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DEVELOPMENT AND VALIDATION OF THE R-PLA:
A RESILIENCY MEASURE FOR PEOPLE LIVING WITH HIV/AIDS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the
Degree Doctor of Philosophy in the
Graduate School of The Ohio State University

By

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*****

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ABSTRACT

Our understanding of the nature of HIV/AIDS and its physical and psychological effects on HIV-positive individuals has changed considerably over the last twenty years. Medical advances have elicited changes in the conceptualization of the experience of living with HIV. Some social science research has shifted focus from a purely pathological framework to one that acknowledges coping processes. Resilience is a relatively new area of mental health research and has previously not been explored in regard to HIV/AIDS. Resiliency is defined as the “ability to overcome adversity, survive stress, and rise above disadvantage” (Valentine & Feinauer, 1993, p. 222) and appears to reflect the presence of the following factors: 1) Reasoning Abilities, 2) Internal Locus of Control, 3) Advocacy, 4) Positive Outlook, and 5) Spiritual Orientation.

The purpose of this study was to develop and validate a quantitative measure of resiliency for people living with HIV/AIDS. The 28-item R-PLA (Resiliency in People Living with HIV/AIDS) measure was developed based on the theoretical and research literature regarding the resiliency construct. One hundred forty-five participants completed the R-PLA along with depression, self-esteem, social support from family and friends, and health locus of control measures. The data were analyzed using LISREL and SPSS statistical software.
A confirmatory factor analysis was performed on three competing models of resiliency. A five-factor model fit the data better than the one-factor model. However, the higher order model fit the data well and was theoretically consistent with the resiliency literature. The R-PLA also demonstrated good test-retest reliability and each of the five subscales was correlated with the others to a moderate or high degree. The R-PLA was found to be significantly correlated to the self-esteem, depression, health locus of control, and social support from friends measure. No significant correlation was found between the R-PLA and social support from family. Clinical and research implications were discussed as were the limitations of this study.
DEDICATED TO CARLOS,

WHOSE LIFE AND DEATH HAVE INSPIRED THIS WORK
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CHAPTER 1

INTRODUCTION

The exact origins of the HIV virus are unclear, although scientists believe that HIV has existed in the United States since at least the mid- to late 1970's. The first public reports of what is now considered to be AIDS-related fatalities occurred in 1981 (Altman, 1981). In 1982, scientists began to use the term, "acquired immunodeficiency syndrome," or AIDS, to describe the occurrences of opportunistic infections and cancers occurring in men with compromised immune systems. In 1983, scientists isolated HIV, which was found to be the cause of AIDS (Centers for Disease Control [CDC], 1998). Since 1983, the number of people being diagnosed with HIV (the virus that causes AIDS) and AIDS has dramatically grown. The reported number of cumulative AIDS cases occurring through June, 1999 was over 700,000 for both adolescents and adults with over 588,000 cases in males and over 114,000 cases in females. Over 420,000 people have succumbed to AIDS since the disease has been identified (CDC, 1999).

The nature of HIV/AIDS has changed considerably since it was first diagnosed in the early eighties. In the beginning of the epidemic, an HIV diagnosis involved a very bleak prognosis. Individuals typically endured a steady decline of health until eventual death. Recent success with antiviral drug therapy combinations has provided measured
optimism among those in the medical community (Palella, et. al, 1998; Spira, Marimoutou, Binquet, Lacoste, & Dabis, 1998). HIV is now seen as a manageable, albeit life-altering, disease. Unfortunately, the long-term effects of these therapies cannot be known until they have been utilized over time and across groups. Evidence that these drugs are altering the diversity of CD4 T-cells, which may lead to a long-term decreased responsiveness to HIV antigens, has already been documented (Folkers, 1997). It is yet too early to conclude whether these effects will continue to be shown over time.

Although disease progression is typically viewed primarily in terms of physiological wellness or decline, HIV affects a patient's psychological functioning. Further, just as the course of the disease has changed over time, so have its psychological effects on HIV-positive individuals. What these new developments mean for the mental health of those living with HIV has received considerable attention recently (e.g. Revicki, Sorensen, & Wu, 1998). While the medical community has made giant strides, social science research is slow to accumulate regarding the "state-of-affairs" of any particular new biomedical trend. Yet, because there may not be an end to the spread of HIV anytime soon, it is imperative that social science researchers continue to address questions regarding the psychological effects of the disease.

**Mental health and HIV**

Initial studies regarding the effects of HIV on mental health tended to be problem-focused. Areas of study typically included depression, anxiety, stress, and grief (Folkman, Chesney, Collette, Boccellari, & Cooke, 1996; Hays, Chauncey, & Tobey, 1990). For example, some researchers have found that the number of AIDS-related complications was positively correlated with depression (van Servellen, Padilla, Brecht,
& Knoll, 1993). Others found that HIV-positive women who have been hospitalized report poorer mental health than those who have not (McDonnell, Gielen, Faden, Wu, & O’Campo, 1997). Caumartin, Tal, Joseph, and Kessler (1989) found that depression and anxiety scores were significantly higher among HIV-positive men than among those in the general population. As a reflection of the general adherence to the medical model, which focuses on disease progression, social science researchers have spent considerable time assessing the psychological disabilities of being HIV-positive over time (Carter, et al., 1990; Caumartin, et al., 1989).

A change in orientation has occurred in the mental health field, which may be partly due to drug therapy successes. More researchers are now focusing their efforts on coping with and adjusting to a positive serostatus (Brook, et al., 1995; Demi, Moneyham, Sowell, & Cohen, 1997; Friedland, Renwick, & McColl, 1996; Klein, Forehand, Armistead, & Wierson, 1994; Rodgers, 1995; Taylor, et al., 1992). For example, some studies have found that HIV-positive individuals utilize positive, diverse, and active coping strategies (Brook, et al., 1995; Demi, et al., 1997; Friedland, et al., 1996; Taylor, et al., 1992). Friedland, et al. (1996) examined the differences between problem-oriented, perception-oriented, and emotion-oriented coping strategies. These researchers found that HIV-positive individuals were more likely to utilize problem-oriented coping strategies, which work to actively resolve the problem itself, rather than to reframe the problem or become emotionally reactive to it. It appears that quality of life was only slightly affected by being HIV-positive (Friedland, et al., 1996). Based on these results, the authors hypothesized that “...with serious illness, meaningful new dimensions of life may be experienced” (p. 27).
Quality of life and positive physical and psychological functioning in HIV-positive individuals has also been found to correlate with high levels of emotional and social support from friends and loved ones (Friedland, et al., 1996; Klein, et al., 1996). HIV-positive women cope more through seeking the support of loved ones than through any other coping strategy (Demi, et al., 1997). Both family and friend support has been shown to be important and predictive of reduced loneliness and depression, and family support in particular was predictive of reducing risky sexual behaviors (Kimberly & Serovich, 1996; Kimberly & Serovich, 1999; Serovich, Kimberly, Mosack, & Lewis, 2001). Moreover, the longer a person knows he or she is HIV-positive, the more likely he or she was to seek social support (Brook, et al., 1995).

Relevance of resiliency to HIV

Resilience is a relatively new area of study in social science literature as well as in HIV research. In contrast to more conventional methods of mental health research, resiliency theory provides an alternative, non-pathogenic framework from which to examine how people may live well with HIV. In contrast to coping, which reflects an individual’s ability to negotiate the deleterious effects of a stressor or crisis, resiliency involves an individual’s ability to become stronger, not in spite of, but rather because of his or her experience with the stressor.

