators, Dr. Kathryn Howell at 901.678.1541 or Dr. Idia Thurston at 901.678.4690. If you have questions about your rights as a study participant, Beverly Jacobik, administrator for the Institutional Review Board for the Protection of Human Subjects, can be contacted via e-mail at irb@memphis.edu or by phone at 901-678-2705. If you would like additional resources or should you wish to be connected with local and affordable service providers, please note the list provided below.

INFORMATION ABOUT LOCAL & NATIONAL RESOURCES FOR MENTAL HEALTH, VIOLENCE, HIV, AND SUBSTANCE USE

NATIONAL MENTAL HEALTH RESOURCES:

National Institutes of Mental Health (NIMH): <http://www.nimh.nih.gov>

National Alliance on Mental Illness (NAMI): <http://www.nami.org>

American Psychological Association: <http://www.apa.org>

MEMPHIS MENTAL HEALTH RESOURCES:

U of M Psychological Services Center: (901) 678-2147;

<http://www.memphis.edu/psychology/psc/index.php>

Memphis Crisis Center: (901) 274-7477; <http://memphiscrisiscenter.org/>

NATIONAL INTERPERSONAL VIOLENCE RESOURCES:

National Domestic Violence Hotline: 1-800-799-SAFE (7233); <http://www.thehotline.org/>

National Institute of Mental Health: Children and Violence:

<http://www.nimh.nih.gov/health/topics/child-and-adolescent-mental-health/children-and-violence.shtml>

Childhelp: <http://www.childhelp.org/>

National Coalition Against Domestic Violence: <http://www.ncadv.org/>

Break the Cycle: Empowering Youth to End Domestic Violence:

<http://www.breakthecycle.org/dating-violence-101>

MEMPHIS INTERPERSONAL VIOLENCE RESOURCES:

YWCA of Memphis: (901) 725-4277; <http://www.memphisywca.org/>

Sophia's House (Domestic Violence services): 1-855-SOPHIA3 (1-855-767-4423);

<http://www.safestartshere.org/>

CAAP, INC.: Domestic Violence Program: (901) 272-

2221; http://www.caapincorporated.com/domestic_viol.htm

Tennessee Domestic Violence Hotline: 1-800-356-6767; <http://tncoalition.org/>

Memphis Police Department Domestic Violence Unit: (901) 636-3741

<http://www.memphispolice.org/investigations.htm>

NATIONAL HIV RESOURCES:

National STD/HIV Hotline: 1-800-232-4636

Centers for Disease Control: <http://www.cdc.gov/hiv/>

AIDS.gov: <http://aids.gov/>

National HIV and STD Testing Resources: <http://hivtest.cdc.gov/>

MEMPHIS HIV RESOURCES:

Ryan White Program, Memphis: <http://www.hivmemphis.org/index>
Friends for Life Corporation: (901) 272-0855; <http://www.friendsforlifecorp.org/>
Hope House: (901) 272-2702, ext. 206; <http://www.hopehousememphis.org>
Connect to Protect: (901) 595-5989; <http://connect2protect.org/coalitions/memphis/>
Packer STD/HIV Clinic: (901) 222-9385; <http://www.shelbycountyttn.gov/index.aspx?NID=850>

NATIONAL SUBSTANCE ABUSE RESOURCES:

Substance Abuse and Mental Health Services Administration: <http://www.samhsa.gov/>
National Institute on Drug Abuse: <http://www.drugabuse.gov/>
National Center on Addiction and Substance Abuse (CasaColumbia):
<http://www.casacolumbia.org/>
National Substance Abuse Index: <http://nationalsubstanceabuseindex.org/>

MEMPHIS SUBSTANCE ABUSE RESOURCES:

Cocaine and Alcohol Awareness Program, Inc.: (901) 360-0442;
<http://www.caapincorporated.com/>
Grace House: (901) 722-8460; <http://gracehousememphis.azurewebsites.net/>
Harbor House, Inc.: (901) 743-1836; <http://www.harborhousememphis.org/>
Memphis Recovery Centers, Inc.: (901) 272-7751; <http://www.memphisrecovery.com/>
Memphis Treatment Center for Research and Addiction Treatment: (901) 742-9420
http://alcoholism.about.com/od/tx_tn/qt/tn120.htm
Serenity Recovery Centers: (901) 521-1131; <http://www.serenityrecovery.org/>

By checking the box below, you are confirming that you are at least 18 years old and are agreeing to be in the study. We will give you a copy of this consent form for your records and a copy will also be kept with the study records.

