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Benefit-finding and coherence in the narratives of women with HIV

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Dissertation

BENEFIT-FINDING AND COHERENCE IN THE
NARRATIVES OF WOMEN WITH HIV

by

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Shehecheyanu and dayenu!
ABSTRACT

Women with HIV are particularly at risk for poor mental health outcomes and for a number of traumatic experiences, including sexual abuse. Benefit-finding is the ability to generate positive outcomes resulting from trauma and is important for women with HIV, since it is motivated by distress and has demonstrated health benefits among individuals with trauma and/or medical conditions. Qualitative narrative measures, especially those that reflect life stories, are most likely to assess benefit-finding. Narrative coherence, which reflects how well a life story is told, may be associated with benefit-finding and with better mental health outcomes.

The current study hypothesized that greater psychological distress (depressive symptoms [CESD] and quality of life [QOL]), HIV disease progression (HIV viral load [VL] and CD4 count), and sexual abuse, and lower levels of substance use, assessed with self-report measures at multiple visits over an average of 10 years ($M = 10.05$ years, $SD = 3.47$ years), would predict benefit-finding and coherence, coded from autobiographical narratives of 99 women with HIV (91% African American, mean age = 44.78 years, $SD =$ iv
8.85 years) who were participants in the Women’s Interagency HIV Study, Chicago site. Greater benefit-finding and coherence were also hypothesized to predict higher resilience coded in narratives cross-sectionally and higher CD4 count, QOL, and antiretroviral medication (HAART) adherence, and lower VL and CESD 6 months following narrative administration (\(M = 5.64\) months, \(SD = 1.49\) months).

Partial correlations and multiple hierarchical linear and logistic regressions controlling for demographics and other relevant covariates indicated that hypotheses were partially supported. History of sexual abuse predicted greater benefit-finding only. There were no significant longitudinal predictors of narrative coherence. Benefit-finding was positively related to narrative coherence and resilience (cross-sectionally) and positively predictive of HAART adherence, greater likelihood of CD4 \(\geq 350\) and undetectable VL, and fewer depressive symptoms 6 months later. Coherence was not significantly related to post-narrative outcomes. Results suggest that benefit-finding has numerous health benefits among women with HIV and that interventions for this population should draw on and enhance benefit-finding, a potential strength in facing adverse circumstances.
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LIST OF ABBREVIATIONS

AIDS  Acquired immunodeficiency syndrome
CESD  Center for Epidemiological Studies – Depression Scale
HAART  Highly active antiretroviral therapy
HIV  Human immunodeficiency virus
QOL  Quality of Life
CHAPTER ONE

Introduction

Women with HIV are particularly at-risk for experiencing traumatic events including physical and sexual abuse (Brief et al., 2004; Kalichman, Sikkema, DiFonzo, Luke, Austin, 2002; Kimerling & Calhoun, 1994; Machtinger, Wilson, Haberer, & Weiss, 2012) and for mental health outcomes such as depression and low quality of life (Cook et al., 2002, Cook et al., 2004; Morrison et al., 2002). Benefit-finding, the ability to recognize or create some positive outcome resulting from the trauma, is one component of meaning-making. Benefit-finding may be especially important among women with HIV, since it is motivated by distress and has been demonstrated to result in health benefits among individuals with trauma and among individuals with other serious medical conditions such as cancer and diabetes (e.g., Davis, Nolen-Hoeksema, & Larson, 1998; Bower, Kemeny, Taylor, & Fahey, 2003; Costa & Pakenham, 2012; Tran, Wiebe, Fortenberry, Butler, & Berg, 2011). Qualitative measures, such as autobiographical narratives, are most likely to capture the full range and nuance of meaning making, including benefit-finding. Moreover, as women continue to narrate and re-narrate their life stories, stories that are more meaningful will be more coherent and better told (McAdams, 2006a; Janoff-Bulman, 1992). There is also some evidence that narrative coherence relates to fewer depressive symptoms and greater life satisfaction (Adler, Wagner, & McAdams, 2007; Baerger & McAdams, 1999). The current study examined benefit-finding and coherence in the autobiographical turning point narratives of women.
with HIV who had experienced a variety of types of trauma and abuse, in order to explore how markers of HIV disease progression, psychological distress, and trauma predict and are predicted by benefit-finding and coherence in women’s narratives.

**Meaning Making and Traumatic Events**

In *Man’s Search for Meaning*, Victor Frankl (1959) asserted that human beings have a basic need to make meaning of their lives and that the establishment of meaning helps them cope during crisis. Since then, psychologists have attempted to understand, explain, and formulate the types of meaning individuals make of their traumatic experiences and the ways in which this meaning may serve to reduce psychological distress or promote resilience. Finding meaning in a traumatic event has been associated with better physical and mental health outcomes across a wide-range of traumatic events, health diagnoses, and bereavement (e.g., Costa & Pakenham, 2012; Davis et al., 1998; Folkman, Chesney, Collette, Boccellari, & Cooke, 1996; Tran et al., 2011; Wood, Foran, Britt, & Wright, 2012).

Although researchers have varying conceptualizations of meaning making, one primary model has two main components: meaning as comprehensibility and meaning as significance (Janoff-Bulman & Frantz, 1997). Meaning as comprehensibility (commonly referred to as sense-making; e.g., Davis et al., 1998; which will be the term used here throughout) refers to how trauma survivors make sense of the event, fitting it into established schemata of the self and the world. Meaning as significance (commonly referred to as benefit-finding; e.g., Davis et al., 1998; which will be the term used here throughout)
throughout) involves whether the individual finds some value in or positive outcome as a result of the event. Through sense-making, the individual processes whether she can fit the event into her established worldview or whether she must change her worldview in response to the event. Unlike sense-making, benefit-finding is not whether the individual can fit the event into her established worldview, but whether she can find some positive value or outcome as a result. While sense-making is concerned with understanding the cosmic order of things, benefit-finding concerns whether the individual is able to create a personal life worth living post-trauma. Through sense-making, the individual places the event within a larger view of the world that remains just, predictable, and controllable (Janoff-Bulman & Frantz, 1997). Through benefit-finding, the individual reconstructs whether her own life is meaningful, such as through close relationships, social causes, or spirituality.

Benefit-finding, in particular, has been strongly and consistently associated with better physical and mental health outcomes across a wide variety of losses, trauma, and illnesses. After bereavement, benefit-finding is associated with lower levels of distress and depressive symptoms (Davis et al., 1998; Folkman et al., 1996); fewer symptoms of complicated grief (Lichtenthal, Currier, Neimeyer, Keesee, 2010) and posttraumatic stress disorder (PTSD; Lichtenthal & Cruess, 2010); and greater immune functioning (Bower et al., 2003). Benefit-finding may buffer against development of symptoms of PTSD after a traumatic event such as wartime deployment (Wood et al., 2012) and natural and man-made disasters, such as tornados, plane crashes, and mass shootings (McMillen, Smith, & Fisher, 1997). Benefit-finding also has numerous benefits for those
grappling with health problems. Benefit-finding has been associated with better adjustment, greater positive affect, and positive health behavior change among patients with thyroid cancer (Costa & Pakenham, 2012); greater quality of life and positive affect among people with colorectal cancer (Rinaldis, Pakenham, & Lynch, 2010, 2012); and lower depressive symptoms, higher perceived coping effectiveness, and better adherence to medication regimens among adolescents with diabetes (Tran et al., 2011). Among women with early stage breast cancer, benefit-finding predicted lower depressive symptoms and lower negative affect 4-7 years later, even after controlling for initial levels of negative affect and depressive symptoms (Carver & Antoni, 2004). In a sample of individuals with lung, head, or neck cancers, benefit-finding moderated the relationship between perceived stigma and subjective well-being, such that perceived stigma was related to decreased psychological well-being only among participants low on benefit-finding (Lebel et al., 2013). Thus, across a wide range of traumas and losses, benefit-finding serves as a protective factor against negative mental and physical health outcomes.

Types of Traumatic Events and Outcomes. Research has consistently replicated the finding that rape and other sexual assaults are traumas most strongly associated with distress and symptoms of PTSD as compared to less interpersonal trauma such as accidents and natural disasters (e.g., Breslau, Davis, Andreski, & Peterson, 1991; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). These results also suggest that while men are more likely to experience traumatic events, women are more likely to experience interpersonal traumatic events with high probabilities of developing PTSD, such as rape;
and that even after controlling for type of event, women are more likely to develop PTSD than men (Kessler et al., 1995). Among 2,131 female Gulf war veterans, veterans who had experienced military sexual assault were 5.41 times as likely to develop PTSD as veterans who had not experienced military sexual assault (Kang, Dalager, Mahan, & Ishii, 2005). Among individuals who had experienced either a sexual assault, the death of a first-degree relative, or a motor vehicle accident, the bereavement group reported significantly greater appreciation for life and greater improvement in relationships than the sexual assault group (Shakespeare-Finch & Armstrong, 2010). In addition, the sexual assault group had statistically significantly higher symptoms of PTSD as compared to both the bereavement group and the motor vehicle accident group.

Predictors and Correlates of Benefit-Finding. Determining the predictors and correlates of benefit-finding is important to help guide the creation of intervention programs. In addition, benefit-finding involves searching for or generating positive outcomes, and thus may be associated with more active or problem-focused coping (e.g., Lechner & Weaver, 2009). Across a range of illnesses (such as breast cancer or head and neck cancer) and stressful life events (such as bereavement or caring for a mentally ill family member), coping strategies such as behavioral change; seeking education; social support; social activism; extraversion; optimism; belief in personal control; positive reframing; emotional approach; viewing the event as part of personal identity; religiosity and spirituality; and acceptance have emerged as relating to benefit-finding (Boyraz, Horne, & Sayger, 2012; Davis et al., 1998; Dunn, Occhipinti, Campbell, Ferguson, & Chambers, 2011; Helgeson, 2011; Llewellyn et al., 2013; Mackay & Pakenham, 2012;
Steffen, 2011; Thornton et al., 2012). In contrast, coping strategies such as avoidance, substance use, and self-blame have been negatively associated with benefit-finding (Andrykowski & Pavlik, 2011; Llewellyn et al., 2013). In addition, there is some evidence to suggest that more intrusive thoughts about one’s illness are also related to increased levels of benefit-finding (Andrykowski & Pavlik, 2011; Dunn et al., 2011; Thornton et al., 2012). Demographic correlates of benefit-finding have included female gender, higher levels of education, and being married (Dunn et al., 2011; Llewellyn et al., 2013). However, in another sample, lower levels of education were associated with benefit-finding (Andrykowski & Pavlik, 2011). After reviewing numerous studies on benefit-finding, Lechner and Weaver (2009) caution that demographic covariates such as age, SES, marital status, and ethnicity are often inconsistently associated with benefit-finding across studies and may be a result of differences in study methodologies.

Making Meaning of Human Immunodeficiency Virus (HIV)

Benefit-finding may be particularly important for people who becoming infected with HIV, not only because HIV itself is a life-altering illness but also because of the many risk factors for contracting HIV. Women with a history of sexual abuse (especially as a child) are more likely to engage in high-risk behaviors—such as drug use; unprotected sex; having sex with a male partner with HIV; having multiple sexual partners; and having sex for drugs, money, or shelter—which, in turn, put them at greater risk for contracting HIV (Arriola, Louden, Doldren, & Fortenberry, 2005; Centers for Disease Control and Prevention [CDC], 2012; Cohen at al., 2000). Benefit-finding may
be particularly important in these samples since the lifetime prevalence of physical and sexual assault is higher in HIV+ women than in HIV- women (e.g., Brief et al., 2004; Kalichman et al., 2002; Kimerling & Calhoun, 1994; Machtinger et al., 2012), and since a history of abuse has been linked to poor health outcomes among women with HIV, such as non-adherence to antiretroviral medication (Cohen et al., 2004; Meade, Hansen, Kochman, & Sikkema, 2009) and mortality due to AIDS-related and other causes (Leserman et al., 2007). Among African American, Puerto Rican, and Caucasian women with HIV/AIDS, 83% reported some positive change as a result of the diagnosis (Siegel & Schrimshaw, 2000). Benefit-finding included: (1) positive behavioral changes such as recovery from drugs or alcohol, stopping smoking, and abstaining from risky sex; (2) religious or spiritual growth; (3) improved relationships with family and friends; (4) positive intrapersonal changes, such as feeling stronger, more caring, more empathic, and having a better attitude; (5) valuing life by recognizing the preciousness of the present moment; and (6) increased social activism, AIDS advocacy, education, outreach, and service. Among low-SES HIV+ women, positive changes as a result of HIV diagnosis included improvements in views of the self and life priorities (Updegraff, Taylor, Kemeny, & Wyatt, 2002). In a study of men and women with HIV, benefit-finding included valuing people and the present day over status, money, or power; being active in the HIV/AIDS community; and increased acceptance of their own and others’ failings (Baumgartner, 2002). Thus, in these samples, benefit-finding was primarily associated with spirituality, positive shifts in priorities, behavior change (including self-reform and abstinence), social support, and social activism.
Benefit-finding has demonstrated benefits among individuals with HIV. In cross-sectional studies, benefit-finding has been associated with fewer depressive symptoms and more positive affect, even after controlling for demographic characteristics, psychosocial resources, and stressors, among women with HIV (Siegel & Schrimshaw, 2007); fewer depressive symptoms and decreased cortisol levels among men and women with HIV (Carrico et al., 2006); fewer depressive symptoms, greater social support, and more physical activity (Littlewood, Vanable, Carey, & Blair, 2008); and greater adherence to highly active antiretroviral therapy (HAART) medication and general physical functioning (Luszczynska, Sarkar, & Knoll, 2007). In addition, benefit-finding has been longitudinally associated with broadly defined self-care one year later (Baumgartner, 2002). Finally, among HIV+ men who had lost a close friend or partner to AIDS, benefit-finding was significantly predictive of maintenance of CD4+ cells (a measure of the absolute number of T helper cells that are essential for an effective adaptive immune response) up to three years later and of decreased AIDS-related mortality up to nine years later (Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000). It may be that meaning-making serves as a buffer between distress and nonadherence to medication, such that individuals who are able to find benefit are more likely to be adherent to HAART and in turn have better HIV biomarkers, including CD4+ cells.

As predicted by Frankl (1959), many researchers have found meaning making to be associated with resilience in the face of trauma and HIV. Resilience (sometimes termed “hardiness” [Agaibi & Wilson, 2005]) is the ability to maintain relatively stable and healthy psychological and physical functioning in the face of traumatic or adverse
experiences (Alim et al., 2008; Bonanno, 2008; Farber, Schwartz, Schaper, Moonen, & McDaniel, 2000), and may mitigate the negative effects of abuse histories that are common among women infected with HIV (Dale, Cohen, et al., 2013; Machtinger et al., 2012). Although resilience among individuals with HIV has not received much empirical attention, Farber et al. (2000) found that among individuals with HIV/AIDS, hardiness was significantly associated with less psychological distress and with better mental and physical health outcomes. Hardiness was also associated with common characteristics of meaning making such as greater belief in the benevolence of the world and of people, stronger belief in one’s own self-worth, and was negatively associated with beliefs in the world’s randomness.

Meaning Making and Distress

Research has tended to examine the relationships between meaning making and distress outcomes as a unidirectional process; however, the relationship between meaning making and distress may be more complex (Gillies & Neimeyer, 2006). The first consideration is that distress is not a simple, or univariate, construct. It has been conceptualized as a variety of different negative physical and mental health outcomes: including depression and/or symptoms of PTSD (e.g., Davis et al., 1998; Hapke, Schumann, Rumpf, John, & Meyer, 2006), measures that assess symptoms of grief (Gillies & Neimeyer, 2006), lower immune functioning (Bower et al., 2003), and lower CD4+ cell counts in HIV+ samples (Taylor et al., 2000). Occasionally researchers have examined a number of different measures of symptomatology linking them to a single
distress construct (e.g., Davis et al., 1998), but more frequently the idea of distress has been located in specific symptomatology. Thus the literature on how to conceptualize distress across different types of trauma and different mental and physical health outcomes is limited.

A second consideration is that the relationship between distress and meaning making is likely to be bidirectional and transactional rather than unidirectional. Given human preference for assimilation, individuals are likely undergoing considerable distress before they are motivated to begin making meaning. Several authors have found the process of meaning making to be associated with increased levels of stress (Calhoun, Cann, Tedeschi, & McMillan, 2000; Downey, Silver, & Wortman, 1990; Uren & Wastell, 2002). According to Gillies and Neimeyer (2006) the relationship between meaning making and distress may be bidirectional, with each exerting reciprocal influences on the other: an event that is inconsistent with an individual’s worldview and causes increased distress may precipitate meaning making. The result of this process may be the reconstruction of previously held beliefs and systems of meaning. If these newly constructed meanings are helpful, the individual may experience decreased distress. If the individual does not experience the new meanings as helpful, increased distress may result.

Although most researchers have assumed that meaning reconstruction is a central task following bereavement and other traumatic events, some research suggests that not all individuals struggle to find meaning or benefit from meaning making. A significant subset of individuals may not search for meaning following trauma (Davis, Wortman,
Lehman, & Silver, 2000). Among parents who lost a child either to sudden infant death syndrome (SIDS) or to a motor vehicle accident, a significant minority indicated that they had never searched for meaning in the event. In these samples, individuals who had never searched for meaning had fewer symptoms of depression and reported greater wellbeing than individuals whose search for meaning was ongoing. Thus, although most participants did search for meaning after the loss, this study raises questions about whether meaning making is a necessary or normative process following traumatic events and whether it is critical for better outcomes. On the other hand, meaning making is thought to be the result of threat to the individual’s assumptive world. Therefore, it may be that for a small but significant minority of individuals, such losses do not threaten established worldviews and can be assimilated into existing models (Neimeyer, 2000). Examples of such models might be that sudden loss is seen as “God’s will,” the result of “bad luck in life,” or “life’s arbitrariness” and therefore needs no further explanation.

As this line of research suggests, the relationship between benefit-finding and distress may not be linear. Among women with breast cancer, Carver, Lechner, and Antoni (2009) noted cross-sectional curvilinear relationships between benefit-finding and concurrently reported initial measures of distress, such as initial thought avoidance, thought intrusion, and negative affect. The direction of these curves revealed that women with moderate amounts of initial distress (rather than those with very high distress or very low distress) were the most likely to endorse benefit-finding. The authors then compared benefit-finding and concurrently reported psychosocial outcomes, such as positive affect and quality of life, five years later. Again, they found curvilinear relationships, such that
women with small amounts of benefit-finding reported lower positive affect and quality of life as compared to women with little to no benefit-finding and compared to women with high benefit-finding. As discussed above, it is important to note that there may be individual differences in reaction based on type of trauma, the intensity of the trauma, the numbers of traumas experienced, and genetic vulnerability to reacting to trauma with anxiety or PTSD symptomatology that may well subsume gender (with women being more likely to suffer PTSD than men), as well as learned or modeled reactions from the environment. In addition, these results suggest that individuals may have different types of reactions to the same traumatic event, such as being diagnosed with breast cancer. Moderate amounts of initial distress may be the most conducive to benefit-finding. In addition, both individuals with limited initial distress (and little to no benefit-finding) and individuals with (moderate initial distress and) high benefit-finding may have better long-term outcomes than individuals with significant initial distress and low benefit-finding.