Even when researchers examine positive outcome as opposed to the absence of a negative outcome, they approximate the construct of resiliency. The construct is sometimes used as a causal factor to explain a particular outcome. For example, if a person were resilient, then he or she would be expected to have higher scores on self-efficacy. Such measures fail to provide data on what factors comprise resiliency. There
is currently no known quantitative measure of resiliency that incorporates the different aspects of what it means to be resilient. For this reason, it is important to establish a measure on an "at-risk" population. HIV-positive individuals are clearly at risk for developing psychological problems as a result of their diagnosis. The experience of depression or anxiety surrounding their diagnosis would be expected. However, receiving a positive serostatus also provides the opportunity for people to transcend their circumstance and to become stronger than they were before the diagnosis.

Because the understanding of resiliency is still in its infancy, there is much to contribute to resiliency theory and intervention strategies. In Chapter Two, the resiliency literature will be reviewed, including a discussion on the complexity of the construct of resiliency and the factors associated with resiliency. Then, a measure of resiliency that is specific to adults living with HIV or AIDS will be proposed. This measure will reflect the factors found to be related to resiliency. Finally, the study's hypotheses and the proposed method of analyzing the validity and reliability of such a measure will be outlined.
CHAPTER 2

RESILIENCY THEORY

Preliminary studies indicate that people with HIV/AIDS are indeed coping with the uncertainty of HIV. For example, some researchers have found that people with HIV who exercised showed significant improvement of mood than those who did not exercise (Wagner, Rabkin, & Rabkin, 1998). In a grounded theory analysis, Kendall (1996) found that HIV-positive men believed that feeling connected to others promoted a greater spiritual understanding of themselves. While resiliency has been approximated, few studies have directly examined the concept in these populations. Definitions of resiliency will be provided in this chapter, followed by a discussion of risk, vulnerability, and protective factors and their relevance to resiliency. Specific resiliency factors that have been identified in the literature will be highlighted and the hypotheses for this study will be outlined.

Definitions of resiliency

The construct of resiliency has been defined differently by different theorists and researchers. Some have argued that resiliency results from the absence of deviant behaviors and most definitions of resilience have been created in the context of
adolescence. For example, Kandel and colleagues (1988) described resilient outcomes as the absence of criminal involvement for sons of criminal fathers. Rutter (1979) and others (Blocker & Copeland, 1987; Boyce & Jeremin, 1990; Moran & Eckenrode, 1992; Radke-Yarrow & Brown, 1993) have defined resilient high-stressed youth as those who fail to develop behavioral and psychological problems.

The definitions that have been used for resiliency similarly reflect this problem-absence focus. Blocker and Copeland (1994) have written that "resilient youth are exposed to high stress, but show few or no signs of impairment. Protective factors ameliorate distress, adversity, and risk" (p. 288). Additionally, they purport that resiliency is found in those "who are exposed to high-stress, but show few or no signs of impairment" (p. 288). In a longitudinal study of children who had developed perinatal complications and had experienced adverse childrearing conditions, Werner (1984) defined resiliency as "the ability to recover from or adjust easily to misfortune or sustained life stress" (p. 68). The focus of resiliency in these cases seems to reflect one's ability to adjust or cope.

Resiliency has been described as the ability to thrive despite deleterious or risky circumstances or experiences. Masten and colleagues (Masten, Best, & Garmezy, 1990, p. 426) described resiliency as "a process, capacity, or outcome of successful adaptation despite challenges or threatening circumstances...good outcome despite high risk status, sustained competence under threat and recovery from trauma." Likewise, Herrenkohl, Herrenkohl, and Egolf (1994) described resilient individuals as those who are academically "high functioning" (p. 302). Another way of conceptualizing resiliency is that of "the positive pole of individual differences in people's response to stress and
adversity" (Rutter, 1987, p. 316). These researchers seem to be identifying a construct that is very different from simply coping with a tragedy or loss.

Despite these differences of opinion, others have argued that it is too early in the development of resiliency research to come to one specific conclusion about the definition (Ciccetti & Garmezy, 1993). They implored researchers to operationalize carefully what they specifically mean when they refer to resiliency. Others have also argued that resiliency is a relative phenomena in that it can only be defined within a particular context and that it might change over time and across situations (Mrazek & Mrazek, 1987).

Regardless of the different ways in which resiliency has been conceptualized, the definition that will be used for the purposes of this study will be the “ability to overcome adversity, survive stress, and rise above disadvantage” (Valentine & Feinauer, 1993, p. 222). Implicit in this definition is the assertion that resilient individuals actually become stronger than they were before they experienced a particular crisis. Resilient individuals with HIV/AIDS would be those who demonstrate important strengths and competencies. This particular caveat is important in order to distinguish the construct from other phenomena, such as coping. Resiliency is not simply about “getting by” after a crisis occurs but it reflects a strength that is developed or manifested in light of a crisis.

Risk, vulnerability, and protection

A key ingredient to resiliency is context. Although some researchers have linked resiliency to the decision to avoid engaging in particular activities such as sexual abstinence (Blinn-Pike, 1999), resiliency can only be found in the context of a stressful or risky situation (Blocker & Copeland, 1994; Masten, et al., 1990). Individuals are not
necessarily resilient by composition; rather, resiliency emerges during periods of stress or crisis. Current research on resiliency reflects perspectives from a variety of risky situations. Risk has been defined as the precursor to negative or undesirable outcomes (Cowan, Cowan, & Schulz, 1996). Some of the more commonly researched risk experiences include childhood hospitalization (Bolig & Weddle, 1988), childhood abuse and neglect (Herrenkohl, et al., 1994; Lam & Gossman, 1997; Valentine & Feinhauer, 1993), parental psychopathology (Schishell, 1993; Radke-Yarrow & Brown, 1993) and poverty (Bradley, et al., 1994; Garmezy, 1991; Werner, 1992). Most of the research involves the assessment of childhood resiliency or protective factors that were available during a childhood tragedy.

The concept of vulnerability is also essential to resiliency theory. According to Freitas and Downey (1998), similar to the concept of resiliency, vulnerability has an important relation to risk in that it only plays a role when risk is present. For example, having a short attention span is only a vulnerability if an individual’s educational environment does not provide the opportunity to learn in shorter segments and with more variety. Vulnerability may have little salience in other contexts.

Protective factors are also an important component of resiliency theory. Protective factors can actually serve as mediators of risk in the development of vulnerability or resiliency and may result in the reduction of risk impact through phenomena such as a change in meaning or change in exposure to the situation; the reduction of negative chain reactions (especially re-victimization); high self-esteem and self-efficacy; and the presentation of opportunities (Rutter, 1987). Resiliency research has tended to address the protective factors associated with particular risks. Generally,
researchers view resiliency as either belonging to an individual, or as being a relational phenomenon. For example, “individual factors” reported to play a role in resiliency include the ability to form attachments from infancy on; not having a sibling within two years of one’s birth; good to average intelligence; the ability to develop intimate relationships, an achievement orientation; the ability to construct productive meanings about events; the ability to disengage and re-engage with family members appropriately; an internal locus of control; and the absence of a physical illness (e.g. Blocker & Copeland, 1994; Radke-Yarrow & Brown, 1993; Radke-Yarrow & Sherman, 1990; Valentine & Feinhauer, 1993; Werner, 1992; Werner & Smith, 1982). These are “individual factors” only to the extent that they are conceptualized as being individual versus systemic. Each of these individual factors seems to require an active interaction in response to one’s environment or with the people inhabiting one’s environment.

There are a number of interpersonal, familial, or extra-familial interactions or factors that have also been identified as being important (Barnard, 1994; Ciccetti, & Garmezy, 1993; Garmezy, 1991; Rutter, 1979; Werner, 1992). These include having a good parent-child “match” (in terms of temperament or personality); having family rituals; having parents who take a proactive stance; having appropriate parent-child roles; exhibiting a lack of parental conflict while children are in infancy; not experiencing parental divorce during a child’s adolescence; having a good relationship with one’s mother; and selecting a mate who is emotionally stable.