You can contact the study investigators, Dr. Kathryn Howell at 901.678.1541 or Dr. Idia Thurston at 901.678.4690 with any questions you have now or at a later date.

Yes

No

Date

Appendix D Measures

The Revised Conflict Tactics Scale (CTS2)

DIRECTIONS: This next set of questions is about relationships you have had with a romantic partner within the past 6 months. No matter how well a couple gets along, there are times when they disagree, get annoyed with one another, want different things from each other, or just have disagreements or fights because they are in a bad mood, are tired, or are upset for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences.

Please tell me how many times these things have happened within the PAST SIX MONTHS.

	Once	Twice	3-5 times	6-10 times	11-20 times	More than 20 times	Never
Your partner showed care for you even though you disagreed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner explained his/her side of a disagreement to you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner insulted or swore at you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner threw something at you that could hurt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner twisted your arm or hair.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You had a sprain, bruise, or small cut because of a fight with your partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner showed respect for your feelings about an issue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

made you have sex without a condom.							
Your partner shoved or pushed you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner used force to make you have oral or anal sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner used a knife or gun on you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You passed out from being hit on the head by your partner in a fight.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner called you fat or ugly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner punched or hit you with something that could hurt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner destroyed something that belonged to you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You went to a doctor because of a fight with your partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner choked you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner shouted or yelled at you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

slammed you against a wall.							
Your partner was sure you would work it out.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You needed to see a doctor because of a fight with your partner, but didn't.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner beat you up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner grabbed you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner used force to make you have sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner stomped out of the room or house or yard during a disagreement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner insisted that you have sex when you didn't want to (but did not use physical force).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner slapped you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You had a broken bone from a fight with your partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner used threats to make you have oral or anal sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Your partner suggested a compromise to a disagreement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner burned or scalded you on purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner insisted that you have oral or anal sex (but did not use physical force).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner accused you of being a lousy lover.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner did something to spite you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner threatened to hit or throw something at you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You still felt physical pain the next day because of a fight you had with your partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner kicked you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner used threats to make you have sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your partner agreed to try a solution you suggested.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Daily Spiritual Experience Scale (DSES)

DIRECTIONS: The next set of items may or may not fit with your life experiences. A number of items use the word 'God.' If this word is not a comfortable one for you, please use another that calls to mind the divine or holy for you.

	Many times a day	Every day	Most Days	Some days	Once in a while	Never
You feel God's presence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You experience a connection to all of life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During worship, or at other times when connecting with God, you feel joy which lifts you out of your daily concerns.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You find strength in your religion or spirituality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You find comfort in your religion or spirituality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You feel deep inner peace or harmony.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You ask for God's help in the midst of daily activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You feel guided by God in the midst of	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

daily activities.						
You feel God's love for you, directly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You feel God's love for you, through others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You are spiritually touched by the beauty of creation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You feel thankful for your blessings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You feel a selfless caring for others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You accept others even when they do things you think are wrong.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You desire to be closer to God or in union with the divine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Center for Epidemiological Studies Depression Scale (CES-D)

DIRECTIONS: DURING THE PAST WEEK, please tell me how often you felt or behaved in the following ways.

	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of the time (3-4 days)	Most or all of the time (5-7 days)
You were bothered by things that usually don't bother you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You did NOT feel like eating; your appetite was poor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You felt that you could not shake off the blues even with help from your family and friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You felt that you were just as good as other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You had trouble keeping your mind on what you were doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You felt depressed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You felt that everything you did was an effort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You felt hopeful about the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You thought your life had been a failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You felt fearful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your sleep was restless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You were happy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You talked less	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

than usual.				
You felt lonely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People were unfriendly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You enjoyed life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You had crying spells.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You felt sad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You felt that people disliked you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You could not "get going".	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Generalized Anxiety Disorder 7 (GAD-7)

DIRECTIONS: Over the last 2 weeks, how often have you been bothered by the following problems?