Meaning Making and the Creation of the Life Story

Although meaning making has been assessed in a variety of ways, qualitative measures are most likely to capture the full range and nuance of individuals’ attempts to make meaning. Indeed, many researchers concur that autobiographical life stories are intimately related to meaning making. McAdams (1996) has argued that the construction of a life story is a central component of identity formation and meaning. Although life stories are clearly based in the reality of events that have occurred, they are also shaped and constructed by the individual. The idea of life story as construction means that the
individual can shape the events and the telling of the narrative—choosing what to emphasize, what to leave out, and how to tie the disparate pieces together—in order to create a meaningful whole (McAdams, 2001). In addition, some research suggests that the telling of certain types of life experiences may lend themselves to more meaning making strategies. Hospice volunteers included more meaning making coping strategies, especially benefit-finding and imbuing the event with religious significance, in their autobiographical narratives about a death-related memory than in their narratives about a non-death-related, low point memory (e.g., conflict with a family member, divorce; Mackay & Bluck, 2010).

McAdams and colleagues (2006) have designed a Guided Autobiography Task to tap some of these central dimensions of a life story. The task, which has been used extensively in previous research, asks participants to describe significant events in their life: a peak experience, a nadir experience, and a turning point experience, among others. The content and structure of these autobiographical memories are thought to reflect key aspects of identity, including core motives, affects, and enduring goals (Conway & Pleydell-Pearce, 2000; Conway & Rubin, 1993; Pasupathi, 2001; Reese, 2002; Singer & Salovey, 1993; Skowronski & Walker, 2004). They reflect and maintain stable self-beliefs, exerting powerful influences on encoding and retrieval of self-relevant information (Robinson & Clore, 2002), and are thought to be central in understanding how individuals make meaning of their lives (McAdams, 2001).
Meaning Making and Narrative Coherence

One central component of a life story is its underlying structure or coherence, including the extent to which the narrative is oriented in time and place, has a logical sequence (linear, chronological, or causal structure), and contains an affective or evaluative component that reveals why the narrator has chosen to tell this story this way (e.g., the meaning or message of the narrative). According to Baerger and McAdams (1999), individuals in a given society acquire collective assumptions about what makes a life story good, including what rules the story must follow, what elements it must contain, and the underlying structure and emotional tone that allows the listener to understand the narrative. Research has consistently posited a relationship between high levels of narrative coherence and meaning making. McAdams (2006a) argues that individuals create meaningful selves through the construction of coherent life stories. According to Janoff-Bulman (1992), the process of meaning making after trauma involves re-authoring a coherent life narrative. Indeed, many researchers argue that trauma negatively impacts coherence, because traumatic memories may be more fragmented and disorganized, thereby leading to less organized narratives (Boals, Banks, Hathaway, & Schuettler, 2011; Brewin & Holmes, 2003; Ehlers & Clark, 2000; Foa, Molnar, & Cashman, 1995), which individuals must then rebuild. Other researchers have found little to no relationship between trauma and coherence. Among undergraduates with or without PTSD, PTSD was associated with more disorganized but no less comprehensible narratives about the trauma (Rubin, 2011).

The typical basis for the argument of a positive relationship between meaning
making and narrative coherence is that good life stories are both coherent and meaningful. Yet the exact relationship between narrative coherence and meaning making has not received much empirical attention. In the autobiographical narratives of teenagers and young adults, meaning making and narrative or thematic coherence were positively correlated (Grysman & Hudson, 2010; Nelson et al., 2012). In a sample of mothers and children with asthma, Fivush and colleagues (2008) found that the coherence of narratives was relatively independent of mothers’ and children’s use of mental state language, a variable used to assess meaning making. Boals and colleagues (2011) suggest that coherence may be positively associated with the outcome of meaning making, but negatively associated with the process of meaning making. In samples of university students, these researchers found that use of cognitive words (a representation of the process of sense-making) was positively correlated with other measures of meaning making for events about which participants indicated they did not have closure; that use of cognitive words was negatively correlated with measures of narrative coherence; and that coherence scores were positively predictive of post-traumatic growth. Thus, immediately following a traumatic event, individuals’ narratives are likely to be less coherent, but through the process of meaning making more coherent narratives and less distress may result. Lack of coherence and lower benefit-finding in narratives may also be related to inconsistencies in reports of trauma in interview versus narrative measures. Although there is little direct research on this subject, inconsistency in reporting may itself be a marker of distress (e.g., Harris, Griffin, McCaffrey, & Morral, 2008).

Baerger and McAdams (1999) identify four interrelated features of life stories that
contribute to coherence: orientation, structure, affect, and integration. The orientation component provides the context or background of the story, introduces main characters, locates the narrative in time and place, and describes any relevant past events that may be important for understanding the story being narrated. The structure component refers to the temporal or sequential ordering of events and relates to whether the story has a linear, chronological, or causal structure. Life stories that provide orientation and structure are necessary for coherence, but these attributes are not sufficient because they do not imbue the story with a sense of the emotional valence or affect of the narrative. The affect component reflects the evaluative and emotional aspect that contributes to the sense of the story’s significance and importance. Without affective coherence a story may be logically and linguistically intelligible, and yet still seem to have no real point (Labov, Cohen, Robins, & Lewis, 1968). The integration component reflects the consolidation of a particular story in the larger context of the individual’s life. Baerger and McAdams (1999) found all four indices of narrative coherence to be positively correlated with one another. In addition, the scores on individual indices of narrative coherence can be combined to create a total score.

Narrative Coherence and Substance Use. Drug abuse and HIV infection have been strongly associated since the beginning of the HIV epidemic (National Institute on Drug Abuse [NIDA], 2011), with a small but significant minority reporting persistent alcoholism, IV drug use, or crack/cocaine use post-diagnosis (Cook et al., 2009; Substance Abuse and Mental Health Services Administration [SAMHSA], 2010). Continued drug use is a risk factor for treatment non-compliance and is also associated
with a number of neurocognitive impairments, including deficits in attention, working memory, episodic memory, and learning (Anand, Springer, Copenhaver, & Altice, 2010). These types of deficits may significantly impact how well individuals are able to remember and narrate events about their lives, although scant literature addresses this topic. Substance abuse is also commonly recognized as a maladaptive coping strategy to deal with psychological or emotional distress and is associated with other maladaptive coping strategies as well as with negative health outcomes (e.g., O’Connor & Stewart, 2010; Tofthagen & Fagerstrøm, 2010). Indeed, the literature on use of autobiographical narratives in substance use treatment is limited and has shown little success (Ames et al., 2005; Kelley, 2011).

**Narrative Coherence and Well-Being.** There is some evidence that narrative coherence is related to positive outcomes. In a community sample, total scores as well as some subscale scores of coherence in turning point narratives were negatively correlated with depressive symptoms and positively correlated with happiness and life satisfaction (Adler et al., 2007; Baerger & McAdams, 1999). This finding builds on the significant body of research documenting the helpfulness of expressive writing or written disclosure tasks on physical and mental health (e.g., Pennebaker & Chung, 2011; Sloan & Marx, 2004), including reduced symptoms of PTSD (Bragdon & Lombardo, 2012). Although no single theory successfully accounts for the effectiveness of these expressive writing paradigms (Pennebaker, 2004), one possibility, following the principles of exposure therapy, is that individuals expose themselves to the thoughts and feelings associated with the event when writing about it, thereby leading to decreased distress (Foa & Kozak,
Narrative coherence is also thought to be related to more adaptive coping strategies. For example, in a sample of families with asthmatic children, narrative coherence was positively associated with more effective problem solving, better family communication, and higher overall family functioning (Fiese & Wamboldt, 2003). In a sample of mothers and their preadolescent children with asthma, mothers with more active coping strategies (e.g., problem solving) were more likely to be engaged in the co-construction of narratives with their children (Fivush & McDermott Sales, 2006). The authors also suggest that mothers with more active and effective coping strategies may have been better able to co-construct a narrative framework for their children, and as a result these children had more flexible coping strategies. Thus the relationship between narrative coherence and better mental health outcomes may be a result of the relationship between narrative coherence and more active and adaptive coping strategies.

Summary of the Literature and Contribution of the Current Project

The current project built upon the existing research on benefit-finding and narrative coherence about traumatic events and among individuals with HIV. Although there is considerable research on the important health benefits of benefit-finding in bereaved and physically ill individuals, less empirical attention has been paid to individuals’ benefit-finding following other types of traumatic events or in HIV+ samples. The current study addressed the attempts at benefit-finding in women with HIV in response to a variety of traumatic events—including death, the diagnosis of HIV, physical abuse, homelessness,
neglect, and verbal and emotional abuse, with a special focus on sexual abuse—and examined HIV disease progression and psychological distress both as predictors and outcomes of benefit-finding and coherence. Since some amount of distress may be a necessary prerequisite for meaning making (e.g., Gillies & Neimeyer, 2006) and since sexual abuse is of particular relevance for HIV+ women (e.g., Brief et al., 2004; Kalichman et al., 2002; Kimerling & Calhoun, 1994; Machttinger et al., 2012), the majority of the analyses in the current study focused on sexual abuse as a predictor of benefit-finding and coherence. In addition, the current study examined inconsistencies in reporting sexual abuse and substance use across narrative measures and interviews as another marker of the potential impact of distress on benefit-finding and coherence.

Resilience is a particularly important concept among HIV+ women. The current study furthered the existing research on the relationship between resilience and benefit-finding and extended it by examining the relationship between resilience and narrative coherence. Few studies have examined benefit-finding in samples that are characterized by significant poverty, community disenfranchisement, and oppression. The present study’s focus on benefit-finding and narrative coherence in African American women with HIV controlling for substance use (a significant problem for this cohort) is a unique opportunity to study these variables in a chronically stressed, stigmatized, and disenfranchised population. Although many researchers have posited a significant positive relationship between narrative coherence and meaning making as a central component of what makes a life story good, the current project examined the nature of the relationship between benefit-finding and narrative coherence. Finally, much previous
literature on the relationships among distress, benefit-finding, and coherence has been cross-sectional. The current project is a longitudinal mixed-methods design, investigating three time points in order to assess how HIV disease progression, psychological distress, and abuse at Time 0, averaged longitudinally from women’s first enrollment in the study (either 1994/1995 or 2001/2002) up until 6-months prior to the date the narrative measures were collected (Time 1, between 2008-2012), an average span of 10 years, predict benefit-finding and narrative coherence at Time 1, which in turn predict decreased distress at Time 2, an average span of six months after Time 1.

The general objectives of the study were to investigate how benefit-finding and narrative coherence relate to level and types of trauma, psychological distress (measured as levels of depression and lower reported quality of life), HIV disease progression (CD4 and undetectable viral load [UDVL; an HIV biomarker and an indicator of the ability of anti-HIV drug treatment to reduce and maintain viral load to less than 200 copies per ml.]), and resilience in a sample of women with HIV who are predominantly African American, while controlling for or also investigating the role of HAART adherence, substance use, abuse, and demographic variables. The specific objectives were (1) to investigate the relationship among physiological indicators (HIV disease progression) and psychological types of distress; (2) to investigate the cross-sectional and longitudinal bidirectional relationships of distress and type and level of trauma with benefit-finding, narrative coherence, resilience, and HAART adherence; and (3) to investigate whether benefit-finding mediates the relationship between level of trauma and narrative coherence. Indicators of psychological distress were depressive symptoms and lower
quality of life scores. Indicators of HIV disease progression were CD4+ cell counts and detectable vs. undetectable HIV RNA load. Benefit-finding, coherence, and resilience were coded from narratives.

**Aim 1.** To investigate the relationship among physiological indicators (HIV biomarkers) and psychological types of distress. This aim was exploratory as the literature is limited as to the conceptualization of distress across types of trauma (e.g., Bower et al., 2003; Davis et al., 1998; Gillies & Neimeyer, 2006; Hapke et al., 2006; Taylor et al., 2000).

**Aim 2.** To investigate the cross-sectional and longitudinal relationships of HIV disease progression, psychological distress, and type and level of trauma or abuse with benefit-finding, narrative coherence, resilience, and HAART adherence. Longitudinal relationships among relevant variables specified in the hypotheses below were investigated between baseline (Time 0) and the middle visit (Time 1), as well as between Time 1 and Time 2 (6 months following Time 1). **Hypothesis 1:** Greater HIV disease progression, higher levels of psychological distress at Time 0, higher levels of sexual abuse, and lower levels of substance use (either as reported in interviews at Time 0 or as expressed in narratives at Time 1) will be significantly positively related to higher levels of benefit-finding and narrative coherence at Time 1. **Hypothesis 2:** Women who report higher levels of sexual abuse and lower levels of substance use in both their interview and narrative data will score higher on benefit-finding and coherence than women who deny sexual abuse and substance use across both interview and narrative data and than women whose reports of sexual abuse and substance use are inconsistent across interview
and narrative data. **Hypothesis 3:** This exploratory hypothesis was to examine the relationships between different types of trauma (e.g., death, HIV, sexual abuse, physical abuse) with benefit-finding and coherence. No specific direction is predicted. **Hypothesis 4:** Trauma that is interpersonal in nature (e.g., abuse) will be more significantly related to greater benefit-finding and coherence than trauma that is not interpersonal in nature (e.g., homelessness, physical illness). **Hypothesis 5:** Benefit-finding at Time 1 will be significantly positively related to narrative coherence at Time 1. **Hypothesis 6:** Controlling for HIV disease progression, psychological distress, CCH use, sexual abuse, and HAART adherence at Time 0, higher levels of benefit-finding and narrative coherence at Time 1 will be significantly positively related to higher levels of resilience at Time 1. **Hypothesis 7:** Controlling for HIV disease progression, psychological distress, CCH use, sexual abuse, and HAART adherence at Time 0, higher levels of benefit-finding and narrative coherence at Time 1 will be predictive of (Hypothesis 7A) greater HAART adherence at Time 2, (Hypothesis 7B) greater likelihood of CD4 count over 350 at Time 2, (Hypothesis 7C) greater likelihood of having an undetectable HIV RNA viral load at Time 2, (Hypothesis 7D) lower depressive scores at Time 2, and (Hypothesis 7E) higher quality of life scores at Time 2.

**Aim 3.** To investigate whether benefit-finding at Time 1 mediated the relationship between level of trauma at Time 0 and narrative coherence at Time 1. **Hypothesis 8:** Benefit-finding at Time 1 will mediate the relationship between sexual abuse at Time 0 and narrative coherence at Time 1.
CHAPTER TWO

Method

Participants

Details of the Women’s Interagency HIV Study (WIHS) study methodology have been previously described (Barkan et al., 1998, Bacon et al., 2005). Women with and at risk for HIV, matched for race/ethnicity and HIV risk behaviors, were enrolled in this NIH-funded, multi-site, longitudinal study during 1994/1995, 2001/2002, and 2011/2012. They attend semi-annual visits to collect demographic, psychosocial, behavioral, and medical data, and undergo a physical/gynecologic examination with specimen collection. The subsample for the current study consisted of 99 women with HIV from the Chicago WIHS site, who were asked to participate during a routine study visit. Spanish speakers and women who did not have in-person clinic visits were excluded. Table 1 displays sample demographic characteristics at Time 0. For demographic variables only (i.e., age, income, employment) a single data point from the visit immediately preceding the narrative data visit (WIHS visit 27-33, during 2007-2010) represented Time 0. Participants were primarily African American (91%), with a mean age of 44.78 years ($SD = 8.85$) at Time 0. At Time 0, 28.3% of the sample had an annual income of $6,000 or less, 43.4% had an annual income of $6,001-$12,000, and 28.3% had an annual income of $12,001 or greater. Eighty-one percent of women were unemployed at Time 0. Forty-four percent of women attended grades 7-11, 30% completed high school, 19% completed some college, and 4% completed 4 years of college. At Time 1 of the current
study, this sample had participated an average of 10.67 years in the WIHS ($SD = 3.51$, median = 9.11 years, minimum-maximum = 6.26-15.97 years) and contributed an average of 20.25 study visits ($SD = 6.94$, median = 18 visits, minimum-maximum = 5-32 visits). Time 2 occurred on average 5.64 months after Time 1 ($SD = 1.49$ months, minimum-maximum = 2.76-8.87 months).

**Procedures**

Participants at WIHS attend study visits every 6 months at which research staff collect a range of information including general and HIV health history, medication adherence, substance use, and other risky health behaviors. Staff use reliable and valid instruments to measure depression, sexual abuse, exposure to violence, and quality of life, and collect blood samples to measure CD4 cell count and viral load. Informed consent was obtained for all enrolled women. Participants received a financial honorarium of $25, transportation support, and childcare for their time and effort. The Cook County Health and Hospital Systems and Boston University Institutional Review Boards and the WIHS Executive Committee approved the study protocol. Measures were selected based on their reliability and validity with ethnically diverse and HIV populations as well as pilot testing. Trained WIHS research staff read the questions from each instrument aloud to the participants.

Data for the current study were taken from three time periods. Time 1 was the study visit at which the Guided Autobiography Narrative Task was administered (WIHS visit 28-34, during 2008-2011). Time 2 was the study visit immediately following (six
months after) Time 1 (WIHS visit 29-35, during 2008-2012). For all variables except demographics, Time 0 was a longitudinal mean or a longitudinal proportion calculated across all study visits from women’s baseline visit (her first visit was either 1994/1995 or 2001/2002 depending on when women were first enrolled in the study) through each woman’s visit that immediately preceded the Time 1 visit. On average, these variables represent 10.05 years ($SD = 3.47$, minimum-maximum = 5.60-15.58 years). This was done because the longitudinal means averaged over time for measures such as depression and quality of life have been found to be more stable and predictive in other research with this same sample (Brody et al., 2013) and enabled us to augment the analysis and make use of the richness of the longitudinal observations. Thus, use of the average scores over many visits is an attempt to capture aspects of both individual variation over time and state traits in a way that the single time point measures do not. The Measures section describes in detail how each of these longitudinal means and longitudinal proportions was calculated. For ease of description, these variables are referred to as “Time 0 longitudinal mean” or “Time 0 longitudinal proportion” for each measure. For demographic variables only (i.e., age, income, employment) a single data point from the visit immediately preceding the narrative data visit (WIHS visit 27-33, during 2007-2010) represented Time 0.

**Measures**

**Demographic Variables.** Demographic variables were assessed via interview data. Age was calculated from date of birth and used as a continuous measure. Education
categories were: completion of grades 1-6, 7-11, high school, and some or all of college. The three categories of income included: $6,000 or less; $6,001-$12,000; and $12,001 or more. Employment was coded dichotomously.

Substance Use Measures. The data for crack/cocaine/heroin (CCH) were self-report and were collected as part of the WIHS standard semi-annual interview protocol as per NIDA recommendations for measurement of alcohol and illicit drug use. At each study visit women are asked whether they are currently using each substance (since the last study visit). For Time 0, a longitudinal proportion was created from women’s baseline visit through the visit preceding narrative data collection for CCH (mean number of visits used to calculate variable = 18.88, $SD = 7.12$, minimum-maximum = 5-32 visits). This proportion reflects the proportion of visits from women’s baseline visit through the visit preceding narrative data collection at which they indicated they were currently using CCH since the last visit. Substance use data was also independently coded from the autobiographical narrative task described below.