Research has traditionally separated vulnerable or at-risk individuals into two categories: those with high risk but low “competence,” and those with high-risk and high competence. Competence has depended upon the individual researchers’
operationalization of resilience. Some have defined competence in terms of the absence of problems. Those who have identified competence as being the presence of positive outcomes or processes have identified high grades (Gordon, 1996), high self-esteem (Radke-Yarrow & Brown, 1993; Valentine & Feinhauer, 1993; Werner, 1992), sense of personal power over the situation (Garmezy, 1991), an internal locus of control (Blocker & Copeland, 1994; Mrazek & Mrazek, 1991; Werner & Smith, 1982), the ability to understand (Bradley, et al., 1994; Herrenkohl, et al., 1994; Moran & Eckenrode, 1992; Werner, 1992), social support, and spirituality (Werner, 1992; Werner & Smith, 1982).

Resiliency factors

Some researchers have addressed resiliency factors that might work to protect psychologically or physically vulnerable individuals. "High risk" children who live in poverty or without particular resources, such as family support, educational opportunities, or healthy living environments have been the most common focus of such studies. Those deemed to be resilient are those who show measured competence despite their high-risk status. Although some studies have addressed adult resiliency, the majority of this research involves examining resiliency in the historical context of stressful childhood situations, such as childhood sexual abuse (Lam & Grossman, 1997; Valentine & Feinhauer, 1993), poverty (Bradley, et al., 1994; Garmezy, 1991; Werner, 1992), or parental psychopathology (Kandel, et al., 1988; Radke-Yarrow, & Brown, 1993; Schissel, 1993). With relatively few exceptions (Astin, Lawrence, & Foy, 1993; Garvin, Kalter, & Hansell, 1993), resiliency has not been addressed in regard to adults who have experienced latent or adult-onset stressors or traumatic events.
In order to hypothesize the factors that are related to resiliency among HIV-positive adults, it is important to examine previous resiliency research. An examination of the literature reveals that there are a number of factors that have a role in the construct of resiliency. Within the remainder of this chapter, those factors that have appeared to be most salient in regard to the resiliency construct will be highlighted. These factors include reasoning abilities, an internal locus of control, a positive outlook, and a spiritual orientation.

Reasoning abilities have been shown to be related to resiliency. Herrenkohl and colleagues (1994) found that children with an above average IQ were more likely to be successful after experiencing childhood abuse. Others (Kandel, et al., 1988) have found that adolescents with higher IQ's with criminally-involved fathers were less likely to commit crimes than their counterparts with lower IQ's. Other researchers (Bradley, et al., 1994; Clark, 1983) found that resilient children living in poverty were those who had access to stimulating learning materials. Resilient adolescents who experienced a number of negative life events spent more time studying than their non-resilient peers (Blocker & Copeland, 1994). In terms of HIV-positive individuals, the ability to understand the nature of their diagnosis as well as to understand how to get treatment would be particularly important.

An internal locus of control is the second resiliency factor that appears. An internal locus of control reflects an individual’s sense of personal responsibility and ability to act in any particular situation. An internal locus of control, especially for good events, and an external attribution of blame seem to be present for resilient individuals (Blocker & Copeland, 1994; Moran & Eckenrode, 1992; Valentine & Feinhauer, 1993).
Researchers have indicated that constructs such as ego strength and a positive self-regard are associated with resilient individuals (Radke-Yarrow & Brown, 1993; Valentine & Feinhauer, 1993; Werner, 1992). Some researchers (Beardslee & Podorefsky, 1988; Rutter, 1986; Werner, 1986) have argued that an individual achievement orientation is the key to resiliency. It is unclear, however, if an internal locus of control is relevant in determining resiliency in HIV-positive men and women. This may be an important factor to consider, given that some aspects of the disease lend themselves to personal control, such as diet and adherence to pharmaceutical interventions.

The existence of a positive outlook is the third factor and may be particularly salient for HIV-positive individuals. Until the last few years, there was a clear progression from an HIV diagnosis to the development of AIDS to death. This is less true today, especially with the apparent success of combination drug therapies in prolonging HIV-positive individuals' lives. Little research has been done in regard to the significance of a positive outlook or future orientation within the context of HIV.

However, resiliency research has found that resilient children are optimistic and hopeful (Mrazek & Mrazek, 1987). Folkman (1997) acknowledged, too, that within the context of coping, creating goals was associated with positive affect. The presence of a positive outlook requires cognitive processes, thus one's ability to assume that there will be a future worth planning for are important facets of this concept. Reports that resilient adults were those who recognized important opportunities at major life transitions (Werner, 1992) reflect an ability to recognize and act when a particular choice may influence one's future. Living with HIV and having a positive outlook, then, would
require an individual to make particular lifestyle or interpersonal choices, such as when a person makes a commitment to fight disease progression or to foster a new relationship.

Finally, a spiritual orientation has been identified as being important. Spirituality has different meanings for different individuals, and the same is true of researchers. Some may use spirituality and religiosity interchangeably. However, this is not always the case and may more generally reflect a person's ability to construct meaning beyond a particular event and to believe that there is some higher power that influences life events. Many researchers have indicated that spirituality, a spiritual orientation, or the use of faith were related to positive outcomes (Folkman, 1997; Valentine & Feinauer, 1993; Werner, 1984). Resilient individuals have been identified as those who are able to construct positive meanings of events and are able to understand stress (Beardslee & Podorefsky, 1988; Rutter, 1986) and spiritual resilience has been described as being relational in nature, reflecting the ability to be vulnerable and to rely on God (Bower, 1996).

Another factor that was not derived from the resiliency literature yet is considered to be important in the conceptualization of resiliency and HIV is advocacy. The importance of self-advocacy has not been adequately addressed in the resiliency or HIV/AIDS literature. Werner (1992) has found that a sense of personal responsibility has been associated with resiliency. In an earlier study, Mrazek and Mrazek (1987) have found that resilient children are altruistic, which in turn might sow the seeds for activism and advocacy. Because of findings such as these, advocacy is hypothesized to be an important resiliency factor for this population. It is evident that HIV is a stigmatized disease that has led to discrimination and an initial inadequate response from
funding agencies. As a result of these realities, strong activist groups have emerged (e.g. Gay Men's Health Crisis) and have subsequently played a major role in bringing HIV/AIDS issues and treatment imperatives to the forefront of the national health care agendas. Involvement in advocacy efforts, then, may be one way that HIV-positive men and women can regain some control that has been taken from them because of their seroconversion.

The literature review revealed that different theorists and researchers cite a variety of individual and relational resiliency factors. They have conceptualized the resiliency clusters differently, often depending on the auxiliary measures used to measure a successful outcome. Five factors have subsequently emerged, including reasoning abilities, internal locus of control, positive outlook, spiritual orientation, and advocacy, and they are hypothesized to offer distinct contributions that, when taken together, reflect resilience.

Purpose of the study

The purpose of this study was to develop a scale to measure resiliency in people living with HIV/AIDS. A questionnaire was developed that addresses five specific resiliency factors. The factors include: reasoning abilities, an internal locus of control, a positive outlook, a spiritual orientation, and an advocacy orientation. Each factor was represented by a number of items on the questionnaire. After the data were collected, a confirmatory factor analysis was performed to examine how well these items loaded onto each of the factors, as well as to investigate whether these factors loaded together on the proposed resiliency construct.
Significance of the study

There is no other known resiliency measure available nor is there one available that is specifically geared toward HIV-positive adult men and women. The emergence of a scale that measures the resiliency construct is important for the following reasons. First, it can be used to validate resiliency theory. It could provide evidence that resiliency is significantly different from other, related concepts, such as self-esteem, social support, etc. Secondly, it will provide important information about resiliency and HIV, which may lead to advances in intervention strategies. For example, if we learn that a spiritual orientation is a stronger predictor of resiliency than reasoning abilities, then practitioners can encourage one to develop their spirituality in the face of this disease. Third, if this measure proves to be reliable in regard to resiliency and HIV among adult populations, it might be able to be used (with context-specific modifications) for other life-threatening diseases adults may face (e.g. cancer, diabetes, heart disease).