	Not at all (0)	Several days (1)	More than half the days (2)	Nearly every day (3)
Feeling nervous, anxious, or on edge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not being able to stop or control worrying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worrying too much about different things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trouble relaxing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being so restless that it is hard to sit still.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being easily annoyed or irritable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling afraid, as if something awful might happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

- Not difficult at all
- Somewhat Difficult
- Very difficult
- Extremely difficult

Appendix E Mental Health Resources

LOCAL & NATIONAL RESOURCES FOR MENTAL HEALTH, VIOLENCE, HIV, AND SUBSTANCE USE

NATIONAL MENTAL HEALTH RESOURCES:

National Institutes of Mental Health (NIMH): <http://www.nimh.nih.gov>

National Alliance on Mental Illness (NAMI): <http://www.nami.org>

American Psychological Association: <http://www.apa.org>

MEMPHIS MENTAL HEALTH RESOURCES:

U of M Psychological Services Center: (901) 678-2147;

<http://www.memphis.edu/psychology/psc/index.php>

Memphis Crisis Center: (901) 274-7477; <http://memphiscrisiscenter.org/>

NATIONAL INTERPERSONAL VIOLENCE RESOURCES:

National Domestic Violence Hotline: 1-800-799-SAFE (7233); <http://www.thehotline.org/>

National Institute of Mental Health: Children and Violence:

<http://www.nimh.nih.gov/health/topics/child-and-adolescent-mental-health/children-and-violence.shtml>

Childhelp: <http://www.childhelp.org/>

National Coalition Against Domestic Violence: <http://www.ncadv.org/>

Break the Cycle: Empowering Youth to End Domestic Violence:

<http://www.breakthecycle.org/dating-violence-101>

MEMPHIS INTERPERSONAL VIOLENCE RESOURCES:

Family Safety Center of Memphis and Shelby County: (901) 222-4400;

<http://www.familysafetycenter.org/>

YWCA of Memphis: (901) 725-4277; <http://www.memphisywca.org/>

Sophia's House (Domestic Violence services): 1-855-SOPHIA3 (1-855-767-4423);

<http://www.safestartshere.org/>

Tennessee Domestic Violence Hotline: 1-800-356-6767; <http://tncoalition.org/>

Memphis Police Department Domestic Violence Unit: (901) 636-3741;

<http://www.memphispolice.org/investigations.htm>

NATIONAL HIV RESOURCES:

National STD/HIV Hotline: 1-800-232-4636

Centers for Disease Control: <http://www.cdc.gov/hiv/>

AIDS.gov: <http://aids.gov/>

National HIV and STD Testing Resources: <http://hivtest.cdc.gov/>

MEMPHIS HIV RESOURCES:

Ryan White Program, Memphis: <http://www.hivmemphis.org/index>

Friends for Life Corporation: (901) 272-0855; <http://www.friendsforlifecorp.org/>

Hope House: (901) 272-2702, ext. 206; <http://www.hopehousememphis.org>

Connect to Protect: (901) 595-5989; <http://connect2protect.org/coalitions/memphis/>

Packer STD/HIV Clinic: (901) 222-9385; <http://www.shelbycountyttn.gov/index.aspx?NID=850>

NATIONAL SUBSTANCE ABUSE RESOURCES:

Substance Abuse and Mental Health Services Administration: <http://www.samhsa.gov/>
National Institute on Drug Abuse: <http://www.drugabuse.gov/>
National Center on Addiction and Substance Abuse (CasaColumbia):
<http://www.casacolumbia.org/>
National Substance Abuse Index: <http://nationalsubstanceabuseindex.org/>

MEMPHIS SUBSTANCE ABUSE RESOURCES:

Cocaine and Alcohol Awareness Program, Inc.: (901) 360-0442;

<http://www.caapincorporated.com/>

Grace House: (901) 722-8460; <http://gracehousememphis.azurewebsites.net/>

Harbor House, Inc.: (901) 743-1836; <http://www.harborhousememphis.org/>

Memphis Recovery Centers, Inc.: (901) 272-7751; <http://www.memphisrecovery.com/>

Memphis Treatment Center for Research and Addiction Treatment: (901) 742-9420

http://alcoholism.about.com/od/tx_tn/qt/tn120.htm

Serenity Recovery Centers: (901) 521-1131; <http://www.serenityrecovery.org/>