Center for Epidemiological Studies Depression Scale (CESD; Radloff, 1977). This 20-item, self-report measure of current depressive symptoms is widely used in studies of women with HIV. Participants rated their agreement with each item on a 4-point Likert scale. The CESD shows high internal consistency and moderate test-retest reliability. CESD scores have been found to significantly predict mortality and CD4 cell counts (Ickovics et al., 2001) in 765 women with HIV participating in the multi-site prospective HIV Epidemiology Research Study (HERS) and in 1,716 women participating in the WIHS (Cook et al., 2004). In both the WIHS and HERS cohorts, the scores of women
with HIV on the CESD were significantly higher than those in the general population. Fifty to sixty percent of women with HIV exceed the CESD cutoff of 16, with higher scores indicating probable clinical depression, while in the general population, only 20% exceed the cutoff of 16 (Cook et al., 2004; Ickovics et al., 2001). For Time 0, a longitudinal mean was created from women’s baseline visit through the visit preceding narrative data collection (mean number of visits used to calculate variable = 17.55, $SD = 5.76$, minimum-maximum = 5-28 visits). For Time 2 a single data point was used. In this sample, Cronbach’s $\alpha$ was .90 when administered at Time 1.

Health Related Quality of Life (QOL). This widely used disease-specific instrument, is a shortened form of The Medical Outcome Study (MOS-HIV), developed by Bozzette, Hays, Berry, Kanouse, and Wu (1995), and adapted for use in WIHS (Liu et al., 2006). The current form covers physical functioning (e.g., “For how long, if at all, has your health limited you in… walking one block/eating/dressing/bathing/using the toilet”), role functioning (e.g., “Does your health keep you from working at a job, doing work around the house, or going to school?”), social functioning (e.g., “How much of the time during the past month has your health limited your social activities, like visiting with friends or close relatives?”), emotional well-being/mental health (e.g., “How much of the time during the past month have you been a very nervous person?”), general health (e.g., “I am as healthy as anybody I know”), and pain (e.g., “How much bodily pain have you experienced during the past four weeks?”). Higher scores indicate better quality of life. The Cronbach’s alphas for the current sample for the four multi-item subscales administered at Time 1 were .81 (physical functioning), .75 (role functioning), .71
(emotional well-being), and .60 (health perception). A Cronbach’s $\alpha$ is not standardly generated for the total scale score because some subscales contain only one or two items (i.e., pain and social functioning subscales) and some scales are on different metrics. For Time 0, a longitudinal mean was created from women’s baseline visit through the visit preceding narrative data collection (mean number of visits used to calculate variable = 12.16, $SD = 5.36$, minimum-maximum = 4-21 visits). For Time 2 a single data point was used.

**Highly Active Antiretroviral Therapy (HAART) Adherence.** Participants confirmed use of each drug of their current antiretroviral regimen by either bringing medication bottles, a list from the pharmacy or physician, or identifying medications from picture cards provided by WIHS staff. Adherence was measured using a modified version of the Medication Adherence Self Report Inventory (MASRI; Chesney, et al., 2000). Participants estimated the percentage of time they took their HAART medications as prescribed during the six months prior to the current study visit by pointing to a percentage (from 0-100%) on a response card. Responses were coded with five categories: 1 = 100%, 2 = $\geq$ 95%, 3 = 75-94%, 4 = $< 75\%$, 5 = 0%. This self-report measure has been found to have predictive validity in that it has significantly related to viral load and CD4 (Cole, Hernan, Anastos, Jamieson, & Robins, 2007; Cole, Hernan, Margolick, Cohen, & Robins, 2005). A 95% HAART adherence rate measured in similar ways has been found to significantly inhibit HIV viral replication (Paterson et al., 2000). Thus, a dichotomous variable was created for $\geq 95\%$ medication adherence versus $< 95\%$ adherence. Women who were not on HAART but were medically indicated to be on
HAART (as evidenced by a CD4 count < 350 from baseline through 2009 or CD4 count < 500 after 2009) were included in the < 95% adherent group. For Time 0, a longitudinal proportion representing the number of visits for which women were HAART adherent ≥ 95% was created from women’s baseline visit through the visit preceding narrative data collection (mean number of visits used to calculate variable = 12.37, $SD = 6.66$, minimum-maximum = 1-24 visits). For Time 2 a single data point was used.

**HIV Disease Markers.** CD4+ cells/mm$^3$ were determined by immunofluorescence using flow cytometry performed in AIDS Clinical Trials Group (ACTG) certified laboratories. HIV-1 RNA viral load was measured by an isothermal nucleic acid sequence-based amplification method with a lower limit of detection at 48 in laboratories participating in the National Institutes of Health Viral Quality Assurance Program. The CD4 cutoff of 350 (CD4_350) was used in all analyses as a marker of HIV disease progression. HIV viral load was dichotomized as detectable ($\geq$ 50 copies/ml) or undetectable (< 50 copies/ml; UDVL). For Time 0, two longitudinal proportions representing the number of visits for which women had CD4 counts $\geq$ 350 (CD4_350 Time 0 Longitudinal Proportion) and the number of visits for which women had undetectable viral loads (UDVL Time 0 Longitudinal Proportion) were created from women’s baseline visit through the visit preceding narrative data collection (CD4_350 Time 0 longitudinal proportion: mean number of visits used to calculate variable = 20.25, $SD = 6.94$, minimum-maximum = 5-32 visits; UDVL Time 0 longitudinal proportion: mean number of visits used to calculate variable = 20.05, $SD = 6.88$, minimum-maximum = 5-32 visits visits). For Time 2 a single data point was used.
Guided Autobiographical Memories Task. Qualitative data were collected to assess benefit-finding and narrative coherence in autobiographical turning point narratives at Time 1. The Guided Autobiography task has been used extensively in previous research (McAdams et al., 2006), including with African American and low-income women (McAdams, 2006b). The task asks women to tell narratives about three self-defining memories: “Please tell us about three of the most significant or vivid events from your life over the past 15 years that you think have shaped your life today. These events may have been especially memorable and important turning points for you in which you underwent a transition or change with respect to your understanding of yourself. For each event please describe what happened in the event; when it happened; who was involved; and what you were thinking and feeling during the event. In addition, why do you think this is an important event in your life story? What does this event say about who you are, who you were, who you might be, or how you have developed over time?” The narratives were coded for type and level of trauma, substance use, resilience, narrative coherence, and benefit-finding, as specified below. Kappa reliability analyses and Pearson correlations revealed high levels of inter-rater reliability on each measure, as discussed below.

Type and Level of Trauma. Type of trauma (e.g., HIV, death, homelessness, sexual abuse, physical abuse, verbal or emotional abuse, any abuse) for each narrative was coded at Time 1. Definitions for themes are provided in Appendix A. Narratives were coded for presence/absence of each theme in each narrative, with the proportion of narratives in which a theme was mentioned (yes/no) across the three turning point
narratives for each participant ([number of participant’s narratives in which theme was present] / [total number of narratives for participant]) as the final variable, for a potential range of 0 to 1. Sexual abuse, rape, and sexual assault themes were grouped together into a sexual violence construct by summing whether each of these themes was mentioned (yes/no) in each turning point across the three turning point narratives for each participant ([number of participant’s narratives in which each theme was present] / [total number of narratives for participant]) as the final variable, for a potential range of 0 to 3. Similarly, the construct any abuse ever was created by summing whether the participant mentioned emotional abuse as a child, emotional abuse as an adult, physical abuse as a child, physical abuse as an adult, sexual abuse as a child, sexual abuse as an adult, verbal abuse as a child, and verbal abuse as an adult (yes/no) in each turning point across the three turning point narratives for each participant, with the final variable having a potential range of 0 to 8. In the same way, a non-interpersonal trauma construct was created from the themes physical illness, physical trauma, lack of material resources, homelessness, and legal issues, with the final variable having a potential range of 0 to 5. Kappa inter-rater reliability of two independent consensus teams of coders (for 48 narratives for adult physical abuse and childhood sexual abuse, and for 140 narratives for all other themes) ranged from .53-1.00, p < .001 for all. For sexual abuse only, a second variable, the lifetime history of sexual abuse ever reported (yes/no) was derived from interview data. This was based on self-report as assessed in interviews every visit up through Time 0.

Resilience. Resilience for each narrative was coded at Time 1, with scores ranging from 0 (no evidence of resilience) to 3 (very high levels of resilience). Resilience was
defined as adaptive and competent thought or action despite adverse experiences. Levels of resilience (0–3) were assessed by combining the level of distress/adversity and the level of adaptation and functioning described in narratives, with higher levels of resilience reflecting greater adaptation (e.g., having positive attitudes, being employed, or having positive family relationships) in the face of distress/adversity. Pearson correlations were significant for the inter-rater reliability of two independent consensus teams of coders for 116 narratives, \( r = .78, p < .001 \).

**Benefit-finding.** Benefit-finding—finding some benefit as the result of the event such as an awareness of or increase in personal strength, personal growth, positive personality change, improved relationships, reprioritization of goals and values, etc.—was coded from the qualitative data, using a new coding system developed by the present investigator based on previous literature (Davis et al., 1998; Janoff-Bulman & Frantz, 1997). Benefit-finding was coded on a 4-point Likert scale from 0 (not at all) to 3 (very much, extremely). Higher levels of benefit-finding reflect greater number of benefits detailed as a result of trauma and/or the participant’s emphasis on how significant the benefit was to her. Appendix A contains details of the coding system and Appendix B reviews examples from sample narratives. Pearson correlations were significant for the inter-rater reliability of two independent coders for 104 narratives from 36 participants, \( r = .72, p < .001 \). Seventy-six women (76.7%) were coded as engaging in some amount of benefit-finding.

**Narrative coherence.** Coherence of the narratives was assessed using an adaptation of Baerger and McAdams’s (1999) life story coherence system. Three indices of
coherence were coded: orientation (providing the context of the story, introducing main characters, locating the narrative in time and place), structure (ordering events in a temporal or sequential way, creating a linear, chronological, or causal structure), and affect (providing an evaluative or emotional aspect that contributes to the story’s sense of significance or importance, thereby clarifying why the narrative is meaningful to the participant). Each index was scored on a 5-point Likert scale from 1 (very little, minimal) to 5 (very much, extremely), adapted from the original 7-point scale. Appendix A contains details of the coding system and Appendix B reviews examples from sample narratives.

Because of high positive correlations among indices, the orientation, structure, and affect indices were each averaged across narratives for each participant to generate an orientation, structure, and affect coherence index score for each participant, and then the three index scores were averaged with one another to create a mean coherence variable. The respective Pearson inter-rater reliability correlations for two independent coders based on 104 narratives from 36 participants for the orientation, structure, and affect indices were $r = .42, .40, \text{ and } .74$ respectively ($p < .001$ for each).

Because the narratives were conducted as questions asked by interviewers, codes that reflect the extent to which the interviewer assisted in the creation of a coherent narrative through clarifying questions and prompts were also developed by the present investigator. These codes were scored on a 0 (not at all) to 3 (very much, extremely) 4-point Likert scale: prompt orientation (assistance in orienting the narrative and understanding key players), prompt structure (assistance in structuring or clarifying the sequence of the narrative, when key events happened in relationship to one another, and
the narrative’s causal structure), and prompt affect (assistance in clarifying the meaning or overall importance of the narrative). Because of high positive correlations among prompt coherence indices, the prompt orientation, prompt structure, and prompt affect indices were each averaged across narratives for each participant to generate a prompt orientation, prompt structure, and prompt affect coherence index score for each participant, and then the three prompt coherence index scores were averaged with one another to create a mean prompt coherence variable. The respective Pearson correlations for the inter-rater reliability of two independent coders for 104 narratives from 36 participants for the prompt orientation, prompt structure, and prompt affect indices were $r = .79$, $.78$, and $.73$ respectively ($p < .001$ for each).
CHAPTER THREE

Results

*Descriptive statistics and data transformations.*

All analyses were computed using SPSS version 20.0. Analyses that included variables that had outliers greater than 3 standard deviations from the mean (e.g., education, CESD at Time 2) were run with and without the outliers included. In no cases did these transformations affect the outcome of analyses. As a result, final analyses were run with variables with all data points (including outliers) present. All variables were standardized before being entered into regression analyses. Means and standard deviations for all measures are displayed in Table 2. The most common themes occurring in women’s narratives (listed in descending order of frequency) are displayed in Table 3.

Initial correlations among predictors, outcomes, and demographics (age, education, income, and employment) were run and those demographics that showed significant relationships were included as covariates in all analyses (see Table 4). Because women were enrolled in the study at different times, women from the first and second waves of enrollment were compared to see if they differed on any predictor or outcome variables. These analyses revealed significant differences by wave on age at Time 0 ($t_{[96]} = 5.27, p < .001$), income at Time 0 ($t_{[97]} = 2.77, p = .01$), HAART adherence Time 0 longitudinal proportion ($t_{[89]} = 2.66, p = .01$), UDVL at Time 2 ($\chi^2_{[1, N = 93]} = 7.69, p = .01$), and ever reported sexual abuse Time 0 ($\chi^2_{[1, N = 99]} = 9.06, p = .003$). Specifically, these analyses revealed that women recruited in wave 2 were younger, had lower income, were
less likely to be adherent to HAART $\geq 95\%$ of the time from baseline through Time 0, were more likely to have a detectable viral load at Time 2, and were less likely to have a history of sexual abuse than women recruited in wave 1. As a result, enrollment wave was incorporated as a covariate in all subsequent analyses.

Since 91% ($n=90$) of the women were African American, t-tests were run to compare African Americans to other groups on outcome variables or predictor variables. These analyses revealed that there was a significant group difference between African American women ($n=90$) and non African American women ($n=9$) on UDVL Time 0 longitudinal proportion, $t(95) = 3.35, p = .001$, and benefit-finding $t(97) = -2.39, p = .03$, with African American participants having significantly more visits with detectable viral load and significantly more benefit-finding in their narratives than non African American participants. However, because risk factors associated with HIV are often found to be the same across ethnic groups (e.g., poverty, drug exposure), it is likely that it is not race itself that is a risk factor, but rather the social and economic conditions associated with race that contribute to risk (Quina, Harlow, Morokoff, Burkholder, & Deiter, 2000). Consistent with this literature, and because there were so few non African American women in this sample, demographic factors including education, income, age, and employment, but not race, were included as demographic covariates in all analyses.

To examine the relationships between coherence variables and prompt coherence variables, partial correlations controlling for age, education, income, employment, and wave were run (see Table 5). These analyses revealed significant positive correlations among the three coherence indices (orientation, structure, and affect) and among the three
prompt coherence indices (prompt orientation, prompt structure, and prompt affect). Because the coherence indices were so highly correlated ($r = .55-.75$) and the prompt coherence indices were so high correlated ($r = .33-.52$), an overall coherence measure (the mean of the three indices) and an overall prompt coherence measure (the mean of the three prompt indices) were created. Initial bivariate correlation between the overall coherence mean and the overall prompt coherence mean revealed a significant negative relationship, $r = -.26$, $p = .01$; after controlling for age, education, income, employment, and wave, the partial correlation approached significance, $r = -.19$, $p = .07$. Because of this, standardized residuals were used as the coherence variable in subsequent analyses, created by performing a regression in which the coherence mean was the outcome variable and the prompt coherence mean was the predictor variable.

**Aim 1. Correlations among HIV disease progression and psychological distress variables.**

Aim 1 was to investigate the relationship among physiological indicators (HIV biomarkers) and psychological types of distress. This aim was exploratory as the literature is limited as to the conceptualization of distress across types of trauma. Pearson correlations were run to examine the correlations between physiological indicators of HIV disease progression (CD4\_350 and UDVL) and psychological distress (QOL and CESD) for Time 0 and Time 2 (see Table 6). There were strong positive correlations between HIV disease progression variables and strong negative correlations between psychological distress variables. However, for ease of interpretability and
Aim 2. Hypothesis 1. Impact of HIV disease progression, psychological distress, and trauma reported in interviews and expressed in narratives on benefit-finding and coherence.

Aim 2 was to investigate the cross-sectional and longitudinal relationships of HIV disease progression, psychological distress, and type and level of trauma with benefit-finding, narrative coherence, resilience, and HAART adherence. Hypothesis 1 was that, controlling for demographics, greater HIV disease progression, higher levels of psychological distress at Time 0, and higher levels of sexual abuse and lower levels of substance use (either as reported in interviews at Time 0 or as expressed in narratives at Time 1) would be significantly positively related to higher levels of benefit-finding and narrative coherence at Time 1. Table 7 displays partial correlations controlling for age, education, income, employment, and wave among distress variables (e.g., CESD, QOL, UDVL, CD4_350, sexual abuse, substance use), benefit-finding, and coherence standardized residual. These partial correlations revealed a significant positive relationship of higher benefit-finding with the presence of sexual abuse ever reported in the interviews, and a positive partial correlation that approached significance in relationship of higher benefit-finding with greater proportion of narratives that discussed substance use. There were no significant positive partial correlations in relationships of narrative coherence standardized residual with any predictor.
Further, hierarchical multiple linear regressions were run to examine the impact of distress, sexual abuse, and substance use as measured in WIHS interviews or in narratives on benefit-finding and coherence in the narratives. For interview data, four hierarchical multiple linear regressions models were run examining the impact of HIV disease progression, psychological distress, sexual abuse, and CCH use endorsed in the interviews on benefit-finding and narrative coherence. Age, education, employment, income, and wave were entered in block 1; CCH use Time 0 longitudinal proportion was entered in block 2; CD4_350 Time 0 longitudinal proportion, UDVL Time 0 longitudinal proportion, ever reported sexual abuse Time 0, and CESD Time 0 longitudinal mean or QOL Time 0 longitudinal mean were entered in block 3. Because of issues with multicollinearity between CESD Time 0 longitudinal mean and QOL Time 0 longitudinal mean, only one of these variables was entered into each analysis. The dependent variables were benefit-finding at Time 1 and narrative coherence standardized residual at Time 1. For narrative data, four hierarchical multiple linear regressions models were run examining the impact of HIV disease progression, psychological distress, and sexual violence (i.e., sexual abuse, rape, sexual assault) and substance use as expressed in the narratives on benefit-finding and narrative coherence. Age, education, employment, income, and wave were entered in block 1; CD4_350 Time 0 longitudinal proportion, UDVL Time 0 longitudinal proportion, and CESD Time 0 longitudinal mean or QOL Time 0 longitudinal mean were entered in block 2; participant reporting any sexual violence in the narratives and participant reporting substance use in the narratives were entered in block 3. As above, because of issues with multicollinearity between CESD
Time 0 longitudinal mean and QOL Time 0 longitudinal mean, only one of these variables was entered into each analysis. The dependent variables were benefit-finding at Time 1 and narrative coherence standardized residual at Time 1.

For the interview data, the overall models predicting benefit-finding were not significant (CESD model: $F_{[10, 86]} = 1.25, p = .27$; QOL model: $F_{[10, 86]} = 1.25, p = .27$). In the final models, income (CESD model: $\beta = .32, t = 2.58, p = .01$; QOL model: $\beta = .31, t = 2.56, p = .01$) and sexual abuse endorsed in interviews (CESD model: $\beta = .28, t = 2.28, p = .03$; QOL model: $\beta = .28, t = 2.29, p = .03$) contributed unique variance. These results indicate that a history of sexual abuse was significantly predictive of more benefit-finding in the narratives.