Developing a measure of resiliency that proves to be both valid and reliable will provide researchers and clinicians with information that has yet to be gathered about HIV and resiliency. Simply examining the impact of HIV from a non-pathological viewpoint is important and significant because the vast majority of previous literature reveals a rather negative and linear view of the disease and its progression. However, resiliency research is young enough to require further analysis and conceptualization. Augmenting the discussion of resiliency within the context of HIV will yield timely and theoretically testable information.
Hypotheses

Based upon the literature review on the construct of resiliency, three particular hypotheses will guide the data analyses for this study. The hypotheses are listed below.

H₀₁: The R-PLA data fits either a five-factor, single-factor, or higher order factor model, in which the five-factor and the higher-order models include the following factors: 1) Reasoning Abilities, 2) Internal Locus of Control, 3) Positive Outlook, 4) Spiritual Orientation, and 5) Advocacy Orientation.

H₀₂: Each respective subscale is correlated with the other subscales to a moderate degree.

H₀₃: R-PLA composite scores yield slight to moderate correlations with composites from the other mental health measures, including self-esteem, health locus of control, depression, and social support.
CHAPTER 3

METHODS

The purpose of this chapter is to define the methods that will be used to examine the reliability and validity of an instrument used to assess resiliency in HIV-positive individuals. Specifically, there were five factors that were hypothesized to be related to resiliency. These factors included: reasoning abilities, internal locus of control, positive outlook, spiritual orientation, and advocacy orientation. Questions related to each factor were included on the R-PLA questionnaire. An explanation of the methods of this study, including the method of participant recruitment, the selection of instruments, and the study’s procedures will be provided.

Eligibility for the study

Participants for this study were already involved in one of two research projects investigating HIV and disclosure. The first study included male participants who were part of an NIMH-funded research project at The Ohio State University, entitled, “Disclosure and Behavior Change for Persons Living with HIV/AIDS: A Longitudinal Study” (R29 MH56292). To be a part of the NIMH study, male participants had to be HIV-positive, identify as gay or as a male who has sex with other men, and to be over the age of eighteen. The second study included female participants and was funded by the
OSU Research Foundation Urban Affairs Committee, entitled, "Determinants of Urban Women's Disclosure of their HIV-positive Status and Correlates of Their Mental Health." Female participants involved in this study were required to be over the age of eighteen and HIV-positive.

Recruitment

Men were solicited from the AIDS Clinical Trials Unit (ACTU) at The Ohio State University Medical Center Infectious Disease Clinic. There were three ways men were recruited into the NIMH study. First, an ACTU research nurse or other staff distributed publicity about the project. HIV-positive gay men were given information about the nature of the project and were given contact information to set up an initial appointment. Second, participants were recruited through project posters, which were displayed at the ACTU. Third, potential participants were informed about the project at semi-annual HIV medical/informational programs held at the Medical Center. (See appendix A for examples of recruitment materials for male participants).

Women were recruited for the Urban Affairs Committee project in four ways. First, publicity about the project was distributed by an ACTU research nurse or other staff and HIV-positive women were given information about the nature of the project and were given contact information to set up an initial appointment. Second, participants were recruited through project posters, which were displayed at the ACTU. Third, potential participants were also informed about the project at semi-annual HIV medical/informational programs held at the Medical Center. Fourth, publicity was also distributed at Columbus' Children's Hospital (see appendix B for examples of recruitment materials for female participants.)
After agreeing to participate in the NIMH-funded project, men were asked to complete seven phases, spaced along six-month intervals, within three years. Year one for any given participant consisted of Phases I, II, and III; year two consisted of Phases IV and V; and year three consisted of phases VI and VII. Participants completed a variety of mental health, social support, sexual risk-taking behavior, and physical symptom severity measures, as well as the R-PLA at each phase. These measures took between one to two hours to complete. During Phase I, III, V, and VII, participants were interviewed about specific members in their social support network. These interview phases lasted slightly longer (usually one and one-half to two and one-half hours long).

Male participants were given the R-PLA during Phases II, III, IV, and V. R-PLA data for the proposed study will come primarily from Phase II data. In five cases, participants missed Phase II but completed the R-PLA during Phase III. In these cases, Phase III R-PLA data were used.

Female participants were a part of the smaller, Urban Affairs Committee-funded pilot research project. This project was also longitudinal, however, it included four phases instead of seven. These phases were also spaced along six-month intervals within the span of two years. Year one for any given participant consisted of Phases I and II and year two consisted of Phases III and IV. Female participants completed a variety of mental health, social support, and physical symptom severity measures, as well as the R-PLA at each phase. These measures took between forty-five minutes to one-and-one-half hours to complete. Additionally, during Phases I and III, participants were interviewed about specific members in their social support network. These interview phases lasted slightly longer, usually one and one-half to two hours long. Female participants were
given the R-PLA during all phases. The R-PLA data for the proposed study will come from Phase I data collection.

The participants were not compensated for completing the R-PLA specifically. They were provided compensation for completing each particular phase of the larger project. Men were compensated $25, $35, and $45, respectively, for Phases I, III, and V. At Phases II, IV, and VI male participants are compensated $15 each time. Women were compensated $25 and $35, respectively, for their participation in Phases I and III. At Phases II and IV, female participants were compensated $15 each time.

Participant sample

Participants of this study consisted of HIV-positive gay men and women of any sexual orientation from the OSU ACTU and Children’s Hospital, both in Columbus, Ohio. The sample included 119 men and 26 women (N = 145). Participants ranged in age from 21 to 60 years (M = 38.06; SD = 7.97). They were mostly Caucasian (61.4%) and African American (31.0%). Most of the sample was receiving at least some income with a reported range of no income to $145,000 annual income (M = $19,604). The most common mode of transmission was via unsafe sex (75.2%; see Table 3.1 for a detailed breakdown). Religious affiliation was assessed for the male subsample. Nearly seventy percent (69.7%) indicated that they were either religious or spiritual (see Tables 3.2 and 3.3 for demographic information according to gender).

In order to assess the appropriateness of combining the male and female samples for subsequent analyses of the author-derived resiliency measure, an ANOVA was performed to test for differences between the two samples. No significant differences were found between men and women in regard to any demographic factor except for race.
(see Table 3.4). Female participants were more likely to be African American than male participants were. Because the incidence of HIV varies along racial lines by gender, this difference is to be expected and the men and women were combined into the same sample group.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (M)</th>
<th>Standard Deviation (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>38.06</td>
<td>7.97</td>
</tr>
<tr>
<td>ANNUAL INCOME</td>
<td>$19,603.56</td>
<td>$20,217.84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number (N)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>89</td>
<td>61.4%</td>
</tr>
<tr>
<td>African-American</td>
<td>45</td>
<td>31.0%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>4</td>
<td>2.8%</td>
</tr>
<tr>
<td>Native American</td>
<td>2</td>
<td>1.4%</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>3.4%</td>
</tr>
<tr>
<td>MODE OF TRANSMISSION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsafe sex</td>
<td>109</td>
<td>75.2%</td>
</tr>
<tr>
<td>Needle sharing</td>
<td>5</td>
<td>3.4%</td>
</tr>
<tr>
<td>Blood transfusion</td>
<td>2</td>
<td>1.4%</td>
</tr>
<tr>
<td>Not sure</td>
<td>20</td>
<td>13.8%</td>
</tr>
<tr>
<td>Other mode</td>
<td>2</td>
<td>1.4%</td>
</tr>
<tr>
<td>Missing</td>
<td>7</td>
<td>4.8%</td>
</tr>
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Table 3.1. Demographics of male and female combined sample (N = 145)
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<thead>
<tr>
<th>Variable</th>
<th>Mean (M)</th>
<th>Standard Deviation (SD)</th>
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</thead>
<tbody>
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<tr>
<td>ANNUAL INCOME</td>
<td>$19,565.47</td>
<td>$16,989.23</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number (N)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>82</td>
<td>69.0%</td>
</tr>
<tr>
<td>African-American</td>
<td>30</td>
<td>25.2%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>2</td>
<td>1.7%</td>
</tr>
<tr>
<td>Native American</td>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>3.4%</td>
</tr>
<tr>
<td>MODE OF TRANSMISSION</td>
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<td></td>
</tr>
<tr>
<td>Unsafe sex</td>
<td>94</td>
<td>79.0%</td>
</tr>
<tr>
<td>Needle sharing</td>
<td>2</td>
<td>1.7%</td>
</tr>
<tr>
<td>Not sure</td>
<td>17</td>
<td>14.3%</td>
</tr>
<tr>
<td>Other mode</td>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td>Missing</td>
<td>5</td>
<td>4.2%</td>
</tr>
<tr>
<td>RELIGIOUSLY AFFILIATED?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>83</td>
<td>69.7%</td>
</tr>
<tr>
<td>No</td>
<td>30</td>
<td>25.2%</td>
</tr>
<tr>
<td>Missing</td>
<td>6</td>
<td>5.0%</td>
</tr>
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</table>

Table 3.2. Demographics of male participants (N = 119)
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<th>Standard Deviation (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
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<td>8.18</td>
</tr>
<tr>
<td>ANNUAL INCOME</td>
<td>$12,452.00</td>
<td>$13,059.88</td>
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<table>
<thead>
<tr>
<th>Variable</th>
<th>Number (N)</th>
<th>Percentage (%)</th>
</tr>
</thead>
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<tr>
<td>RACE</td>
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<td></td>
</tr>
<tr>
<td>African-American</td>
<td>15</td>
<td>57.7%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>7</td>
<td>26.9%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>2</td>
<td>7.7%</td>
</tr>
<tr>
<td>Native American</td>
<td>1</td>
<td>3.8%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>3.8%</td>
</tr>
<tr>
<td>MODE OF TRANSMISSION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsafe sex</td>
<td>15</td>
<td>57.7%</td>
</tr>
<tr>
<td>Needle sharing</td>
<td>3</td>
<td>11.5%</td>
</tr>
<tr>
<td>Transfusion</td>
<td>2</td>
<td>7.7%</td>
</tr>
<tr>
<td>Not sure</td>
<td>3</td>
<td>11.5%</td>
</tr>
<tr>
<td>Other mode</td>
<td>1</td>
<td>3.8%</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>7.7%</td>
</tr>
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</table>

Table 3.3. Demographics of female participants (N = 26)
<table>
<thead>
<tr>
<th>Age of Participant</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>39.854</td>
<td>1</td>
<td>39.854</td>
<td>.642</td>
<td>.424</td>
</tr>
<tr>
<td>Within Groups</td>
<td>8812.03</td>
<td>142</td>
<td>62.057</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8851.88</td>
<td>143</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>Sum of Squares</td>
<td>df</td>
<td>Mean Square</td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Between Groups</td>
<td>5.656</td>
<td>1</td>
<td>5.656</td>
<td>4.037</td>
<td>.046</td>
</tr>
<tr>
<td>Within Groups</td>
<td>200.385</td>
<td>143</td>
<td>1.401</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>206.041</td>
<td>144</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yearly income</td>
<td>Sum of Squares</td>
<td>df</td>
<td>Mean Square</td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Between Groups</td>
<td>8.2E+08</td>
<td>1</td>
<td>8198226</td>
<td>3.015</td>
<td>.085</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3.5E+10</td>
<td>127</td>
<td>2718990</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.5E+10</td>
<td>128</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current relationship status</td>
<td>Sum of Squares</td>
<td>df</td>
<td>Mean Square</td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Between Groups</td>
<td>5.348</td>
<td>1</td>
<td>5.348</td>
<td>3.773</td>
<td>.054</td>
</tr>
<tr>
<td>Within Groups</td>
<td>199.855</td>
<td>141</td>
<td>1.417</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>205.203</td>
<td>142</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode of transmission</td>
<td>Sum of Squares</td>
<td>df</td>
<td>Mean Square</td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Between Groups</td>
<td>2.203</td>
<td>1</td>
<td>2.203</td>
<td>1.666</td>
<td>.199</td>
</tr>
<tr>
<td>Within Groups</td>
<td>179.833</td>
<td>136</td>
<td>1.322</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>182.036</td>
<td>137</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* (p < .05)

Table 3.4. ANOVA of demographic characteristics by gender
Instruments

To test the R-PLA for validity, participants completed the author-derived (1998) resiliency questionnaire along with other related measures, including the Rosenberg Self-Esteem Scale (Rosenberg, 1965), the Multidimensional Health Locus of Control Scale (Wallston, Wallston, & DeVellis, 1978), the Depression subscale of the Costello-Comrey Depression and Anxiety Scales (Costello & Comrey, 1967), and two scales measuring social support, the Perceived Social Support-Friend Scale (PSS-Fr) and the Perceived Social Support-Family Scale (PSS-Fa) (Procidano & Heller, 1983). An explanation of each instrument, sample questions, and the respective reliability indices will be provided below.

Resiliency Scale for Persons Living with HIV/AIDS (R-PLA). The R-PLA is an author derived scale (unpublished, 1998) and was developed based on a general assessment of the theoretical underpinnings of the resiliency construct. This assessment was grounded in the literature review of empirical studies and theoretical papers on the topic of resiliency. Based upon this literature review, the following dimensions were identified: 1) reasoning abilities, 2) internal locus of control, 3) positive outlook, 4) spiritual orientation, and 5) advocacy orientation.

Statements were then formulated to reflect these dimensions. Example statements of each of the dimensions include: “When faced with a difficult situation, I enjoy working through the problem” (reasoning abilities; four items); “I am stronger than HIV and plan to live a long life” (internal locus of control; six items); “I have a good idea of the things I want to accomplish in my life” (positive outlook; eight items); “I consider myself a highly spiritual person” (spiritual orientation; five items); and “The only way
public policy will change regarding HIV (e.g. treatment, research, etc.) is if I get involved to change it” (advocacy orientation; five items). See Figure 3.1 for the complete measure. All items require a Likert-type response set from 1 (Strongly Agree) to 5 (Strongly Disagree). Item 26 is to be reverse-scored.

To determine the level of test-retest reliability, 106 cases in which there were data from two consecutive six-month data collection periods were analyzed. These cases were from men (N = 89) and women (N = 17). The Cronbach alpha for the first administration of the R-PLA for this sample was .88 and the Cronbach alpha for the second administration was .89. The Guttman Split-half analysis for test-retest reliability for this scale was .88. Test-retest reliabilities for each of the subscales were also good, and appear in Table 3.5.