For the interview data, the overall models predicting narrative coherence standardized residual were not significant (CESD model: $F_{[10, 86]} = .97, p = .47$; QOL model: $F_{[10, 86]} = 1.04, p = .41$). No variables contributed unique variance. These results indicate that none of the variables were significantly predictive of greater narrative coherence.

For models in which sexual abuse and substance use were assessed using the narrative data, the overall models predicting benefit-finding were not significant (CESD model: $F_{[10, 86]} = 1.08, p = .39$; QOL model: $F_{[10, 86]} = 1.08, p = .39$). In the final models, income (CESD model: $\beta = .24, t = 1.96, p = .053$; QOL model: $\beta = .23, t = 1.97, p = .053$) and substance use discussed in the narratives (CESD model: $\beta = .19, t = 1.79, p = .08$; QOL model: $\beta = .19, t = 1.80, p = .08$) approached significance, such that higher levels of income and a discussion of substance use in the narratives tended to be
associated with greater benefit-finding. For models in which sexual abuse and substance use were assessed using the narrative data, the overall models predicting narrative coherence standardized residual were not significant (CESD model: $F_{[10, 86]} = 1.18, p = .32$; QOL model: $F_{[10, 86]} = 1.16, p = .33$). In the final models, no variables contributed unique variance. These results indicate that, regardless of the data collection method, hypothesis 1 was partially supported for benefit-finding and was not supported for coherence.


Hypothesis 2 was that, controlling for demographics, women who reported higher levels of sexual abuse and lower levels of substance use in both their interview and narrative data would score higher on benefit-finding and coherence than women who denied or reported inconsistent sexual abuse and substance use across interview and narrative data. To test this hypothesis, calculations were made of the numbers of women in each 2 x 2 category (interview [endorsed/not endorsed] x narrative data [endorsed/not endorsed]) for both substance use and sexual abuse (see Table 8). Across narrative and interview data, 72 women (72.7%) endorsed substance use and 59 women (59.6%) endorsed sexual abuse in either interviews, narratives, or both. For substance use, 27 women did not mention using substances in the narratives and also denied substance use in the interviews; 11 women endorsed substance use in the interviews only; 20 women endorsed substance use in the narratives only; and 41 women endorsed substance use in
both the narratives and the interviews. For sexual abuse, 40 women did not mention sexual violence in the narratives and also denied a history of sexual abuse in the interviews; 35 women endorsed sexual abuse in the interviews only; 7 women endorsed sexual violence in the narratives only; and 17 women endorsed sexual abuse in both the narratives and the interviews. Because of small frequencies of women in some cells, the 42 women who endorsed sexual abuse in either the interview or the narratives but not in both were collapsed into one group.

Four ANCOVAs were run, with between-subjects factors consisting of groups who were consistent or inconsistent in their reports of abuse across measures; the covariates of age, education, employment, income, and wave; and dependent variables of benefit-finding and coherence standardized residual. These analyses revealed no significant group differences (with groups being inconsistent/consistent reports of substance use) on benefit-finding or on coherence standardized residual. There was a significant group difference (with groups being inconsistent/consistent reports of sexual abuse) on benefit-finding, $F(2, 90) = 3.69, p = .03$, but not on coherence standardized residual. Follow-up analyses for benefit-finding revealed a significant pairwise group difference between women who did not endorse sexual abuse in both the narratives and the interviews ($M = .54, SE = .12$) and women who were inconsistent, and endorsed sexual abuse in either only the narratives or only the interviews ($M = .99, SE = .11$, mean difference $= -.45, p = .01$). This result indicated that women who were inconsistent and who endorsed sexual abuse in either only the narratives or only the interviews scored higher on benefit-finding than women who were consistent and did not endorse sexual abuse in either the narratives
or the interviews.

Although there was no overall significant between group difference on coherence standardized residual, there was a significant pairwise group difference between women who endorsed substance use in the interviews only ($M = -.56, SE = .30$) and women who endorsed substance use in the narratives only ($M = .32, SE = .24$, mean difference = -.89, $p = .03$). This result indicated that women who endorsed substance use in the interviews only scored lower on coherence than women who endorsed substance use in the narratives only. In addition, there was a pairwise group difference that approached significance between women who endorsed substance use in the interviews only and women who endorsed substance use in both the interviews and the narratives ($M = .01$, $SE = .16$, mean difference = -.57, $p = .09$). This result indicated that women who endorsed substance use in the interviews only tended to score lower on coherence than women who endorsed substance use in both the interviews and the narratives. Hypothesis 2 was partially confirmed for benefit-finding and not confirmed for coherence; however, the direction of relationships among variables was consistent with predicted directions for both benefit-finding and coherence.

**Aim 2. Hypothesis 3. Type of trauma and benefit-finding and coherence.**

This exploratory hypothesis was to examine the relationships of different types of trauma (e.g., death, HIV themes, sexual violence, physical abuse) with benefit-finding and coherence. No specific direction of relationships was predicted. To examine these relationships partial correlations controlling for age, education, employment, income, and
wave were run (see Table 9). The variable adult sexual abuse was not included because only 5 women discussed adult sexual abuse in their narratives. For benefit-finding, there were significant positive partial correlations with discussions of HIV themes (e.g., diagnosis, stress about HIV, HIV stigma, HIV disclosure or non-disclosure, medication regimens), death, any abuse ever (emotional abuse, physical abuse, sexual abuse, and verbal abuse an adult or as a child), and any abuse as an adult. For coherence standardized residual, there were significant positive partial correlations with death, any abuse ever (as an adult or as a child), and any abuse as an adult. These results indicate that death and all types of abuse were significantly related to heightened benefit-finding and coherence, and that HIV themes were significantly related to benefit-finding.

**Aim 2. Hypothesis 4. Differential relationships between interpersonal and non-interpersonal trauma on benefit-finding and coherence.**

Hypothesis 4 was that, controlling for demographics, trauma that was interpersonal in nature (i.e., abuse) would be more significantly related to greater benefit-finding and narrative coherence than trauma that was not interpersonal in nature (i.e., physical illness, physical trauma, lack of material resources, homelessness, and legal issues). HIV themes were not included in the non-interpersonal trauma category since some women discussed the intentional infection of HIV by partners and other HIV interpersonal themes (e.g., HIV disclosure to partners or family). To examine whether there were statistically significant differences in the partial correlation coefficients of
abuse and non-interpersonal trauma with both benefit-finding and coherence, Fisher’s z tests were run. These analyses revealed that there was not a statistically significant difference between the correlations for the relationship between benefit-finding and any abuse ever (as an adult or as a child) and the relationship between benefit-finding and non-interpersonal trauma, \( \text{Fisher's z} = -1.62, p = .11 \). There was also not a statistically significant difference between the correlations for the relationship between coherence standardized residual and any abuse ever (as an adult or as a child) and the relationship between coherence standardized residual and non-interpersonal trauma, \( \text{Fisher's z} = -.86, p = .39 \). There was a difference that approached statistical significance between the correlations for the relationship between benefit-finding and any adult abuse and the relationship between benefit-finding and non-interpersonal trauma, \( \text{Fisher's z} = -1.91, p = .06 \). For coherence standardized residual, the difference between these correlations (any adult abuse with coherence standardized residual and non-interpersonal trauma with coherence standardized residual) were not significant, \( \text{Fisher's z} = -.71, p = .48 \). These results indicate that the relationship between adult abuse and benefit-finding tended to be more significant than the relationship between non-interpersonal trauma and benefit-finding. No differences were found between type of trauma and narrative coherence. Hypothesis 4 was not confirmed; however, for benefit-finding only, the direction of relationships among variables was consistent with predicted directions.

Hypothesis 5 was that, controlling for demographics, benefit-finding would be significantly positively related to narrative coherence. A partial correlation controlling for age, education, employment, income, and wave, revealed a correlation of $r = .49, p < .001$, between benefit-finding and narrative coherence standardized residual, indicating that higher levels of benefit-finding were associated with greater narrative coherence. These results indicate that hypothesis 5 was confirmed.


Hypothesis 6 was that controlling for demographics, HIV disease progression, psychological distress, CCH use, HAART adherence, and sexual abuse at Time 0, higher levels of benefit-finding and narrative coherence at Time 1 would be significantly positively related to higher levels of resilience at Time 1. Initial partial correlations (controlling for age, education, income, employment, and wave) revealed significant positive relationships of higher benefit-finding with higher levels of resilience and of higher levels of coherence standardized residual with higher levels of resilience (see Table 7).

Further, two hierarchical multiple linear regressions were run to examine the impact of benefit-finding and coherence standardized residual on resilience in the narratives. Age, education, employment, income, and wave were entered in block 1; CCH use Time 0 longitudinal proportion was entered in block 2; CD4_350 Time 0 longitudinal proportion, UDVL Time 0 longitudinal proportion, HAART adherence Time 0
longitudinal proportion, CESD Time 0 longitudinal mean or QOL Time 0 longitudinal mean, and whether the participant ever reported sexual abuse through Time 0 were entered in block 3; benefit-finding and narrative coherence standardized residual were entered in block 4. Because of issues with multicollinearity between CESD Time 0 longitudinal mean and QOL Time 0 longitudinal mean, only one of these variables was entered into each analysis. HAART adherence was included as a covariate, due to previous research on the relationships between adherence and sexual abuse (Cohen et al., 2004; Meade et al., 2009) and between adherence and benefit-finding (Luszczynska et al., 2007). The dependent variable was average resilience in the narratives at Time 1. The overall models predicting resilience were significant (CESD model: $F[13, 80] = 5.96, p < .001$; QOL model: $F[13, 80] = 6.33, p < .001$). In the final models, employment (CESD model: $\beta = .22, t = 2.35, p = .02$; QOL model: $\beta = .21, t = 2.30, p = .02$) and benefit-finding (CESD model: $\beta = .62, t = 6.19, p < .001$; QOL model: $\beta = .59, t = 5.98, p < .001$) contributed unique variance. QOL Time 0 longitudinal mean, $\beta = .16, t = 1.91, p = .06$, approached significance. These results indicate that benefit-finding at Time 1 was associated with higher resilience scores in the narratives at Time 1. Hypothesis 6 was partially supported.


Hypothesis 7A-7E were that controlling for demographics, HIV disease progression, psychological distress, CCH use, sexual abuse, and levels of adherence to
HAART at Time 0, higher levels of benefit-finding and narrative coherence at Time 1 would be significantly positively related to (Hypothesis 7a) greater likelihood of being 95% or better adherent to HAART at Time 2, (Hypothesis 7B) greater likelihood of CD4 count over 350 at Time 2, (Hypothesis 7C) greater likelihood of having an undetectable HIV RNA viral load at Time 2, (Hypothesis 7D) lower depressive scores at Time 2, and (Hypothesis 7E) higher quality of life scores at Time 2. Initial partial correlations (controlling for age, education, income, employment, and wave) revealed significant positive relationships of higher levels of coherence standardized residual with greater likelihood of CD4 levels being equal to or greater than 350 at Time 2 (see Table 7). There were positive partial correlations that approached significance in relationships of higher benefit-finding with greater likelihood of being HAART adherent ≥ 95% at Time 2, greater likelihood of CD4 levels being equal to or greater than 350 at Time 2, and lower CESD scores at Time 2.

Further, two hierarchical multiple logistic regressions were run for each of HAART adherence, CD4_350, and UDVL at Time 2. One hierarchical multiple linear regression was run for each of CESD and QOL at Time 2. Age at Time 0, education, employment, income, and wave were entered in block 1; CCH use Time 0 longitudinal proportion was entered in block 2; CD4_350 Time 0 longitudinal proportion, UDVL Time 0 longitudinal proportion, HAART adherence Time 0 longitudinal proportion, CESD Time 0 longitudinal mean or QOL Time 0 longitudinal mean, and whether the participant ever reported sexual abuse through Time 0 were entered in block 3; benefit-finding and narrative coherence standardized residual were entered in block 4. Because of
issues with multicollinearity between CESD Time 0 longitudinal mean and QOL Time 0 longitudinal mean, only one of these variables was entered into each relevant analysis.

HAART adherence was included as a covariate in all models predicting outcomes at Time 2, due to previous research on the relationships between adherence and sexual abuse (Cohen et al., 2004; Meade et al., 2009) and between adherence and benefit-finding (Luszczynska et al., 2007).

The overall models predicting 95% adherence or better to HAART at Time 2 were significant (CESD model: $\chi^2 = 27.99, p = .01, df = 13$; QOL model: $\chi^2 = 27.92, p = .01, df = 13$). For the CESD model, prediction success overall was 75.3% (54.5% for HAART adherence < 95% and 87.5% for HAART adherence $\geq$ 95%); and for the QOL model, prediction success overall was 73.0% (51.5% for HAART adherence < 95% and 85.7% for HAART adherence $\geq$ 95%). The Wald criterion demonstrated that only benefit-finding had a significant main effect (CESD model: $b = .74$, Wald = 5.05, $p = .03$; QOL model, $b = .76$, Wald = 4.95, $p = .03$). These results indicate that participants who demonstrated more benefit-finding in the narratives at Time 1 were more likely to be HAART adherent $\geq$ 95% at Time 2, even after controlling for prior HAART adherence. Hypothesis 7A was partially supported.

The overall models predicting CD4 $\geq$ 350 at Time 2 (Hypothesis 7B) were significant (CESD model: $\chi^2 = 47.92, p < .001, df = 13$; QOL model: $\chi^2 = 47.40, p < .001, df = 13$). For the CESD model, prediction success overall was 84.9% (75.0% for CD4 < 350 and 90.7% for CD4 $\geq$ 350) and for the QOL model, prediction success overall was 86.0% (78.1% for CD4 < 350 and 90.7% for CD4 $\geq$ 350). The Wald criterion
demonstrated that there was a significant main effect for CD4_350 Time 0 longitudinal proportion (CESD model: $b = 1.81$, Wald = 16.85, $p < .001$; QOL model: $b = 1.83$, Wald = 16.52, $p < .001$) and for benefit-finding (CESD model: $b = .84$, Wald = 4.06, $p = .04$; QOL model: $b = .93$, Wald = 4.94, $p = .03$). Wave approached significance in both models (CESD model: $b = -.81$, Wald = 3.01, $p = .08$; QOL model: $b = -.90$, Wald = 3.81, $p = .051$). These results indicate that demonstrating more benefit-finding in the narratives at Time 1 was significantly associated with having CD4 counts $\geq 350$ at Time 2, even after controlling for CD4 count and HAART adherence at Time 0. Hypothesis 7B was partially supported.

The overall models predicting UDVL at Time 2 (Hypothesis 7C) were significant (CESD model: $\chi^2 = 57.92$, $p < .001$, $df = 13$; QOL model: $\chi^2 = 59.04$, $p < .001$, $df = 13$). For the CESD model, prediction success overall was 84.3% (82.6% for detectable viral load and 86.0% for undetectable viral load) and for the QOL model, prediction success overall was 85.4% (84.8% for detectable viral load and 86.0% for undetectable viral load). The Wald criterion demonstrated that there was a significant main effect for wave (CESD model: $b = -1.39$, Wald = 7.23, $p = .01$; QOL model: $b = -1.46$, Wald = 7.54, $p = .01$), CD4_350 Time 0 longitudinal proportion (CESD model: $b = 1.23$, Wald = 7.64, $p = .01$; QOL model: $b = 1.27$, Wald = 7.65, $p = .01$), UDVL Time 0 longitudinal proportion (CESD model: $b = 2.04$, Wald = 11.00, $p = .001$; QOL model: $b = 2.15$, Wald = 12.12, $p < .001$), and benefit-finding (CESD model: $b = .05$, Wald = 4.04, $p = .04$; QOL model: $b = 1.05$, Wald = 5.01, $p = .03$). Employment approached significance in both models (CESD model: $b = -.81$, Wald = 3.09, $p = .08$; QOL model: $b = -.86$, Wald = 3.44, $p =
.06. Education (QOL model: $b = .71$, Wald = 3.11, $p = .08$) and ever reported sexual abuse from baseline through Time 0 (QOL model: $b = .72$, Wald = 2.79, $p = .095$) approached significance in the QOL model only. These results indicate that women who demonstrated more benefit-finding in the narratives at Time 1 were more likely to have an undetectable viral load at Time 2, even after controlling for undetectable viral load and HAART adherence at Time 0. Hypothesis 7C was partially supported.

The overall model predicting CESD at Time 2 (Hypothesis 7D) was significant, $F (13, 74) = 4.11, p < .001$. In the final model, CESD Time 0 longitudinal mean ($\beta = .54$, $t = 5.50, p < .001$) and benefit-finding ($\beta = -.35$, $t = -3.14, p = .002$) contributed unique variance. These results indicate that women who evidenced more benefit-finding in the narratives at Time 1 had lower CESD scores at Time 2, even after controlling for CESD scores and HAART adherence at Time 0. Hypothesis 7D was partially supported.

The overall model predicting QOL at Time 2 (Hypothesis 7E) was significant, $F (13, 72) = 3.82, p < .001$. In the final model, QOL Time 0 longitudinal mean ($\beta = .53$, $t = 5.59, p < .001$) contributed unique variance. Wave ($\beta = .21$, $t = 1.75, p = .09$), CCH use ($\beta = .19$, $t = 1.76, p = .08$), and benefit-finding ($\beta = .21$, $t = 1.82, p = .07$) approached significance. These results indicate that women who evidenced more benefit-finding in the narratives at Time 1 tended to have higher QOL scores at Time 2, even after controlling for QOL scores and HAART adherence at Time 0. Although results for hypothesis 7E were not significant, the direction of the relationship between benefit-finding at Time 1 and QOL at Time 2 was as predicted.

Aim 3 was to investigate whether benefit-finding at Time 1 mediated the relationship between sexual abuse at Time 0 and narrative coherence at Time 1. Hypothesis 8 was that benefit-finding at Time 1 would mediate the relationship between sexual abuse at Time 0 and narrative coherence at Time 1. In order to establish mediation, three steps are required (Baron & Kenny, 1986). First, the initial predictor variable (sexual abuse) needs to significantly predict to an outcome variable (coherence standardized residual). Because sexual abuse (reported quantitatively or qualitatively) was not significantly related to coherence standardized residual \( r = .06, p = .63 \) and \( r = .08, p = .47 \), respectively), no further mediation analyses were run. Hypothesis 8 was not supported.
CHAPTER FOUR

Discussion

The major aim of the current study was to examine the relationships between benefit-finding and narrative coherence expressed in autobiographical narratives both as predicted by and predicting psychological and physiological indicators of distress in a sample of HIV+ women. Specific aims included investigating relationships between psychological and physiological distress indicators (HIV biomarkers), the differential impact of type of trauma on benefit-finding and coherence, and the effect of benefit-finding and coherence on mental and physical health such as depressive symptoms, quality of life, adherence to HAART, resilience, CD4 count, and detectable viral load. A further aim was to investigate the relationship between benefit-finding and narrative coherence and whether benefit-finding mediated the relationship between sexual abuse and narrative coherence. In general, results supported hypotheses in that a history of sexual abuse was associated with benefit-finding in the narratives; benefit-finding and narrative coherence were positively associated with one another; and benefit-finding was associated with better physical and mental health outcomes 6 months later, including greater likelihood of HAART adherence ≥ 95%, CD4 count ≥ 350, undetectable viral load, and fewer depressive symptoms. However, other hypotheses—such as the importance of physiological distress indicators and psychological distress in predicting benefit-finding and coherence; the impact of substance use on benefit-finding and
coherence; and the relationship between coherence and later outcomes—were inconsistently supported or not supported, as detailed below.

Psychological and Physiological Distress Markers as Predicted by Benefit-Finding and Coherence

Benefit-finding expressed in autobiographical narratives at one point in time was associated with numerous physical and mental health benefits 6 months later (Time 2). Benefit-finding in the narratives was positively associated with HAART adherence ≥ 95% at Time 2, even after controlling for prior levels of HAART adherence. This finding is consistent with previous cross-sectional literature on the relationship between benefit-finding and HAART adherence (e.g., Luszczynska et al., 2007), and extends it to a longitudinal relationship. In addition, benefit-finding in the current study was or tended to be associated with greater likelihood of having a CD4 count ≥ 350, greater likelihood of having an undetectable viral load, fewer depressive symptoms, and higher self-reported quality of life 6 months later, even after controlling for demographics, HIV disease progression, psychological distress, CCH use, sexual abuse, and prior HAART adherence. These results build on and contribute to previous research on the positive health consequences of benefit-finding in HIV samples (Carrico et al., 2006; Littlewood et al., 2008; Siegel & Schrimshaw, 2007; Taylor et al., 2000), and for some outcomes—specifically, undetectable viral load, depressive symptoms, and quality of life—make a new contribution by investigating these relationships longitudinally.
In contrast to benefit-finding, narrative coherence was significantly associated with resilience in the narratives cross-sectionally and with CD4_350 at Time 2 in initial correlations, but was not significantly associated with any outcome after controlling for HIV disease progression, psychological distress, CCH use, sexual abuse, and HAART adherence. It is possible that the relationships among narrative coherence, resilience, and CD4 count are actually accounted for by an underlying third variable to which both variables are related (e.g., histories of substance use, sexual abuse, HAART adherence, or levels of benefit-finding). It appears that narrative coherence is not generally predictive of later health outcomes and may instead be primarily a marker or representation of cognitive abilities, which might also help to explain the relationship of coherence with both resilience and benefit-finding. In children, better cognitive abilities have been found to buffer against the negative health consequences of developmental stressors and are associated with resilient and adaptive functioning in the face of trauma (Rutter, 1999). Thus, the salient relationships may be that higher cognitive abilities (in this case, as represented by higher narrative coherence) lead to benefit-finding, which, in turn, results in better health outcomes.

*Psychological and Physiological Distress Markers as Predictors of Benefit-Finding and Coherence*

Gillies and Neimeyer (2006) suggest that the relationship between meaning making and distress is bidirectional and transactional such that increased distress may precipitate meaning making, which may then buffer against subsequent distress. In the
current study, a history of sexual abuse was predictive of benefit-finding in the narratives. Following Gillies’ and Neimeyer’s (2006) model, it is interesting that in the current study sexual abuse, but not depressive symptoms, lower quality of life, lower CD4 count, or detectable viral load were associated with benefit-finding. Thus, in the current study, earlier distressing experiences (e.g., sexual abuse) were significantly related to benefit-finding, but earlier symptoms of distress (e.g., depression) were not significantly related to benefit-finding. Perhaps certain types of distressing experiences, such as abuse, but not necessarily global distress, are associated with increased benefit-finding. This may be due to curvilinear relationships between initial distress and benefit-finding (Carver et al., 2009), such that benefit-finding is most likely to occur when an individual experiences a moderate amount of distress and becomes less likely to occur when initial distress is overwhelmingly high. Future research should continue to explore the complex relationships between traumatic events, distress, and benefit-finding.

The current study revealed a number of factors that predicted benefit-finding and coherence in the narratives. In addition to the relationship discussed above of sexual abuse endorsed in the interviews and higher benefit finding, benefit-finding was also predicted longitudinally in the current study by higher levels of income. There was also a positive cross-sectional relationship that approached significance between benefit-finding and substance use discussed in the narratives. Although demographic correlates of benefit-finding have shown inconsistent patterns in previous research (Lechner & Weaver, 2009), similar to prior research with the same sample examining the relationships of income and resilience (Dale, Kelso et al., 2013), it may be that having a
higher income enables women to find more benefits from their traumatic experiences (such as through treatment or other social, work, educational, or leisure opportunities in life). None of the variables were significantly predictive of narrative coherence.

It is possible that ‘owning’ one’s substance use or sexual abuse by acknowledging and discussing these topics in one’s life story is beneficial. Analyses examining the impact of women’s consistency across types of data collection (interviews and narratives) for both substance use and sexual abuse on benefit-finding and narrative coherence revealed that women who endorsed sexual abuse in either the narratives or the interviews scored higher on benefit-finding than women who did not endorse sexual abuse in either the narratives or the interviews. In addition, women who endorsed substance use in the interviews only scored lower on coherence than women who endorsed substance use in the narratives only, and also tended to score lower on coherence than women who endorsed substance use in both the interviews and the narratives. While these last results did not reach statistical significance, the unique mixed methods design lends some support to the notion that ‘owning’ one’s sexual abuse (and perhaps one’s substance use) by discussing these topics in autobiographical turning points is beneficial, in that it was associated with greater ability to find benefit and to construct a coherent life story. These findings also support previous research in suggesting that sexual abuse and substance use are likely to be under-reported in self-report data used in research and/or in legal settings (Ledgerwood, Goldberger, Risk, Lewis, & Price, 2008; U.S. Department of Justice, 2012), given that seven women discussed sexual abuse in their narratives but never
reported it in interview data, and that 20 women discussed substance abuse in their narratives but never reported it in interview data.

**Impact of Type of Trauma on Benefit-Finding and Coherence**

One of the primary aims of the current study was to explore the differential impact of type of trauma on benefit-finding and coherence. Past research suggests that interpersonal trauma, such as sexual abuse, is more likely to be associated with distress and PTSD than other types of trauma such as accidents or natural disasters (e.g., Breslau et al., 1991; Kessler et al., 1995). Since some amount of distress (or a history of distressing experiences) may be necessary to begin the process of meaning making (Andrykowski & Pavlik, 2011; Dunn et al., 2011; Gillies & Neimeyer, 2006; Thornton et al., 2012) and since sexual abuse is of particular relevance for HIV+ women (e.g., Brief et al., 2004; Kalichman et al., 2002; Kimerling & Calhoun, 1994; Machtinger et al., 2012), the majority of the analyses in the current study focused on sexual abuse as a predictor of benefit-finding and coherence. Further, to tap the richness of the qualitative data and explore the differential relationships among types of trauma, benefit-finding, and coherence, analyses between type of trauma, benefit-finding, and coherence, controlling for demographics were run. More mention of HIV, death, any abuse ever (emotional abuse, physical abuse, sexual abuse, and verbal abuse as an adult or as a child), and any abuse as an adult in the narratives was significantly associated with more benefit-finding. In addition, more mention of death, any abuse ever, and any abuse as an adult was significantly associated with more narrative coherence.
Separate trauma categories were created to examine the differential relationships of interpersonal trauma (i.e., abuse) vs. non-interpersonal trauma (i.e., physical illness, physical trauma, lack of material resources, homelessness, and legal issues) on benefit-finding and coherence. Although there were no significant differences in relationships of types of trauma (interpersonal vs. non-interpersonal) with either benefit-finding or coherence, women who discussed more adult abuse (i.e., interpersonal trauma) in their narratives tended to score higher on benefit-finding than women who discussed non-interpersonal types of trauma. These results were not significant for narrative coherence. These results expand on the prior literature regarding the relationship between interpersonal trauma and distress, by indicating that certain types of interpersonal trauma (such as abuse as an adult) may be more likely than non-interpersonal traumas to be associated with benefit-finding as well. This may be because interpersonal trauma violates basic trust in the world and sense of how the world works (Janoff-Bulman, 1992; Janoff-Bulman & Frantz, 1997), especially for women whose identities tend to be more communal and interdependent than men’s (Brody & Hall, 2008, 2009, 2010; Cross & Madson, 1997).

Relationships Among HIV Biomakers and Psychological Distress

The issue of how to quantify distress across types of trauma, abuse, and medical conditions is an interesting one with limited past research (e.g., Davis et al., 1998; Gillies & Neimeyer, 2006). In the current study, markers of HIV disease (CD4_350 and undetectable viral load) were strongly positively correlated with each other, and markers
of psychological distress (QOL and CESD) were strongly negatively correlated with each other. However, HIV disease progression biomarkers and psychological distress were not significantly correlated with one another, suggesting that physiological and psychological distress may be distinct constructs.

*Relationships among Benefit-Finding, Coherence, and Resilience*

The current study showed a strong positive association between benefit-finding and coherence, thereby lending further support to the theory that as women create and articulate more benefits as a result of their experiences, they also author turning point narratives that are more well oriented, structured, and more affectively laden. Previous literature is mixed on the relationship between meaning making and narrative coherence. Although many researchers studying meaning making and coherence argue that the two constructs are intertwined theoretically (e.g., Janoff-Bulman, 1992), studies examining their actual relationship have shown inconsistent results (e.g., Boals et al., 2011; Fivush et al., 2008; Grysman & Hudson, 2010; Nelson et al., 2012). One reason for these inconsistencies may be differences in the ways that meaning making is defined across studies. Meaning making is sometimes considered the attempt to make sense of an event (to understand the cosmic order of things) and at other times is considered the process of creating benefit from an event. These different types of meaning making would lend themselves to different ways of measuring these constructs (e.g., mental state language as a marker of sense-making [Fivush et al., 2008]), which, in turn, might have different relationships with narrative coherence. In addition, the affect index of narrative
coherence used in the current study—which examines the participant’s understanding of the affective meaning behind the event and the reason why she chose the story as a turning point (i.e., why the event is significant to her)—bears some resemblance to benefit-finding. Indeed, in the current study, there was a strong positive partial correlation (controlling for age, education, employment, income, and wave) between affect index coherence and benefit-finding, $r = .56, p < .001$.

Although both benefit-finding and narrative coherence were associated with greater resilience in the narratives, after controlling for sexual abuse, substance use, HIV disease progression, and psychological distress, only the main effect of benefit-finding on resilience remained significant. Resilience is a particularly important and understudied construct among women with HIV, because it may buffer against the negative effects of abuse histories that are common among women infected with HIV (Dale, Cohen et al., 2013; Machtinger et al., 2012) and promote better physical and mental health (e.g., Farber et al., 2000). While the positive relationship between benefit-finding and resilience builds on the previous literature about the effects of benefit-finding in HIV populations (e.g., Baumgartner, 2002; Carrico et al., 2006; Littlewood et al., 2008; Siegel & Schrimshaw, 2007), the current study did not show that resilience was related to narrative coherence. Perhaps resilience is not affected by the way women tell or organize their stories (and also the reverse, narrative coherence may not change as a function of resilience), but, in contrast, the benefits women find in their stories are related with resilience.
Further Exploration of Benefit-Finding

Coding benefit-finding from women’s autobiographical turning point narratives allowed for a rich exploration of the ways that these women with HIV shaped and created benefit from their experiences. Women discussed finding benefits from experiences as diverse as the death of a loved one, the diagnosis of HIV, a history of abuse, drug use, and incarceration among many other things. Types of benefits included such themes as learning a lesson, appreciating others, self-development (such as learning greater patience and understanding), developing a closer relationship with God, valuing life and the present moment, renewing relationships with and deepening appreciation for friends and family, asserting one’s needs in relationships, abstaining from drugs and alcohol, and prioritizing self-care.

The experience of a participant with HIV and kidney disease (coded a 2 for benefit-finding) is a useful and representative example. When she first received the kidney disease diagnosis:

It was like outta nowhere. I couldn’t, I really could not believe it. It was just like, “Why is all this happening to me?” It was just shocking. You couldn’t have told me in a thousand years that I would be on dialysis and my kidneys would be shut down.

The initial shock leads to depression, but the participant counters her occasional feelings of hopelessness with a recognition of the preciousness of the present moment as a result of the fragility and fleetingness of life:
It depressed me for a long time. It still bothers me sometimes, now, the whole situation from HIV to kidney disease. … But all I can do is depend on my faith, and know ultimately that God has the control. And that’s what’s been getting me back so far. Sometimes I feel hopeless. I have hopeless thoughts. Because I feel like I got two major issues going on in my body. So a lotta times I be thinking that my life is gonna be a lot shorter because of that. … That’s what makes me make a lot of decisions in my life. … A positive thing I do to compensate that is that when I have the opportunity to do something I do it. I don’t put nothing off.

The participant’s belief in God and in the importance of acting in the present moment, both of which she ties to her medical conditions, are adaptive thoughts that the participant follows with resulting adaptive behavior:

If I have the opportunity… Like when I found out I had the kidney disease, I had an opportunity to take my kid to Disney World. So I did it. The positive thing that I’ve gotten out of this is, in this life if you have the opportunity to do something, don’t put it off. Cuz you don’t know how you’re going to feel or what else life is gonna bring. So when you have the opportunity to do something, take the opportunity. Don’t think about it. Just take it and do it. Experience it. Enjoy it. And let life worry about the rest of it. And that’s pretty much, that’s how it’s been. That’s how I’ve been able to cope. But I get depressed… I take my anti-depressants and I go see a therapist.

This participant makes clear that benefit-finding is not the failure to recognize the trauma or the ability to skate by negative life events wholly unscathed. Rather, for this
participant, as for many in this sample, it is the ability to “compensate,” to find “the positive thing” even while grappling with the very real negative consequences of being ill, the concern over not having long to live, and the depression and occasional hopelessness that results from her condition. Moreover, for this participant, benefit-finding is not a passive process of recognition or even of altering her emotional experience and responses to the event. On the contrary, she is actively involved in the construction of benefit-finding through resilient and adaptive behavior, such as seizing the moment by taking her child to Disney World when the opportunity arises. Importantly, the participant intimates that this example is part of a larger pattern of seizing opportunities for her. Finally, the participant references other adaptive behavior such as seeking the help of medical professionals and going to therapy to address her depression.

Can Benefit-Finding be Taught?

Given the numerous health benefits of benefit-finding evidenced in this study and in previous research, one wonders whether benefit-finding can be taught or enhanced. A true test of this question would likely involve some form of randomized control trial (testing the effectiveness of an intervention aimed to enhance benefit-finding against some type of standard therapy or waitlist control), and is beyond the scope of the present investigation. Nevertheless, many of the ideas described in the above example are consistent with the principles of cognitive behavior therapy (CBT) and dialectical behavior therapy (DBT), both of which have received significant empirical support for
individuals with trauma histories. Indeed, there is evidence that CBT interventions may increase benefit-finding among women undergoing treatment for breast cancer (Antoni et al., 2001), although a similar trial aimed at increasing benefit-finding among women with HIV and human papillomavirus did not reach statistical significance (Jensen et al., 2013). Another investigation to promote benefit-finding among family caregivers of individuals with Alzheimer’s disease is currently underway (Cheng et al., 2012).

As the above example makes clear, benefit-finding need not entail a failure to appreciate the full negative impact of the traumatic event. On the contrary, the principles of cognitive restructuring are relevant here as the participant works to arrive at an interpretation of her illnesses that is both accurate and adaptive. She moves away from all-or-nothing and catastrophic attributions, to form a more nuanced and balanced appraisal. The dialectic of DBT is also at work in this participant’s adaptive thinking, as she recognizes and holds two realities together: both ‘My illnesses may shorten my life expectancy’ and ‘I can experience and enjoy the present moment.’ Principles of behavior therapy are also at play as the participant engages in activities consistent with behavioral activation, taking action in accordance with her values, and fully engaging and immersing herself in the activities of her life, rather than avoiding.

In addition to working from these principles of CBT and DBT that are consistent with a benefit-finding framework, the types of benefits frequently described by participants may also lend some clues as to how benefit-finding might be encouraged or enhanced. Again, practitioners should not attempt to illicit benefit-finding in the absence of grappling with and affirming the participant’s anger, sadness, or other affect around
the trauma. Benefit-finding should in no way be taken to negate negative impacts or interpretations of the event, but, on the contrary, may live alongside these equally accurate appraisals. Once a strong therapeutic alliance has been built, the client is stable, and therapist and client have processed initial interpretations and reactions to the trauma, therapists might attempt to enhance benefit-finding in a number of ways in conjunction with an empirically supported treatment. The process might begin with psycho-education about benefit-finding, what it is and is not, and the health benefits frequently associated with it. Therapists might ask clients to engage in benefit-finding prompts, such as by asking them to identify any positive changes as a result of the event in major life areas (e.g., Davis et al., 1998; Lichtenthal & Cruess, 2010). Additionally, therapists might point to frequently cited aspects of benefit-finding and explore whether these may be helpful to the client: Does the client have a religious or belief system or a spiritual community that might be helpful to draw upon? Are there social support relationships that can be strengthened or enhanced? What meaning does the client make of the trauma and how has it shifted her sense of identity? What are the client’s values post-trauma and how have these changed in the face of the trauma? Is the client engaging in maladaptive or risky behaviors and can therapist and client work together to establish dissonance between these actions and client’s values? These are just a few potential directions that might enhance benefit-finding and may be useful in conjunction with or subsequent to an empirically supported treatment for individuals with trauma histories.
Limitations and Future Directions

Although the current study represented significant advancements in the longitudinal study of the transactional relationships among HIV disease progression, psychological distress, trauma, benefit-finding, and narrative coherence, it is not without its limitations. Because of the retrospective nature of the narratives, the length of time between the trauma and the telling of the traumatic story in the narrative is unclear and was not able to be controlled. Therefore, given that meaning making is often considered a process (e.g., Boals et al., 2011; Gillies & Neimeyer, 2006; Janoff-Bulman, 1992), it is impossible to tell how far into their meaning making process each participant was and how much time had elapsed between the traumas women described in the narratives and the time at which the narratives were collected. It is possible that being closer to or further removed from the trauma may have affected the findings.

Women were asked to discuss any three turning points in their lives, and were not directed towards specific events. Thus, while the narratives represent stories that are particularly relevant to the participants, it is not easy to tell what the absence of a theme in the narratives truly means. For example, although all women in the sample were HIV+, HIV was only discussed in 63% of the narratives. Therefore, except in cases when variables are corroborated by quantitative data (e.g., sexual abuse and substance use) the absence of discussion of a particular topic in the narratives cannot be taken to mean that a given woman had not experienced a particular trauma. As a result, this study has used language such as “endorsed in” or “discussed in” narratives, rather than actual presence or absence of a specific event.
Finally, since benefit-finding was measured at only one point in time, it is not possible to judge the stability of benefit-finding for these participants across time. Thus, it cannot be determined whether it is benefit-finding at a specific point in time that predicts better physical and mental health outcomes at a later point in time, or whether women who engaged in benefit-finding at one point in time are more likely to engage in it at all points in time. Analyses that controlled for HIV disease progression and psychological distress at Time 0 lend support to the idea that it is benefit-finding (and not prior distress or HAART adherence) that affected outcomes at Time 2; nevertheless, the lack of experimental control means that definitive causative judgments cannot be made.