<table>
<thead>
<tr>
<th>Scale/Subscale</th>
<th>Alpha T1</th>
<th>Alpha T2</th>
<th>T1-T2 Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>(R-PLA) Full Scale</td>
<td>.88</td>
<td>.89</td>
<td>.79**</td>
</tr>
<tr>
<td>Positive Outlook</td>
<td>.74</td>
<td>.79</td>
<td>.70**</td>
</tr>
<tr>
<td>Spiritual Orientation</td>
<td>.78</td>
<td>.84</td>
<td>.82**</td>
</tr>
<tr>
<td>Reasoning Abilities</td>
<td>.60</td>
<td>.46</td>
<td>.58**</td>
</tr>
<tr>
<td>Internal Locus of Control</td>
<td>.73</td>
<td>.70</td>
<td>.67**</td>
</tr>
<tr>
<td>Advocacy</td>
<td>.72</td>
<td>.69</td>
<td>.66**</td>
</tr>
</tbody>
</table>

** p < .01

Table 3.5. T1 and T2 reliabilities and T1-T2 correlations for R-PLA (N = 106)
1. I have a good idea of the things I want to accomplish in my life.  
[POSITIVE OUTLOOK]

2. I generally see the positive in people.  
[POSITIVE OUTLOOK]

3. I believe that things will only get better for me.  
[POSITIVE OUTLOOK]

4. I am planning some type of trip or special activity in the future.  
[POSITIVE OUTLOOK]

5. I believe there is something good that has come from this disease.  
[POSITIVE OUTLOOK]

6. I will live until they find a cure for HIV.  
[POSITIVE OUTLOOK]

7. I consider myself a highly spiritual person.  
[SPIRITUAL ORIENTATION]

8. I go to religious services on a regular basis.  
[SPIRITUAL ORIENTATION]

9. I turn to a higher power to deal with my HIV.  
[SPIRITUAL ORIENTATION]

10. I believe that there is eternal life after death.  
[SPIRITUAL ORIENTATION]

11. I believe I have high morals.  
[SPIRITUAL ORIENTATION]

12. HIV is a small part of my life.  
[POSITIVE OUTLOOK]

13. I am more than an HIV positive person.  
[POSITIVE OUTLOOK]

14. I believe I am smarter than other people.  
[REASONING ABILITIES]

15. When faced with a difficult situation, I enjoy working through the problem.  
[REASONING ABILITIES]

16. My intelligence has provided me with good opportunities in life.  
[REASONING ABILITIES]

17. When I have a question about HIV (either medical, legal, spiritual, etc.), I usually know where I can find the answer.  
[REASONING ABILITIES]

18. I believe that I am in control of my health.  
[INTERNAL LOCUS OF CONTROL]

19. I am stronger than HIV and plan to live a long life.  
[INTERNAL LOCUS OF CONTROL]

20. Even though I have HIV, I can do a lot of the same things I did before I got this disease.  
[INTERNAL LOCUS OF CONTROL]

21. I believe that the best way to get things accomplished is to do them yourself.  
[INTERNAL LOCUS OF CONTROL]

22. My behavior can have an important impact on the progression of this disease.  
[INTERNAL LOCUS OF CONTROL]

23. I will not let HIV get the best of me.  
[INTERNAL LOCUS OF CONTROL]

24. I enjoy becoming involved in support groups or groups that promote HIV awareness or activism.  
[ADVOCACY]

25. The only way public policy will change regarding HIV (e.g., treatment, research, etc.) is if I get involved to change it.  
[ADVOCACY]

26. I have no more power than anyone else to change the HIV epidemic.  
[ADVOCACY]

27. I am quite outspoken about my views on HIV.  
[ADVOCACY]

28. I consider myself to be more of a leader than a follower.  
[ADVOCACY]
Rosenberg Self-Esteem Scale (Rosenberg, 1965). This ten-item scale is used to measure the self-acceptance aspect of self-esteem. The items are answered on a Likert-type scale (1 = Strongly Agree, 2 = Agree, 3 = Disagree, and 4 = Strongly Disagree). This instrument has demonstrated excellent between-item reliability (.92) and adequate test-retest reliability (.85) (Silber & Tippett, 1965). The alpha for this study was .77. An example question is, “I certainly feel useless at times.” The complete scale can be found in Appendix C.

Multidimensional Health Locus of Control Scales (MHLC; Wallston, et al., 1978). This 18-item instrument measures three dimensions of health locus of control. The instrument assesses whether individuals believe that their health is determined by their own behavior, whether it is influenced by others, or whether it is influenced by chance. The items are answered on a Likert-type scale (1 = Strongly disagree, 2 = Moderately disagree, 3 = Slightly Disagree, 4 = Slightly agree, 5 = Moderately agree, 6 = Strongly agree). The scale has been normed on a sample of chronically ill patients (N = 749) and with healthy adults (N = 1287) (Fischer & Cocoran, 1994). The internal consistency reliability ratings ranged from .67 to .77. For this study, the items were recoded to reflect a higher degree of internality and the alpha for this study was .63. An example of the items in the instrument is, “Luck plays a big part in determining how soon I will recover from an illness.” The complete scale can be found in Appendix D.

Center for Epidemiologic Studies—Depressed Mood Scale (CES-D; Radloff, 1977). The 20-item depression measure is used to assess depression in clinical and non-clinical populations. It measures current affective (i.e. depressed mood) symptoms (Fischer &
Cocoran, 1994, p. 114). The items are answered on a Likert-type scale (1 = Rarely or
none of the time (less than 1 day), 2 = Some or a little of the time (1-2 days),
3 = Occasionally or a moderate amount of time (3-4 days), 4 = Most or all of the time (5-
7 days)). Items 4, 8, 12, and 16 are to be reverse-scored. The higher the overall score,
the higher the level of depression. The scale has demonstrated excellent internal
consistency (.85 for the general population and .90 for psychiatric samples. Split-half
reliabilities were between .77 and .92.) The Cronbach alpha for this study was .92. An
eexample of the CES-D is, “During the past week I could not get ‘going.’” The complete
scale can be found in Appendix E.

Perceived Social Support-Friend Scale and Perceived Social Support Family Scale (PSS-
Fr and PSS-Fa, respectively; Procidano & Heller, 1983). Each scale contains 20
questions and was normed with a scoring protocol in which participants could answer,
“yes,” “no,” or “don’t know.” For the PSS-Fr, an answer of “no” is to be scored, +1 for
items, 2, 6, 7, 15, 18, and 20. The remaining items, a “yes” is scored +1. For the PSS-
Fa, answers of “no” to items, 3, 4, 16, 19, and 20 are scored +1 and all other items are
scored +1 for a “yes” response. Higher scores for both the PSS-Fr and PSS-Fa reflect
more perceived social support. High internal consistency was reported (.90) as was test-
retest reliability over a one-month period (.83) (Procidano & Heller, 1983).

For this study, the items were answered on a Likert-type scale (1 = Strongly
Agree to 5 = Strongly Disagree.) For the PSS-Fr, items 1, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14,
16, 17, and 19 were reverse coded so that higher scores reflected higher perceived
support. For the PSS-Fa, items 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, and 18 were
reverse coded so that higher scores reflected higher perceived support. An example of
the PSS-Fr is, "My friends give me the moral support I need." The PSS-Fa contains some identical items with the exception of substituting "friends" for "family." It also contains non-identical items, an example of which is, "I get good ideas about how to do things or make things from my family." The complete scales can be found in Appendices F and G. The Cronbach alphas for these scales as scored here were .91 (PSS-Fr) and .93 (PSS-Fa).

Data analyses

To test the first hypothesis, that the R-PLA data fit either a five-factor, single-factor, or higher order factor model, a confirmatory factor analysis on the 28 items will be used to assess validity and to determine the number of factors that best fit the data. For the first null hypothesis to be rejected, the data will not fit one of these proposed models. To test the second hypothesis, that each respective subscale is correlated with the other subscales to a moderate degree, correlational analyses will be conducted with each of the R-PLA subscales. For the second null hypothesis to be rejected, correlations among the subscales will have to be very low or very high. Finally, to test the third hypothesis, that the R-PLA composite scores yield slight to moderate correlations with composites from the other mental health measures, including self-esteem, health locus of control, depression, and social support, composite data from the R-PLA will be correlated with data from these other mental health measures. For the third null hypothesis to be rejected, there would be either very low or very high correlations between the measures, which would indicate that the R-PLA is not appropriately related to one or more of these measures, or alternatively, that it is providing redundant information, and is too similar to one or more of these measures.
CHAPTER 4

RESULTS

The purpose for this study was to validate the scale, Resiliency in People Living with HIV/AIDS (R-PLA). To date, there is no known quantitative measure of resiliency based on factors derived from the resiliency literature. Thus, this study served as a preliminary investigation into the validity of this construct, as operationalized here. This chapter will discuss the reliability and validity of the proposed scale, Resiliency in People Living with HIV/AIDS (R-PLA). Specific attention will be placed on each of the three hypotheses that were proposed in Chapter Two.

A review of the resiliency literature was conducted in order to inform the researcher regarding factors that appear to reflect resiliency. Four factors emerged from this review. These included: reasoning abilities, internal locus of control, positive outlook, and a spiritual orientation. Additionally, an advocacy orientation was hypothesized to be related to psychological resiliency in HIV-positive populations. Statements were created which represented each of these five areas, resulting in a total of 28 questions. The response set ranged from 1, indicating, “Strongly Agree,” to 5, indicating, “Strongly Disagree.” Item 26 was reverse-coded to be set uniform to the
direction of resilient responses, and then the entire item response set was reverse-coded so that higher scores represented higher degrees of resiliency. One hundred forty-five HIV-positive participants subsequently completed the questionnaire.

The data set was checked for missing data. In cases wherein less than 10% of the data on any one item was missing, missing values were recoded to the mean. The cleaned data were analyzed using LISREL 8.30 (Joreskog & Sorbom, 1999) to determine the best model fit for the data. In order to confirm that an overall resiliency score, as well as subscale scores, could be derived from the R-PLA, a confirmatory factor analysis was performed.

There were two reasons that a confirmatory factor analysis was used for this study. First, a clear theoretical base for resiliency has been established. The purpose of this study was to test these five particular factors, rather than to derive significant factors from an arbitrary pool of mental health indices. In this way, a confirmatory factor analysis is more rigorous than an exploratory factor analysis. Second, the structural equation modeling used in the analysis allows the researcher to test the quality of the specific parameters as well as the overall model itself (Kelloway, 1998). It was important to examine whether a five-factor model, a single factor model, or a higher order model best explained the data. A confirmatory factor analysis of these models allows one to conclude one or another of these competing hypotheses.

Hypothesis one: The R-PLA data fit either a five-factor, single-factor, or higher order factor model, in which the five-factor and higher-order models include the following factors: 1) Reasoning Abilities, 2) Internal Locus of Control, 3) Positive Outlook, 4) Spiritual Orientation, and 5) Advocacy.
Each statement on the author-derived R-PLA represents one of five resiliency subscales, including: reasoning abilities, an internal locus of control, positive outlook, spirituality, and advocacy. To determine the internal consistency reliability of the items for each subscale and the total score, Cronbach alphas were calculated. The results are shown in Table 4.1. All of the subscales revealed moderately strong reliabilities and the full R-PLA scale shows very strong internal consistency reliability.

<table>
<thead>
<tr>
<th>Scale/Subscale</th>
<th>Number of Items</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resiliency (R-PLA) Full Scale</td>
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<tr>
<td>Positive Outlook</td>
<td>8</td>
<td>.76</td>
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<tr>
<td>Spiritual Orientation</td>
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<td>.77</td>
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<tr>
<td>Reasoning Abilities</td>
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<td>.63</td>
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<tr>
<td>Internal Locus of Control</td>
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<td>.77</td>
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<tr>
<td>Advocacy</td>
<td>4</td>
<td>.69</td>
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</table>

Table 4.1. R-PLA and R-PLA subscale reliability indices

In order to provide a scale for each of the factors that represented the statements, the loadings of the first item in each subscale was set to 1. In order to set the scale for the higher order factor, the positive outlook subscale factor loading was set to 1.

Several models were hypothesized. A five-factor model was first estimated (see Figure 4.1). The chi-square was 517.57 (p < .01). A significant chi-square can indicate that the model might not fit the data well. In this case, the chi-square may be too sensitive an indicator, particularly because of the large model size and many degrees of freedom. Kelloway (1998) has argued that the chi-square, in and of itself, does not
provide adequate information regarding the viability of a particular model. Other indices of fit are of particular importance and they reveal that the original factor model (28 items) had adequate fit. The root mean square error of approximation (RMSEA), which provides an indication of the amount of error unaccounted for in the model, was .06. Thus, the smaller the better, and generally, an RMSEA of .05 and below indicates a very close fit. Also, the Goodness of Fit index (GFI) for this model was .81 and the Comparative Fit Index (CFI) was .83. These indices reveal moderate fit, with close fit determined by values of .90 and above. All item loadings on this model were significant with the exception of item 26 ($t = .87$). The item loadings are reported in Table 4.2.
Figure 4.1. Five-factor resiliency model
<table>
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<tr>
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<th>Reasoning Abilities</th>
<th>Internal Locus of Control</th>
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*p < .05

Table 4.2. Maximum likelihood estimates for the factor loadings (R-PLA)
Note: Loadings for the first item on each factor were not tested for significance
The squared multiple correlations for each item were then assessed (see Table 4.3). The squared multiple correlations reflect the amount of variance explained for each item, which Bollen (1989) refers to as the reliability of each item. Most items had adequate reliability with two exceptions. The items with particularly low reliability indices were item 14 ("I believe I am smarter than other people;" $R^2 = .07$) and item 26, which had been reverse-coded ("I have no more power than anyone else to change the HIV epidemic;" $R^2 = .01$). These two items were subsequently dropped from further analyses. Items 2, 11, and 22, although not revealing good reliability, were not dropped from subsequent analyses due to the fact that the model's goodness of fit did not substantially increase by the omission of these items. These items were also not dropped due to their adequate face validity for their respective subscales. A subsequent confirmatory factor analysis estimated the five-factor model using the remaining 26 items. All item loadings were significant, the chi-square was 464.01 ($p < .01$), the RMSEA was .06, and the fit indices were .81 (GFI) and .84 (CFI). These results suggest that there was little change in model fit by dropping the two items from further analyses.
<table>
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<th>Item Number</th>
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<td>.33</td>
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</table>

Table 4.3. Item reliability scores (squared multiple correlations) for R-PLA
* Item dropped from final analysis due to poor reliability
The correlations between the R-PLA subfactors ranged from .38 to .74 (see Table 4.4 for the complete correlation table). Given that the correlations among the factors were all significant ($p < .01$), a single factor model was also tested (See Figure 4.2).

<table>
<thead>
<tr>
<th>Positive Outlook</th>
<th>Spiritual Orientation</th>
<th>Reasoning Abilities</th>
<th>Internal Locus of Control</th>
<th>Advocacy Orientation</th>
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<tr>
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<td>.74**</td>
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<td>.46**</td>
<td>.48**</td>
<td>.38**</td>
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</table>

** $p < .01$

Table 4.4. R-PLA factor correlations
Figure 4.2. Single-factor resiliency model
The confirmatory factor analysis of the single-factor model yielded a chi-square of 706.27 \((p < .01)\) and an RMSEA of .097. The comparative fit index was .67 and the goodness of fit index was .73. Since the five-factor model and the single-factor models were nested, they could be compared (Kelloway, 1998). The chi-square difference was 53.56, which was significant and suggested that the one-factor model lost fit, thus the five-factor model provided the better fit to the data.

An alternative to the one-factor solution that would preserve the five factors was a higher-order factor model (See Figure 4.3). The weighted least squares chi-square was 464.07 \((p < .01)\), the root mean square error of approximation (RMSEA) was .063. The Goodness of Fit index (GFI) was .80 and the Comparative Fit Index (CFI) was .84. This model provided a similarly good fit to the five factor model and all item loadings were significant, therefore, this model was deemed to be the best one of the two because it accounted for the correlations among the factors and preserved the factors. Table 4.5 provides the item loadings for each of the 26 items used in this analysis.
Figure 4.3. Higher order resiliency model
<table>
<thead>
<tr>
<th>Item</th>
<th>Positive Outlook</th>
<th>Spiritual Orientation</th>
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*p < .05

Table 4.5. Maximum likelihood estimates for the factor loadings (amended R-PLA).
Note: Loadings for the first item on each factor were not tested for significance.
Based on the data analysis of hypothesis one, it was found that a five-factor model fit the data better than the one-factor model. However, the higher order model fit the data well and was theoretically consistent with the resiliency literature.