Despite these limitations, the current study represents a significant advancement in our understanding of the importance of benefit-finding—in particular, on its relationship to psychological and medical outcomes among women with HIV—and on the types of factors that may be predictive of benefit-finding and coherence. The mixed-methods longitudinal design is a particular strength of the study, allowing for greater interpretations to be made and greater richness of the data. Sexual abuse and substance use data were collected from both interviews and autobiographical narratives, which enabled us to analyze women’s consistency in discussing these frequently under-reported experiences. In addition, the sample size of 99 HIV+ women is quite large for a qualitative sample, and enabled the results to be generated using complex multivariate analyses. Finally, the sample itself is perhaps the greatest strength of the study. The women in the current sample have been through numerous stressful life events, traumatic experiences, and abuses. The impact of studying these issues in such a disempowered
population, with significant substance use and poverty, cannot be understated. Results suggest that benefit-finding is particularly important in predicting better medical and mental health outcomes among women with HIV who have experienced considerable trauma. Future research should continue to examine the relationships between meaning making and narrative coherence. Interventions should consider attempts to draw upon and utilize women’s natural strengths, such as the process of constructing benefit from traumatic experiences, for these samples.
Table 1. Sample demographic characteristics at Time 0 ($N = 99$).\(^1\)

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>44.78 (8.85)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Grades 1-6</td>
<td>1 (1.0)</td>
</tr>
<tr>
<td>Grades 7-11</td>
<td>44 (44.4)</td>
</tr>
<tr>
<td>Completed high school</td>
<td>30 (30.3)</td>
</tr>
<tr>
<td>Some college</td>
<td>19 (19.2)</td>
</tr>
<tr>
<td>Completed 4-year college</td>
<td>4 (4.0)</td>
</tr>
<tr>
<td>Graduate school</td>
<td>1 (1.0)</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>17 (17.2)</td>
</tr>
<tr>
<td>Unmarried, living w/ partner</td>
<td>4 (4.0)</td>
</tr>
<tr>
<td>Widowed</td>
<td>9 (9.1)</td>
</tr>
<tr>
<td>Divorced/annulled</td>
<td>15 (15.2)</td>
</tr>
<tr>
<td>Separated</td>
<td>7 (7.1)</td>
</tr>
<tr>
<td>Never married</td>
<td>38 (38.4)</td>
</tr>
<tr>
<td>Other</td>
<td>2 (2.0)</td>
</tr>
<tr>
<td>Income</td>
<td></td>
</tr>
<tr>
<td>$6,000 or less</td>
<td>28 (28.3)</td>
</tr>
<tr>
<td>$6,001-$12,000</td>
<td>43 (43.4)</td>
</tr>
<tr>
<td>$12,001 or more</td>
<td>28 (28.3)</td>
</tr>
<tr>
<td>Employed</td>
<td>19 (19.2)</td>
</tr>
</tbody>
</table>

\(^1\) For demographic variables only (i.e., age, income, employment) a single data point from the visit immediately preceding the narrative data visit (WIHS visit 27-33, during 2007-2010) represented Time 0.
Table 2. Descriptive statistics of major variables.

<table>
<thead>
<tr>
<th>Quantitative Variables</th>
<th>N</th>
<th>Range</th>
<th>Min</th>
<th>Max</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD4_350 Time 0</td>
<td>99</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.66 (.35)</td>
</tr>
<tr>
<td>Longitudinal Proportion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CD4_350 Time 2</td>
<td>90</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.63 (.48)</td>
</tr>
<tr>
<td>UDVL Time 0 Longitudinal Proportion</td>
<td>97</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.34 (.28)</td>
</tr>
<tr>
<td>UDVL Time 2</td>
<td>93</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.47 (.50)</td>
</tr>
<tr>
<td>CESD Time 0 Longitudinal Mean</td>
<td>99</td>
<td>40.99</td>
<td>.41</td>
<td>41.40</td>
<td>17.14 (8.84)</td>
</tr>
<tr>
<td>CESD Time 2</td>
<td>91</td>
<td>53.00</td>
<td>.00</td>
<td>53.00</td>
<td>15.43 (11.29)</td>
</tr>
<tr>
<td>QOL Time 0 Longitudinal Mean</td>
<td>99</td>
<td>71.93</td>
<td>21.77</td>
<td>93.70</td>
<td>65.64 (14.67)</td>
</tr>
<tr>
<td>QOL Time 2</td>
<td>89</td>
<td>78.32</td>
<td>21.68</td>
<td>100.00</td>
<td>65.88 (20.53)</td>
</tr>
<tr>
<td>Sexual Abuse Ever</td>
<td>89</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.53 (.50)</td>
</tr>
<tr>
<td>CCH Time 0 Longitudinal Proportion</td>
<td>99</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.17 (.27)</td>
</tr>
<tr>
<td>Age Time 0</td>
<td>98</td>
<td>41.12</td>
<td>24.25</td>
<td>65.37</td>
<td>44.78 (8.85)</td>
</tr>
<tr>
<td>Education Time 0</td>
<td>99</td>
<td>5.00</td>
<td>2.00</td>
<td>7.00</td>
<td>3.84 (.96)</td>
</tr>
<tr>
<td>Employment Time 0</td>
<td>99</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.19 (.40)</td>
</tr>
<tr>
<td>Income Time 0</td>
<td>99</td>
<td>2.00</td>
<td>1.00</td>
<td>3.00</td>
<td>2.00 (.76)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Qualitative Variables</th>
<th>N</th>
<th>Range</th>
<th>Min</th>
<th>Max</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coherence Mean</td>
<td>99</td>
<td>3.11</td>
<td>1.89</td>
<td>5.00</td>
<td>3.35 (.71)</td>
</tr>
<tr>
<td>Prompt Coherence Mean</td>
<td>99</td>
<td>2.44</td>
<td>.00</td>
<td>2.44</td>
<td>1.21 (.57)</td>
</tr>
<tr>
<td>Coherence Standardized Residual</td>
<td>99</td>
<td>4.35</td>
<td>-2.20</td>
<td>2.15</td>
<td>.00 (.99)</td>
</tr>
<tr>
<td>Benefit-finding</td>
<td>99</td>
<td>3.00</td>
<td>.00</td>
<td>3.00</td>
<td>.78 (.72)</td>
</tr>
<tr>
<td>Sexual violence¹</td>
<td>99</td>
<td>1.33</td>
<td>.00</td>
<td>1.33</td>
<td>.16 (.33)</td>
</tr>
<tr>
<td>Substance Use</td>
<td>99</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.38 (.37)</td>
</tr>
<tr>
<td>Any Abuse²</td>
<td>99</td>
<td>3.33</td>
<td>.00</td>
<td>3.33</td>
<td>.35 (.68)</td>
</tr>
<tr>
<td>Any Adult Abuse³</td>
<td>99</td>
<td>2.00</td>
<td>.00</td>
<td>2.00</td>
<td>.20 (.43)</td>
</tr>
</tbody>
</table>

¹ Includes sexual abuse ever, rape, and sexual assault.
² Includes emotional abuse, physical abuse, sexual abuse, and verbal abuse as an adult or as a child.
³ Includes emotional abuse, physical abuse, sexual abuse, and verbal abuse.
<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower CI</th>
<th>Upper CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Child Abuse(^1)</td>
<td>99</td>
<td>3.33</td>
<td>.00</td>
<td>3.33</td>
<td>.15 (.43)</td>
</tr>
<tr>
<td>HIV</td>
<td>99</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.34 (.32)</td>
</tr>
<tr>
<td>Non Interpersonal trauma(^2)</td>
<td>99</td>
<td>.78</td>
<td>.00</td>
<td>.78</td>
<td>.21 (.19)</td>
</tr>
<tr>
<td>Neglect or Abandonment</td>
<td>99</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.16 (.24)</td>
</tr>
<tr>
<td>Physical Illness / Trauma</td>
<td>99</td>
<td>1.67</td>
<td>.00</td>
<td>1.67</td>
<td>.23 (.32)</td>
</tr>
<tr>
<td>Death(^3)</td>
<td>99</td>
<td>1.33</td>
<td>.00</td>
<td>1.33</td>
<td>.33 (.33)</td>
</tr>
<tr>
<td>Legal Issues(^4)</td>
<td>99</td>
<td>1.33</td>
<td>.00</td>
<td>1.33</td>
<td>.18 (.30)</td>
</tr>
<tr>
<td>Lack of material resources / homelessness</td>
<td>99</td>
<td>1.00</td>
<td>.00</td>
<td>1.00</td>
<td>.21 (.29)</td>
</tr>
</tbody>
</table>

\(^1\) Includes emotional abuse, physical abuse, sexual abuse, and verbal abuse.

\(^2\) Includes neglect, abandonment, physical illness, physical trauma, and legal issues.

\(^3\) Includes death of other, miscarriage of self, and suicide of other.

\(^4\) Includes involvement with police or courts, incarceration, immigration issues, and separation due to incarceration.
Table 3. Percentage of participants discussing narrative themes (in descending order of frequency).

<table>
<thead>
<tr>
<th>Theme</th>
<th>% (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relational conflict, separation, divorce, rejection</td>
<td>97.0 (96)</td>
</tr>
<tr>
<td>Positive or loving relationships</td>
<td>94.9 (94)</td>
</tr>
<tr>
<td>General or adjustment conflict or stress, loss of previous way of life</td>
<td>86.9 (86)</td>
</tr>
<tr>
<td>Substance use, relapse, or overdose</td>
<td>64.6 (64)</td>
</tr>
<tr>
<td>HIV</td>
<td>62.6 (62)</td>
</tr>
<tr>
<td>Death</td>
<td>61.6 (61)</td>
</tr>
<tr>
<td>Education</td>
<td>53.5 (53)</td>
</tr>
<tr>
<td>Rejection or lack of emotional resources</td>
<td>48.5 (48)</td>
</tr>
<tr>
<td>Physical illness, physical trauma, miscarriage</td>
<td>45.5 (45)</td>
</tr>
<tr>
<td>Motherhood</td>
<td>42.4 (42)</td>
</tr>
<tr>
<td>Lack of material resources, homelessness</td>
<td>40.4 (40)</td>
</tr>
<tr>
<td>Any Abuse</td>
<td>35.4 (35)</td>
</tr>
<tr>
<td>Job (obtaining a job, having a job, job promotion)</td>
<td>35.4 (35)</td>
</tr>
<tr>
<td>Legal issues</td>
<td>34.3 (34)</td>
</tr>
<tr>
<td>Neglect or abandonment</td>
<td>34.3 (34)</td>
</tr>
<tr>
<td>Improving Relationships</td>
<td>34.3 (34)</td>
</tr>
<tr>
<td>Marriage</td>
<td>31.3 (31)</td>
</tr>
<tr>
<td>Any Adult Abuse</td>
<td>25.3 (25)</td>
</tr>
<tr>
<td>Psychological issues, suicidal ideation, or suicide attempt</td>
<td>25.3 (25)</td>
</tr>
<tr>
<td>Sexual violence</td>
<td>24.2 (24)</td>
</tr>
<tr>
<td>Any sexual abuse ever (adult or child)</td>
<td>17.2 (17)</td>
</tr>
<tr>
<td>Any Child Abuse</td>
<td>20.2 (20)</td>
</tr>
<tr>
<td>Physical assault or experiencing violence</td>
<td>19.2 (19)</td>
</tr>
<tr>
<td>Child Sexual Abuse</td>
<td>13.1 (13)</td>
</tr>
</tbody>
</table>

1 Some categories overlap (e.g., “Any Abuse” contains “Adult Abuse” and “Child Abuse”).
2 Includes emotional abuse, physical abuse, sexual abuse, and verbal abuse as an adult or as a child.
3 Includes involvement with police or courts, incarceration, immigration issues, and separation due to incarceration.
4 Includes conflict resolution, reconnection/rediscov ery of a relationship, and relationship improvement.
5 Includes emotional abuse, physical abuse, sexual abuse, and verbal abuse.
6 Includes sexual abuse ever, rape, and sexual assault.
Table 4. Pearson correlations between predictors, outcomes, and demographic variables at Time 0.

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Education</th>
<th>Employment</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coherence Mean</td>
<td>.04 (.73)</td>
<td>.21 (.04)</td>
<td>.21 (.04)</td>
<td>.19 (.06)</td>
</tr>
<tr>
<td>Prompt Coherence Mean</td>
<td>.03 (.76)</td>
<td>-.36 (.001)</td>
<td>-.06 (.54)</td>
<td>-.13 (.20)</td>
</tr>
<tr>
<td>Coherence Standardized Residual</td>
<td>.04 (.66)</td>
<td>.12 (.24)</td>
<td>.20 (.046)</td>
<td>.16 (.12)</td>
</tr>
<tr>
<td>Benefit-Finding</td>
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<td>.00 (.98)</td>
<td>.06 (.57)</td>
<td>.23 (.02)</td>
</tr>
<tr>
<td>Resilience</td>
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<td>.15 (.15)</td>
<td>.29 (.004)</td>
<td>.27 (.01)</td>
</tr>
<tr>
<td>Sexual abuse ever reported through Time 0 (Quant)</td>
<td>.32 (.001)</td>
<td>.18 (.08)</td>
<td>.10 (.31)</td>
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<td>-.21 (.04)</td>
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<tr>
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<td>.24 (.02)</td>
<td>.22 (.03)</td>
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<td>.12 (.24)</td>
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<td>.07 (.50)</td>
<td>.09 (.40)</td>
<td>.07 (.53)</td>
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</table>
Table 5. Partial correlations among coherence variables (orientation, structure, affect) and prompt coherence variables (prompt orientation, prompt structure, prompt affect)\(^1\).

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<td>(.01)</td>
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<td>(.001)</td>
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<td>(.001)</td>
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<td>6. Prompt</td>
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<td>-.15</td>
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<td>(.22)</td>
<td>(.44)</td>
<td>(.09)</td>
<td>(.15)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
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<td>7. Prompt</td>
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<td>Affect</td>
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<td>-.02</td>
<td>.07</td>
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<td>Coherence</td>
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<td>-.22</td>
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<td>(.07)</td>
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<td>(.001)</td>
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\(^1\) These partial correlations controlled for demographics of age, education, employment, income, and wave.
Table 6. Pearson correlations between CD4_350, undetectable viral load, CESD, and QOL at Time 0 and Time 2.

<table>
<thead>
<tr>
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<th></th>
<th>Time 2</th>
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<td>p</td>
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<td>r</td>
<td>p</td>
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<td>1. CD4_350</td>
<td>.39 (.001)</td>
<td>2. UDVL</td>
<td>.08 (.42)</td>
<td>-.14 (.17)</td>
<td>3. CESD</td>
<td>.05 (.60)</td>
<td>.001 (.99)</td>
<td>-.65 (.001)</td>
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<td>4. QOL</td>
<td>.05 (.60)</td>
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</table>
Table 7. Partial correlations among HIV biomarkers (CD4_350, UDVL), psychological distress (CESD, QOL), sexual abuse, substance use, benefit-finding, and coherence.

<table>
<thead>
<tr>
<th></th>
<th>Benefit-Finding</th>
<th>Coherence Standardized</th>
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<tbody>
<tr>
<td></td>
<td>r (p)</td>
<td>r (p)</td>
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<tr>
<td>Resilience</td>
<td>.64 (&lt;.001)</td>
<td>.25 (.03)</td>
</tr>
<tr>
<td>Sexual abuse ever reported through Time 0 (Quant)</td>
<td>.28 (.02)</td>
<td>.06 (.63)</td>
</tr>
<tr>
<td>Sexual violence in narrative (Qual)</td>
<td>.15 (.17)</td>
<td>.08 (.47)</td>
</tr>
<tr>
<td>Substance use in narrative (Qual)</td>
<td>.22 (.06)</td>
<td>.15 (.22)</td>
</tr>
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<td>CCH Time 0 Longitudinal Proportion</td>
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<td>-.05 (.65)</td>
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<td>Adherence Time 0 Longitudinal Proportion</td>
<td>.04 (.73)</td>
<td>.09 (.45)</td>
</tr>
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<td>Adherence Time 2</td>
<td>.21 (.07)</td>
<td>.08 (.51)</td>
</tr>
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<td>CD4_350 Time 0 Longitudinal Proportion</td>
<td>-.09 (.43)</td>
<td>.18 (.13)</td>
</tr>
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<td>CD4_350 Time 2</td>
<td>.23 (.06)</td>
<td>.24 (.04)</td>
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<td>UDVL Time 0 Longitudinal Proportion</td>
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<td>.12 (.31)</td>
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<td>UDVL Time 2</td>
<td>.09 (.44)</td>
<td>.05 (.69)</td>
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1 These partial correlations controlled for demographics of age, education, employment, income, and wave.
Table 8. Consistency of reporting on substance use and sexual abuse across interview and narrative data.

<table>
<thead>
<tr>
<th></th>
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<td></td>
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<tr>
<td>Narratives Endorsed</td>
<td>41</td>
<td>20</td>
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<tr>
<td>Narratives Not Endorsed</td>
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<td>27</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Sexual Abuse</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Endorsed</td>
<td>Not Endorsed</td>
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<tr>
<td>Narratives Endorsed</td>
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<td>7</td>
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<tr>
<td>Narratives Not Endorsed</td>
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Table 9. Partial correlations among types of trauma, benefit-finding, and coherence.\(^1\)

<table>
<thead>
<tr>
<th>Type of Trauma</th>
<th>Benefit-Finding (r (p))</th>
<th>Coherence Standardized Residual (r (p))</th>
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<tr>
<td>HIV</td>
<td>.24 (.02)</td>
<td>.06 (.60)</td>
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<tr>
<td>Death(^3)</td>
<td>.28 (.01)</td>
<td>.23 (.03)</td>
</tr>
<tr>
<td>Rejection or lack of emotional resources</td>
<td>.06 (.56)</td>
<td>-.03 (.80)</td>
</tr>
<tr>
<td>Non-Interpersonal Trauma(^4)</td>
<td>-.02 (.86)</td>
<td>.11 (.31)</td>
</tr>
<tr>
<td>Physical illness and physical trauma</td>
<td>.00 (.99)</td>
<td>.13 (.20)</td>
</tr>
<tr>
<td>Lack of material resources or homelessness</td>
<td>.04 (.73)</td>
<td>.05 (.65)</td>
</tr>
<tr>
<td>Legal issues(^5)</td>
<td>-.07 (.51)</td>
<td>.01 (.94)</td>
</tr>
<tr>
<td>Neglect or abandonment</td>
<td>.17 (.10)</td>
<td>.15 (.16)</td>
</tr>
<tr>
<td>Any Abuse(^6)</td>
<td>.21 (.04)</td>
<td>.23 (.03)</td>
</tr>
<tr>
<td>Any Adult Abuse(^7)</td>
<td>.25 (.01)</td>
<td>.21 (.04)</td>
</tr>
<tr>
<td>Any Child Abuse(^7)</td>
<td>.08 (.46)</td>
<td>.15 (.14)</td>
</tr>
<tr>
<td>Sexual abuse ever, rape, or sexual assault</td>
<td>.15 (.17)</td>
<td>.08 (.47)</td>
</tr>
<tr>
<td>Child Sexual Abuse</td>
<td>.11 (.28)</td>
<td>.13 (.22)</td>
</tr>
</tbody>
</table>

---

\(^1\) These partial correlations controlled for demographics of age, education, employment, income, and wave.

\(^2\) Some categories overlap (e.g., “Any Abuse” contains “Any Adult Abuse” and “Any Child Abuse”).

\(^3\) Includes death of other, miscarriage of self, and suicide of other.

\(^4\) Includes physical illness, physical trauma, lack of material resources, homelessness, and legal issues.

\(^5\) Includes involvement with police or courts, incarceration, immigration issues, and separation due to incarceration.

\(^6\) Includes emotional abuse, physical abuse, sexual abuse, and verbal abuse as an adult or as a child.

\(^7\) Includes emotional abuse, physical abuse, sexual abuse, and verbal abuse.
APPENDIX A. QUALITATIVE CODEBOOK

Benefit-Finding

<table>
<thead>
<tr>
<th>Code Name</th>
<th>Definition</th>
<th>Anchor Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit-Finding</td>
<td>Participant describes finding some benefit as a result of a negative/difficult/stressful event. NOTE: participant does NOT have to describe the event as negative/difficult/stressful--this may be judged by the reader. Participant must indicate explicitly that these outcomes were a result of the event. Participant evidences insight/awareness that the benefit is a result of the trauma. Examples may include: an awareness or increase in personal strength, personal growth, positive personality change, improved relationships, reprioritization of goals and values, new opportunities, a renewed sense of &quot;what really matters.&quot; Code higher for greater number of life areas that are benefited and/or the participant's emphasis on how significant the benefit is (do not code higher based on the negativity of the original event). Examples of each level are provided in Appendix B.</td>
<td>Score: 0-3</td>
</tr>
</tbody>
</table>

Narrative Coherence

<table>
<thead>
<tr>
<th>Code Name</th>
<th>Definition</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>Participant provides the context or background of the story, introduces main characters, locates the narrative in time and place, and describes any relevant past events that may be important for understanding the particular events being narrated in this story. 1 = Extremely poor orientation. Characters (e.g., who is doing what) are confusing. No back story whatsoever, no locating of story in time or place.</td>
<td>1-5</td>
</tr>
</tbody>
</table>
2 = Poor orientation. Some elements of action/story/characters (e.g., what's happening? To whom?) are unclear. No/minimal backstory or locating of story in time or place.

3 = Moderate orientation. Action/story/characters are not confusing. Participant provides some information on backstory or locating of story in time or place, but this is the minimum/barebones amount to understand the story.

4 = Good orientation. Action/story/characters are not confusing. Participant provides some elaboration of backstory or locating of story in time or place. This information mostly pertains to the story being told or is moderately useful in understanding the events of the story.

5 = Excellent orientation. Action/story/characters are not confusing. Participant provides extensive elaboration of backstory or locating of story in time or place. This information is important and relevant for understanding the events of the story and/or its significance.

Structure

Participant orders events in the narrative in a temporal or sequential way. Story has a linear, chronological, or causal structure. Demonstration of this is that each narrative should have at least one episode system (STEIN & GLENN, 1979): (1) an initiating or primary event; (2) the individual’s internal evaluation of, feeling about, or response to that event; (3) an attempt (whether internal or external) to meet a goal as a result of the individual’s response; and (4) the consequences of the attempt. In addition, these elements of the episode system ideally follow one another in a sequential, logical, or causal manner.

Score: 1-5
1 = Story contains 1 or at most 2 elements of an episode system. The story lacks movement or flow (what's happening?). Participant provides no/minimal information about events in the story. The way that the story is told or the sequence in which information is presented is not helpful in understanding the events of the story or the relationship of certain events to other events.

2 = Story contains a few parts of an episode system, but not a complete episode system. The story has minimal movement or flow. Participant provides minimal information about events in the story. The way that the story is told or the sequence in which information is presented is only marginally helpful in understanding the events of the story or the relationship of certain events to other events.

3 = Story contains at least one complete episode system. The story has moderate movement or flow (e.g., some stuff happens). The way that the story is told or the sequence in which info is presented is somewhat helpful in understanding the events of the story or the relationship of certain events to other events.

4 = Story has at least two complete episode systems. The story has a good amount of movement or flow. The way that the story is told or the sequence in which info is presented is helpful in understanding the events of the story or the relationship of certain events to other events. Story is told in a way that somewhat demonstrates a structural principle such as chronology, cause and effect, and comparison.

5 = Story has many complete episode systems. The story has a lot of movement or flow. The way that the story is told or the sequence in which info is presented is extremely helpful in understanding the events of the story or the relationship of certain events to other events. Story is told in a way that clearly demonstrates a structural principle such as chronology, cause and effect, and comparison.
Affect Participant provides an evaluative or emotional aspect to the story that contributes to the story's sense of significance of importance. The affect index gets at the heart of why the participant has chosen to tell this story, why it is a turning point, or meaningful in the participant's life and sense of self. “The narrative reveals something about the narrator, or about what the events described therein mean to the narrator; the narrative makes an evaluative point” (Baerger & McAdams, 1999).

1 = There appears to be no point to the story. The reader is left with the questions "What is this story about?" "Why did you tell this story?" (e.g., there is extreme confusion about the participant's goal in telling the story, or the overall evaluative point of the story). In addition, the participant reveals no/very minimal information about her emotional state or how she felt about events described in the narrative.

2 = The point of the story is unclear or confusing. The reader is not entirely sure why the participant chose to tell this story or what the point of the story is. There is some description of emotional states or how the participant felt about events described in the narrative.

3 = The point of the story is clear but not elaborated at all. The reader has a basic understanding of what the story is about, but not necessarily the significance of the story to the participant. Internal affective states may be described, but are not elaborated upon.

4 = The point of the story is clear but not overly elaborated. The reader knows what the story is essentially about and has a good understanding of the significance of the story to the participant. In addition, the participant lets the reader into some of her internal world, and her emotions and internal feelings about events described in the narrative are described but not elaborated.
5 = The point of the story is extremely clear and well elaborated. The reader knows what the story is essentially about and has a very good understanding of the significance of the story to the participant. In addition, the participant lets the reader into her internal world and her emotions and internal feelings about events described in the narrative are very clearly described and/or elaborated.

Prompt Orientation
This code reflects the extent to which the interviewer works to help the participant orient the narrative. This may be reflected by the number of clarifying questions, the interviewer's attempt to understand key players or key events, etc. Score higher for greater numbers and details of interviewer’s questions.

Score: 0-3

Prompt Structure
This code reflects the extent to which the interviewer works to help the participant structure or clarify the sequence of the narratives, when key events happened in relationship to one another, and the causal structure of the narrative. This may be reflected by the number of the interviewer's clarifying questions about the timeline of the narrative, the way in which events unfolded, etc. Score higher for greater numbers and details of interviewer’s questions.

Score: 0-3

Prompt Affect
This code reflects the extent to which the interviewer works to help the participant clarify the meaning or overall importance of the narrative (e.g., why tell this story, why is this a turning point for you, why is this a meaningful event in your life, etc.). Score higher for greater numbers and details of interviewer’s questions.

Score: 0-3

Themes

Abandonment
An individual is left by someone when she is still in need of the support (emotional, financial, physical, etc.) provided by that person. As a
result the individual has to fend for herself.

**Abuse – Emotional**

An individual is controlled by someone through various methods such as threats and isolation from friends and families. She might also be prevented from holding a job to obtaining monetary or material resources, expressing her opinions or emotions, and subjected to inconsistent emotional responses. This includes expressing fear.

Score: 0/1

**Abuse – Physical**

There is a pattern of an individual being subjected to physical violence or force (e.g., slapping, punching, pushing, hit with an object) that results in discomfort, pain or bodily injury. If it is a family member, it is abuse. If the victim is a minor, and is in relationship with the perpetrator.

Score: 0/1

**Abuse – Sexual**

There is a pattern of an individual being subjected to repeated nonconsensual sexual contacts such as rape, sexual assaults and/or molestation. One instance of nonconsensual sexual contacts such as rape and sexual assault should be captured under the specific themes “rape” or “sexual assault”. If it is a family member, it is abuse.

Score: 0/1

**Abuse – Verbal**

There is one instance or a pattern of an individual being harmed by verbal insults, verbal criticisms, demeaning language and comments that threaten her self-confidence. If it is a family member, it is abuse.

Score: 0/1

**Assault – Sexual**

An incident of non-consensual sexual contact that does not include vaginal, anal and/or oral penetration by someone’s body part or an object (if penetration is involved, code as “rape”). Assault is attempted rape or grabbing.

Score: 0/1

**Death**

The end of a person’s life.

Score: 0/1

**HIV**

Diagnosis of (or mention of suffering from)

Score: 0/1
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incarceration</td>
<td>To be put into jail, prison, or other confinement by the law/police authorities.</td>
<td>0/1</td>
</tr>
<tr>
<td>Lack of Emotional</td>
<td>Participant explicitly states having no one in her life for emotional support.</td>
<td>0/1</td>
</tr>
<tr>
<td>Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Material</td>
<td>The state of being deficient or in need of resources, including shelter/a place to live, money, transportation, food, etc.</td>
<td>0/1</td>
</tr>
<tr>
<td>Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal Issues</td>
<td>Problems or complications with the law/legal authorities or the police. The police contacting the participant or any unpleasant contact with DCF or the police. Separate from seeking support from police, which is when the participant contacts the police. This includes being evicted by a landlord.</td>
<td>0/1</td>
</tr>
<tr>
<td>Neglect</td>
<td>An individual’s basic needs (e.g., food, shelter, safety, emotional support) are not being met by the present and responsible parties.</td>
<td>0/1</td>
</tr>
<tr>
<td>Physical Illness</td>
<td>The state of disease or sickness; the diagnosis of disease or sickness. Excludes injury, which should be captured under trauma.</td>
<td>0/1</td>
</tr>
<tr>
<td>Physical Trauma</td>
<td>An external/physical injury to one’s person. Includes accidents (e.g., car accident, fire, drowning). If death occurs code death as well. If there is an elaboration of the physical aftermath (e.g., mentions bruises, cuts, bleeding) after a more specific physical trauma, we can code for both the incident (e.g., rape) and physical trauma.</td>
<td>0/1</td>
</tr>
<tr>
<td>Rape</td>
<td>An incident of forced and nonconsensual vaginal, anal, and/or oral penetration. If it mentions “sex” than assume there was penetration and code for rape. Rape assumes assault and should be coded instead. Assault is</td>
<td>0/1</td>
</tr>
</tbody>
</table>
attempted rape or being grabbed.

**Rejection**
An individual is deliberately excluded from a social relationship. Rejection should be captured under one of the more specific subcategories if applicable.

**Substance Use**
The use of illegal drugs and/or abuse of prescription medication or alcohol.

Score: 0/1

Score: 0/1
APPENDIX B. QUALITATIVE CODING EXAMPLES

Benefit-Finding Examples

Example 1. Low Benefit-Finding.

In an example of benefit-finding at a level of 1, this participant describes her experience with being incarcerated for selling drugs:

I was on the streets selling drugs, you know. And so like sooner or later I was gonna get caught. So I had to accept that I was just like anybody else. I ain’t no different than nobody else. And then just like, I ha[d] told my kids (I was out selling while they were growing up), “Don’t do drugs, don’t be out there selling no drugs.” And then I turn right around and I do what I told them not to do… It’s taught me. It taught me a lesson. Leave that, excuse my language there, leave that shit alone. You don’t, you don’t need that. You know if you can’t get a job and work for some money legally you know then I don’t need that. So I just left it alone.

She links the selling of drugs directly to her incarceration, which in turn led to her realization that she needed a legal job and resulting behavior change.


This participant, with a benefit-finding score of 2, describes the changes in her life as a result of a car accident. Although she was wearing her seat belt and indicates that she
was not under the influence of drugs or alcohol at the time, the car skidded on black ice and the resulting accident left her a quadriplegic, paralyzed from the chest down.

That changed my life tremendously because now I have to have someone with me 24 hours, 7 days a week. I can’t do too much of anything for myself. I’ve gone from being totally independent to being totally dependent and that’s not a good feeling for me. But I still thank God that I am alive…And I’m used to doing things for myself when I’m ready to do it. Now, I have to wait for somebody else to do them for me. They may not always be willing to do them but I’m ready for them to do them so I have to try to maintain patience, which I’ve learned to maintain, a lot more patience. I was always a patient person, but…now I don’t have any choice. So that has changed my life a lot… [It was] not good but I’m still here and I’m still breathing and God still provides me with a roof over my head and I have a mom and my family. I have support from family as well as friends, so I am grateful for all of those things in spite of all the bad things that happened. I felt that maybe they happened to make me the person who I am today. I felt that I was a good person back then, and I still feel that I’m a good person today. Everybody has their days and their ways and I’m not excluded from that, but I feel better. I feel glad to be alive.

Despite clearly owning her mixed feelings about the accident, the resulting paralysis allowed this participant to reaffirm and live more fully some of her core values from before the accident, including gratitude, patience, and faith in God.

This participant, who scored a 3 for benefit-finding, describes going into labor at 7-months pregnant, and learning that she and her newborn had contracted HIV from the baby’s father.

I love my son very much and I was very afraid. I was told we were gonna die so I was afraid for my son’s life, more so than for mine. I, at that point, pretty much felt like I was a failure. But I didn’t want him to be affected by my bad decisions. And he was being affected by my bad decisions. And I just felt very suicidal and um, less than, and nasty, and a bad parent And I was ashamed of myself because I love someone else more then I love myself and allowed myself to be get placed in that situation to become infected and to infect my child. And I think it's an important life event because it has taught to love myself more than a man. That I must come first. And that I have to take my life more serious. It's more valuable than…any relationship. I can't put people before me and my own needs. And so today I do. I work really hard taking care of myself in my relationships, like with my relationships with my children. …And in my personal relationships, I’m very assertive. And I make sure that I’m heard. I make sure that I’m getting what I need from my partner. And if I’m not, I let them know that I’m not. And if I still don’t get it then I make sure I give it to myself in other ways. And I just take care of myself and I try to take care my health better.

This participant, who scored a 3 on benefit-finding, enumerates and elaborates on
numerous lessons that contracting HIV taught her, such as loving herself first and prioritizing her own health and well-being. In addition, this participant makes clear that this shift in beliefs has resulted in a shift in action, that she is currently assertive in her relationships and that she makes sure to take care of herself.

Narrative Coherence Examples

Example 1. Low Coherence.

The following participant scored a 1/5 on orientation, 2/5 on structure, and 1/5 on affect indices of coherence. The interviewer was coded as 0/3 for each of the prompt orientation, prompt structure, and prompt affect indices.

The next event. When I got on drugs I hated that. No. The next event was when I didn’t graduated from high school. I was really looking forward to that. I was always having real issues in school. But I needed. If I hadn’t went to summer school, I still wouldn’t graduated. Yeah, if only I had enough credits.

So then I went to, I ended up getting a job core. I was going with this boy. Call him. Tell him I love him. Stayed there four months. Came back home. Cause I missed my boyfriend. That’s love. Don’t ask me why. Fools in love.

Example 2. Moderate Coherence.

The following participant scored a 2/5 on orientation, 3/5 on structure, and 3/5 on affect indices of coherence. The interviewer was coded as 2/3 for prompt orientation, 1/3 for prompt structure, and 1/3 for prompt affect.
The second memory is uh when I got married.

[Interviewer: Ok. When did that happen?]  
Wait a minute that’s the first marriage girl.

[Interviewer: Ok. How old were you?]  
I was 27. Thought I was in love. But I was in love. I had 4 children but 4 sons at the time. But the last son was the daddy, is the baby daddy that I married. And we got married in my mom’s house everything. I thought I was in love. I thought marriage was death do us part marriage. One day my husband came home and said he was leaving, right. I’m thinking, “He leaving for work? He said he leaving.” [Laughing.]

[Interviewer: You didn’t have any idea?]  
No. I mean I thought we had the perfect marriage. I mean cause I was working. He was working. We wasn’t living in the projects no more. We wasn’t on, I wasn’t on aid no more. I mean I thought I was rich. I was in the PTA, going over to the school with my kids and everything doing everything that women’s supposed to do. I was making the bacon, bringing it home. I was going out with my husband. We was doing the outing things.

[Interviewer: So how long after your marriage did this announcement...]  
Come about? Uh I think maybe a year. But the thing, we, me being a Christian, I said a Christian, I mean with me being one them really strong black woman Christians, I wouldn’t have sex with nobody else but my husband. So we would get together back and forth back and forth back and forth. Then I just
finally gave up and said, “This man ain’t going home with me. Its over with.”

And so I finally divorced him. Then, hold up now, no that’s for the third.

[Interviewer: So with this relationship, this marriage, tell me a little bit about what you were thinking?]

I was totally in shock. I was in shock. I had a nervous breakdown. But then, hold up. I lost my job. I couldn’t get on aid. I couldn’t get unemployment. What else you can’t get when you trying get something? Whatever that’s out there I could not get.

[Interviewer: Ok. So how did you survive?]

Friends. True friends came along and helped me.

[Interviewer: Wow!]

True friends.

[Interviewer: Ok. And what do you think that impact that has had on your life now?]

That it wasn’t, I used to blame myself for it. Cause I have four sons from four different fathers right and so… Man I can’t keep a man, right? I used to think it was my fault. But then I looked and I always left them. I mean my husband left me, right? But he wouldn’t of came back. I mean I finally did the breaking up or whatever right. So I’m, if I would’ve allowed them to keep doing me the way they were doing me, they would still be with me. But I wasn’t accepting that. No [Name] receive from my son’s father I wasn’t going to accept that I just went and had a baby by him.
And so it made me realize its not my fault things do happen. Every relationship don’t work out. I used to hate the fact that I had four sons by four different fathers. I’m not gonna lie. Cause people talk about you when you got four sons by four different fathers and you a young person. They cruel. “You sure got around. You fast.” That stuff hurts.

Example 3. Strong Coherence.

The following participant received scores of 5/5 on each of the orientation, structure, and affect indices of narrative coherence. The interviewer was coded as 1/3 for prompt orientation, and 0/3 for prompt structure and prompt affect.

I had event that happened in my life where I had got raped. I used to go to high school with this guy, and he had left to join the service. But when he came back, I thought that we were still good friends, but evidently he had got with some more of his friends and he decided that he wanted to be a pimp. But I didn’t know that.

So he invited me over to his house. And I always liked the music and I had my instrument with me. I had my saxophone with me I asked him that he’d gonna hear me play the saxophone and he said that he did. But when I went up it was totally different story.

When I made it over to his house I thought he was the same person that he was when was in high school. But he had told me, “Turn around.” I didn’t know at the time he wanted to be a pimp. So I went over to his house just thinking that I
was gonna perform some music for him. But when I got over there it was three other guys, and I didn’t know why they was over there. And so he starts asking me, even telling me, that he wanted me to go next door and date this man for some drugs and stuff.

So I said, “No. I won’t gonna do it.”

And so he went in the back and start talking with the other two guys. I didn’t know what they were talking about but I felt that something weren’t right. So when I decided to leave all three of them attack me. It was like, “You can’t go nowhere. You’re gonna stay right here and you’re going over there and you’re gonna go get some drugs.”

And they started calling me all types of names and everything. I couldn’t believe that was happening to me, because after they attacked me, I’m like, “Why is all this happening to me? I’m not a bad person.” I didn’t even believe that I have put myself in the situation like that. Because me and this guy that I’m talking about, me and him, went through high school all four years. So I was just going over there as a friend. But reason why I’m so disturbed, is this that took my trust away from me, that took my self-esteem away from me, and I also right now in the day I don’t trust nobody. I have problems with trusting males.

They gang-raped me. He put a belt around my neck. They choke me. And two of the guys that was involved in the attack… It was like I had died, because I had like a out of body experience. I felt my body floating up to the … I was floating somewhere. I wasn’t here, but I heard one [of the] other guys was like,
“Man, that’s enough. I’m not gonna be apart of this. She’s dead. Look at her hand.” Cause inside of my hands had started turning black because I couldn’t get no oxygen. And they was pulling belt real tight around my neck. So, “Bitch, you’re gonna get the drugs. You’re gonna go get it.”

And so the guy that I was seeing couldn’t believe that he was letting these other guys attack me like that. So I finally passed out… it was shaking me. Then I felt my spirit floating back down to the earth. And once my spirit floating back down to the earth and I woke up, I had a bunch of red blood site and my eyes and they were prompting me, talking about, “You’re not gonna tell nobody. You’re not gonna tell nobody. Cause if you tell somebody, I gonna come back and I’ll find out where we live and I’ll kill you.”

But reason why I remember that is because I was like, “If there’s a God why did He allow this to happen to me.” I mean, like I said, I’m not a bad person. I don’t understand.

My life took a total turn. I was on a good path, but after that happened to me and then I just start spiraling out of control. I felt like they took my self worth, my self dignity, away from me. And going back to the mirror [prior interview], a lot of times when you look into the mirror it feels like, feel like you’re dirty. You feel like you’re not clean. So that was like number one event that happened to me that I’ll never forget.

[Interviewer: How old were you?]

At that time I was about 22.
Example 4. Good Orientation, Low Structure, Low Affect.

The following participant scored a 4/5 on the orientation index, a 1/5 on the structure index, and a 1/5 on the affect index of coherence. The interviewer was coded as 3/3 for prompt orientation, 1/3 for prompt structure, and 2/3 for prompt affect.

Well, I’m gon’ say the second memory is ‘bout two weeks ago. I went to my hometown. I went to Memphis, Tennessee. And then I went to look, Tunica, Mississippi. And then I went to Hernando, Mississippi, back where I was born. I’ve been raised there.

I’ve seen the lots of things, what I didn’t see when I was growing up. They rebuilt that town. They got McDonald there. Wal-Mart. Papa John. Five banks there. It grew to a point, I think if I got some money I would go have a business there, too. But it was a fun thing to see all that.

Then we got two court house. And then, I’m not saying… the jail come bigger. So lots of crime back there. But it’s a fun. And then I went to Hernando Museum, on [street name] out on [street name]. I went to the library down there. They have a library down in Hernando, Mississippi and I went to the yearbook. I was looking for my picture in the yearbook, but they didn’t have it in the library. But I’ve seen my sisters in the library with the yearbook.

Of course, this library, in Hernando, they socialize in it. You ought to be ‘shhh.’ But they don’t do that. They got a pop machine in the library. A snack machine. I’ve never seen that before in the library.
So we went to the library for two days. The first day, I’ve seen my old friend from high school. Oh you had to be old [laughs] high school, but I need to talk to him about how my sister talked to him. His name is [name]. But he still, he run for the Board of Education, but he didn’t get it. One of my other teacher got it, Ms. [name]. She got it.

[Interviewer: So it sounds like really different from when you were coming up.]

Oh it was a lot difficult there. Grown so big now.

[Interviewer: Was it more rural when you were there?]

Huh?

[Interviewer: Was it more rural, more country?]

It was. It did more country but they got more thing. No McDonald’s were there. No Papa John. No Subway there. No Wal-Mart. None of that stuff was there when we were coming up.

[Interviewer: How did you feel about these?]

Oh I feel lost about… I feel lost, you know? We got two court house. I mean two court house. But one thing in the court house too, lots of people, I found… In… watch “Time to Kill,” the movie “Time to Kill?” Samuel L. Jackson? Part of our court house up in that ceiling, in that movie. That was fun. And then up until the museum. We have a Hernando Museum. And that were at, that were so good. Coach Jerry Lee Lewis, he stayed there, and lessoned his piano in there and the museum is beautiful.
[Interviewer: So were you guys having a family reunion?]

Oh we used to go down there all the time.

[Interviewer: Oh you just go down regularly?]

To visit family.

[Interviewer: Okay. So...]

I have a sister staying there and I have a brother in Memphis too. So we just kinda get, toll a car and then head down there. Memphis.

[Interviewer: So tell me, why is this important memory for you?]

Because I still have family there and this is where I grewed up at. And I have to see thing I grewed from. Where I was a little kid, and for now, you know, I’ve seen so many things and seen my old teacher. Nah, I didn’t see my old teacher but she were on the paper. I brought the paper home. But she doesn’t look like she was 84 years old. She look like she’s about 70. [Interviewer laughs.] But one thing I got from her, she said, “Never, never, never, never say you can’t do something.”

She told us when we was kids, never put that in our mind. So she stuck with me today and pops into me when I’m bad. [Participant laughs.]

[Interviewer: What grade? What did she teach you?]

I believe 7, 8?

[Interviewer: So eighth grade?]

They call it different down there. They start from first grade all the way to high school in one building. And my whole high, elementary school look so
small. It was small when I was a kid. [Interviewer laughs.] Each time I go by there, I go by there. And I take picture of it. Then my old high school, they built another high school. So it, it grown since when we was a kid and I’m happy for it. You know? Somebody had money down there.

[Interviewer: And you changed too.]

Oh I have changed. I’ve seen people, and they have changed. I don’t think I’d want to stay down there. I don’t wanna stay down there because I think people there are… Lots people they didn’t want to go no further, what to, where to go. They didn’t want to grow. I’m not sayin’ people don’t stay in the same place. But I didn’t want to stay there. I wanted to grow more. For my life, I didn’t want to stay there.

I’d love to go visit. But I don’t, build me a home down there but I don’t think I would want to live down there. Transportation. Just got to have a car to get around. Plus we got land down there to kinda sell. So, it, it vary. And lots people from the Windy City that had went down there. Got them…, Windy City real. So it came. But the town, it lot different. All built up, you know? But some of the things there, I’m happy to go down there to visit my family. And we sit out in and have a talk about when we were teen. [Both laugh.]
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2014 (anticipated) Doctor of Philosophy, Clinical Psychology
Boston University
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Mentors: Leslie R. Brody, Ph.D.
Martha C. Tompson, Ph.D. (2008-2010)
Dissertation Title: Benefit-finding and coherence in the narratives of women with HIV
2011 Dissertation prospectus defended
2009 Master of Arts, Psychology (en passant)

2006—2007 Postgraduate Study, Psychology
The George Washington University
Washington, DC

2004 Bachelor of Arts, Study of Religion, summa cum laude
Harvard University
Boston, MA
Senior Thesis Title: Theology, ambivalence, and affirmation: Eliezer Berkovits and the exigency and implications of post-Holocaust theology

Funding and Grants
2012 NIDA/NIAAA/APA (Divisions 28 & 50) Early Career Investigator Poster Session and Travel Award
Travel Award for APA Convention 2012

2008—2012 Presidential Fellowship, Graduate School of Arts and Sciences, Boston University
First-year fellowship covering tuition and stipend, renewable as graduate or research assistantship for following three years

2010
Clara Mayo Memorial Fellowship  
Dissertation Funding Award

**Honors and Awards**

2000-2004  
Group I and Dean’s List every semester, Harvard University

2000-2004  
John Harvard Scholarship every semester, Harvard University

2003  
Inducted into Phi Beta Kappa, Harvard University

2001  
Detur Book Prize, Harvard University

**Clinical Experience**

2011—present  
Practicum Trainee, Center for Anxiety and Related Disorders  
Boston University  
Boston, MA  

*Director: Lisa Smith, Ph.D.*  
*Clinical Supervisors: Lisa Smith, Ph.D., Angela Utschig, Ph.D., Todd Farchione, Ph.D., Rosemary Toomey, Ph.D.*

- Conducted individual cognitive-behavioral therapy for patients with mood, anxiety, substance abuse, trauma, and significant stress and adjustment issues.
- Trained to deliver Unified Protocol for Transdiagnostic Treatment of Emotional Disorders.
- Worked with resistant oppositional-defiant patients and patients with borderline personality disorder.
- Conducted neuropsychological assessments, including case conceptualization, interviews and diagnostic assessments, administration and scoring of neuropsychological batteries, report writing, providing feedback to patient, and consultation and recommendations to Boston University’s Office of Disability Services and Boston University Behavioral Medicine.
2011—2012  Practicum Trainee, Partial Hospital Program, Dialectical Behavior Therapy (DBT)
Massachusetts Mental Health Center
Boston, MA
Director: Matthew Robinson, Ph.D.
Clinical Supervisor: Rudolph Blier, Ph.D., L.I.C.S.W.
• Led and co-led DBT skills groups for individuals with borderline personality disorder, multiple suicide attempts and hospitalizations, eating disorders, mood and anxiety disorders, substance abuse/dependence, trauma, and multiple stressors, including chronic and serious mental illness, homelessness, disability, and long-term unemployment.
• Interacted with case managers, psychiatrists, psychologists, social workers, and occupational therapists, as member of multidisciplinary treatment team.

2010—2011  Practicum Trainee, Danielsen Institute
Boston University
Boston, MA
Director: George Stavros, Ph.D.
Clinical Supervisor: Miriam Bronstein, L.I.C.S.W.
• Conducted individual psychodynamic and cognitive-behavioral therapy for patients with mood, anxiety, substance, eating, and personality disorders, and relational, trauma, and identity concerns.
• Consulted with medical and psychopharmacological staff on case management.
• Received weekly individual and group supervision and training on psychodynamic theory and spirituality and existential issues in therapy.
• Trained to administer Rorschach assessments using the Exner Comprehensive System.
• Conducted personality assessments, using projective and objective measures, for patients entering the clergy.

2009—2010  Practicum Trainee, Psychological Services Center
Boston University
Boston, MA
Director: Lisa Smith, Ph.D.
Therapy Supervisors: Valerie Wilson, M.A., and Lisa Smith, Ph.D.
Assessment Supervisor: Rosemary Toomey, Ph.D.
- Conducted diagnostic intake assessments for undergraduate and graduate students with mood and anxiety disorders using the Anxiety Disorders Interview Schedule for DSM-IV MINI (mini ADIS).
- Performed individual cognitive-behavioral therapy using both manualized and flexible approaches.
- Administered, scored, and interpreted tests of intelligence, achievement, memory, attention, and executive functioning; conducted clinical and diagnostic interviews; formulated assessment conceptualizations; wrote integrative summary reports; provided feedback to patients; and consulted with, and gave recommendations to, Boston University Office of Disability Services and Boston University Behavioral Medicine.

Clinical Supervision & Administrative Experience
2011—present
Clinical Fellow, Psychological Services at the Center for Anxiety and Related Disorders
Boston University
Boston, MA
Director: Lisa Smith, Ph.D.
Supervisors: Lisa Smith, Ph.D., and Rosemary Toomey, Ph.D.
- Responsible for daily administration of training clinic for clinical psychology doctoral students from Boston University and external programs.
- Trained, co-led, and supervised trainee clinicians on administration of semi-structured intake interview (mini ADIS).
- Screened potential patients for diagnostic and neuropsychological assessment and assigned and managed practicum trainees’ caseloads.
- Led and co-led didactic seminars for trainees.
- Created and maintained therapy outcomes database.
- Spearheaded program development and outreach activities, including participation at campus wellness fairs and Depression Screening Day, lecturing at Boston University community gatherings, and serving on campus-wide ADHD task force.
• Acted as the liaison between trainees, Center staff, and supervisors, as well as between the Center and other campus departments and student services.
• Supervised and mentored undergraduate volunteers on administrative duties, literature reviews, program advertising and outreach, and database creation and management.
• Collaborated in creation of the Center’s policies and procedural manual. Drafted the training clinic’s annual progress report.
• Met weekly with the Center Director and Director of Neuropsychological Assessment in order to plan ongoing initiatives and monitor Center goals.

2011—present  
Graduate Student Supervisor, Psychological Services at the Center for Anxiety and Related Disorders  
Boston University  
Boston, MA  
Director: Lisa Smith, Ph.D.  
Supervisor: Lisa Smith, Ph.D.
• Responsible for clinical supervision of 2nd year doctoral students with a caseload of up to five patients within a CBT framework. Informed trainee’s case conceptualization, treatment planning, and interventions.
• Met weekly for supervision with trainees, reviewed audio and video recordings, and observed therapy sessions live.
• Provided mentoring, feedback, and guidance in order to facilitate trainee development and growth.
• Attended weekly group supervision of supervision sessions and seminar didactics on supervision theory and provision.

Research Experience  
2010—present  
Graduate Research Assistant  
Women’s Interagency HIV Study IV, Traditional Gender Roles Substudy  
Emotion, Gender, Culture, and Health Laboratory  
Boston University  
Boston, MA  
Principal Investigator: Leslie R. Brody, Ph.D.
A NIAID-funded mixed methods longitudinal study based on the autobiographical turning point narratives of women with HIV and those at risk from the Chicago site of the Women’s Interagency HIV Study (WIHS).

- Coded qualitative narratives ($N = 142$) for over 550 themes (e.g., sexual abuse, homelessness, conflict, education), coping strategies (e.g., seeking support, substance use, acceptance), and gender roles (e.g., externalized self, self-silencing, divided-self). Contributed to and edited coding manuals, and led consensus coding groups.
- Using a dataset with physical and mental health outcomes over an 11-year period, explored the relationships between coping strategies, gender roles, and outcomes.
- Managed database, wrote syntax for study-wide use, and analyzed data using SPSS 19.0.
- Organized undergraduate and graduate volunteers.

2009—2010  
Graduate Research Assistant and Project Diagnostician  
Family Focused Treatment Study  
Family Development and Treatment Lab  
Boston University  
Boston, MA  
Principal Investigator: Martha C. Tompson, Ph.D.

An NIMH-funded two-site randomized controlled trial to evaluate the efficacy of a family focused treatment as compared to a client-centered individual psychotherapy for children with depressive disorders.

- Formulated and implemented recruitment strategies.
- Drafted and edited consent and assent forms for IRB approval.
- Created master codebook of all study materials.
- Trained to administer: *Kiddie Schedule for Affective Disorders and Schizophrenia Present and Lifetime Version (KSADS-PL)*, *Children’s Depression Rating Scale (CDRS)*, *Child and Adolescent Services Assessment (CASA)*, and various mood rating scales.

2008—2009  
Graduate Research Assistant and Project Diagnostician  
Families’ and Children’s Adjustment Study  
Family Development and Treatment Lab
Boston University
Boston, MA
Principal Investigator: Martha C. Tompdon, Ph.D.

An NIMH-funded longitudinal study exploring the links between risk and vulnerability in the development of preadolescent psychopathology, specifically the impact of maternal depression, expressed emotion, life events, and family environment.

- Conducted clinical and psychosocial assessments of children aged 8-12 and their mothers, and wrote individualized participant feedback letters.
- Created databases and co-rated assessments for reliability.
- Trained and became reliable in administering and scoring: *Structured Clinical Interview for DSM-IV (SCID-IV), UCLA Life-Events Stress Interview, Levels of Processing Test*, family interaction tasks, and various measures of child cognitive style, stress, and depression.

2007—2008

Research Technician and Project Diagnostician
Center for Family Intervention Science
Children’s Hospital of Philadelphia
Philadelphia, PA
Principal Investigator: Guy S. Diamond, Ph.D.

An NIMH-funded randomized controlled trial to evaluate the efficacy of an attachment-based family therapy as compared to enhanced usual care for adolescents with persistent suicidal ideation.

- Conducted clinical and psychosocial assessments of adolescents and their family members.
- Researched, drafted, and edited federal grant applications.
- Entered and cleaned data, maintained databases, and performed statistical analyses in SPSS.
- Supervised volunteer interns in data entry, literature searches, and document management.
- Researched curriculum for a course on theory and research outcomes of adolescent suicide.
- Trained and became reliable in administering and scoring: *National Institute of Mental Health Diagnostic*
Interview Schedule for Children (DISC), Columbia-Suicide Severity Rating Scale (C-SSRS), Beck Scale for Suicidal Ideation, Suicidal Ideation Questionnaire Junior (SIQ-JR), and various mood and anxiety questionnaires.

2006—2007 Volunteer Research Assistant
Young Parents Project
The George Washington University
Washington, DC
Principal Investigator: Christina B. Gee, Ph.D.

An NIMH-funded longitudinal study of adolescent parenting, relationships, and psychosocial outcomes. Conducted psychosocial interviews on parenting stress, romantic relationships and support, various mood-rating scales, substance abuse, and other mental health outcomes. Designed promotional materials, acted as liaison for new recruitment sites, and recruited participants from schools and health clinics.

2006—2007 Volunteer Research Assistant
Mothers and Babies Project
The George Washington University
Washington, DC
Principal Investigator: Huynh-Nhu (Mimi) Le

A DHHS-funded randomized controlled trial of a postpartum depression intervention for Latinas. Entered and cleaned data in Spanish, performed statistical analyses in SPSS, conducted literature reviews, and collected histories from medical charts.

Summer 2001 Research Affiliate
The Pluralism Project
Harvard University
Boston, MA
Director: Diana L. Eck

A religious anthropology study, funded by the Ford and Rockefeller Foundations, to explore the religious diversity, communities, and traditions in the United States. Conducted independent research at a Jewish renewal retreat
center, synthesizing workshops, the center’s philosophical and religious context, and interviews with guests, teachers, and staff. Composed and presented final paper, slides, and notes, which were added to the Project’s permanent archives and website.

**Teaching Experience**

2012, 2010  
Directed Study Supervisor  
Emotion, Gender, Culture, and Health Laboratory  
Boston University  
Boston, MA  
Mentored and supervised undergraduate and Masters’ students on independent research projects, including the creation of new coding manuals that focused on:

- Suicidal ideation, suicide attempts, and non-suicidal self-injury in the narratives of women with HIV and those at risk
- Existential, spiritual, and religious issues in these same narratives
- Consulted with students on relevant theory in suicidology, spearheaded literature reviews and incorporation of theory on the psychology of religion, and led coding groups.

2010—2011  
Teaching Fellow, Psychology Department  
Boston University  
Boston, MA  
Planned section lectures and content, led exam reviews, and contributed to exam content and grading for Introductory Psychology and Abnormal Psychology.

2009—2010  
Undergraduate Directed Study Supervisor  
Family Development and Treatment Lab  
Boston University  
Boston, MA  
Mentored undergraduate students on directed study research papers. Oriented students to psychology research databases, taught literature review skills, oversaw creation of paper topics, and edited paper outlines and drafts.

**Community Lectures**

Oct 2012  
In-Service lecture, “Cognitive behavioral therapy for social phobia,” Emerson College Counseling Center, Boston, MA
Oct 2012
Recurring guest lecture, “Test anxiety and stress management,”

Sept 2012
Educational Resource Center, Boston University, Boston, MA

Nov 2011

Oct 2011

Sept 2011

Feb 2012
Guest lecture, “Cognitive-behavioral understanding of anxiety,” First Year Experience, Boston University, Boston, MA

Publications


Manuscripts in Progress


Presentations


**Professional Affiliations**

2010—present  
Association for Behavioral and Cognitive Therapies

2009—present  
American Psychological Association

**Committee Memberships**

2008—present  
Diversity Committee, Boston University  
Boston, MA

2009—2010  
Colloquium Committee, Boston University  
Boston, MA

¹ Maiden name: Ruth Anne Craig.