**Hypothesis two:** Each respective subscale is correlated with the other subscales to a moderate degree.

Pearson correlations were computed for each of the subscale sum scores. The results revealed that all subscales were significantly correlated with one another (significant at the .01 level) in a positive direction, which was expected. These correlations were reported in Table 4. In effect, the data confirmed that the subscales demonstrated test-retest reliability and the correlations among the factors were all significant, indicating that each of the five subscales were related in the hypothesized direction.

**Hypothesis three:** The R-PLA composite scores will yield slight to moderate correlations with composites from the other mental health measures, including self-esteem, health locus of control, social support, and depression.

Correlations were calculated between the resiliency full scale and subscales with each of the mental health measures. Some significant correlations were found between the R-PLA, R-PLA subscales and the CED-S, the RSE, the MHLC and the PSS-Fr. Most notably, the R-PLA and its subscales were all highly correlated with the CES-D and the RSE. The R-PLA was also correlated with the MHLC and the PSS-Fr, but it did not significantly correlate with the PSS-Fa. The MHLC correlated with the internal locus of control and the positive orientation subscales of the R-PLA. The PSS-Fr correlated with the internal locus of control, reasoning abilities, and the positive orientation subscales of
the R-PLA. The PSS-Fa did not correlate significantly with the R-PLA or any of its individual subscales. All correlations are provided in Table 4.6.

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<tr>
<td>ADV</td>
<td>-.21**</td>
<td>.33**</td>
<td>.07</td>
<td>.11</td>
<td>.10</td>
</tr>
<tr>
<td>POS</td>
<td>-.57**</td>
<td>.65**</td>
<td>.26**</td>
<td>.27**</td>
<td>.05</td>
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<tr>
<td>SPI</td>
<td>-.23**</td>
<td>.38**</td>
<td>-.07</td>
<td>.12</td>
<td>-.11</td>
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* p < .05; ** p < .01

Table 4.6. Correlations between R-PLA and other mental health measures

Higher scores on the R-PLA and subscales suggesting higher resilience were associated with lower depression scores and higher self-esteem scores as would be theoretically consistent. Higher scores on the R-PLA and three R-PLA subscales (including the internal locus of control, reasoning abilities, and positive outlook scales) and the MHLC and PSS-Fr were related to higher medical locus of control scores and greater perceived social support from friends.

The purpose of this chapter was to provide analyses for each of the three hypotheses outlined in Chapter Three. The following chapter will provide an interpretation of these results as well as their significance in the resiliency and HIV literature. Finally, clinical implications and directions for future research as well as the study’s limitations will be discussed.
CHAPTER 5

DISCUSSION

Researchers have defined resiliency as the absence of psychopathology (Blocker & Copeland, 1987; Boyce & Jermin, 1990; Moran & Eckenrode, 1992; Radke-Yarrow & Brown, 1993; Rutter, 1979), the prevention of sexual behaviors (Blinn-Pike, 1999), or as some other elusive indicator of healthy functioning (Mrazek & Mrazek, 1987). In this paper, resiliency has been defined as the “ability to overcome adversity, survive stress, and rise above disadvantage” (Valentine & Feinauer, 1993, p. 222). Based on this definition, resiliency is a quality or characteristic that theoretically can only be measured in the context of an adversity, trauma, or other significantly painful experience. It is unclear whether resilience is a quality inherent in individuals, whether it develops over time, or if it manifests itself given the right series of psychosocial situations. Clearly, there remains much to learn about this construct. This research represents the first known attempt to develop and validate a quantitative measure of resiliency.

As outlined in Chapter Three, there were three hypotheses tested for this study. Each will be addressed in turn. The first hypothesis was that the R-PLA consists of five distinct factors, including 1) Reasoning Abilities, 2) Internal Locus of Control,
3) Positive Outlook, 4) Spiritual Orientation, and 5) Advocacy. Three factor models were tested using confirmatory factor analysis to identify their relative fit to the data. A five-factor model and a higher-order factor model both fit the data reasonably well and significantly better than the single-factor model. The higher order model suggests that there is both unique variance in each of the factors for them to stand alone and enough common variance to be part of a higher-order resiliency factor. This model provided good fit to the data and is consistent with the resiliency literature. Thus, the confirmatory factor analysis of this model provides preliminary data of construct validity. Assuming that this measure can be validated on another independent, albeit similar HIV-positive sample, the R-PLA could then be used both as a general measure of resiliency and a measure of any of the particular factors, including reasoning abilities, internal locus of control, positive outlook, spiritual orientation, or advocacy.

These results are important because they provide evidence that resiliency is a distinct construct and can be used to measure mental health and as an alternative to the dominant discourse of pathology. This is especially salient for people who are living with a stigmatizing illness such as HIV, which lends itself to a pathology-oriented stance. Further, this suggests that advocacy, as hypothesized here but notably absent from the resiliency literature, does fit within this construct. If resiliency can be fostered, then mental health professionals and physicians could encourage patient self-care and advocacy. This may produce the effect of enhancing one's overall level of resiliency by providing a sense of purpose and motivation in relation to the illness.

The study's second hypothesis was that the R-PLA has sufficient test-retest reliability and each subscale is correlated with the other subscales to a moderate degree.
Test-retest reliabilities for the R-PLA and each of the R-PLA subscales were significant. Further, the full scale and subscales all correlated significantly with one another. This provides more evidence that these factors are interrelated. Although they were significantly correlated, none of the correlations with the exception of positive outlook and internal locus of control were exceedingly strong, which lends evidence that the subscales are not measuring redundant phenomena.

The implication that follows from these results is that each of the five areas of resiliency is related in some way but they also maintain their independence. Had the analyses revealed higher correlations, one would have to question whether what is being measured is really a unique construct or whether researchers can tap into it simply by assessing other areas of functioning. For example, if an internal locus of control and a positive orientation were redundant constructs then there would be no need to continue conceptualizing resilience as a union of these two unique constructs. Based on these results, the R-PLA subscales not only load well together, but they also appear to measure unique pieces of information.

The third hypothesis was that the R-PLA composite scores would yield slight to moderate correlations with composites from the other mental health measures, including self-esteem, depression, health locus of control, and perceived social support from friends and family. The results revealed that the R-PLA full scale was significantly correlated with these measures in the hypothesized directions. These results indicate that resiliency is related to these other indices of mental health, but the fact that the correlations were not remarkably strong provides evidence that resiliency may be a different construct than
self-esteem, health locus of control, perceived social support, or the absence of depressive symptoms.

That resiliency is different from these other mental health indicators is ultimately important in establishing the relevance of the scale. If the R-PLA had provided very similar results to the CES-D or the Rosenberg Self-Esteem Scale, for example, then its relevance would have been seriously questioned and its usefulness in understanding HIV-positive persons would be marginal. Based on this preliminary investigation, resiliency does seem to be different from other mental health constructs and as such, should be explored further with other HIV-positive populations.

One notable exception to the general conclusion that the R-PLA was similar to other mental health measures was that the R-PLA full scale and subscales were not significantly correlated with the Perceived Social Support from Family (PSS-Fa). This occurred even though significant correlations were found between the R-PLA full scale, three R-PLA subscales (reasoning abilities, internal locus of control, and positive outlook) and the PSS-Fr, which measures perceived social support from friends. This indicates that those who measure higher on resiliency do not necessarily report more familial support. Therefore, the absence of significance might be an artifact of a large diversity in the quality of relationships within one’s family system. People who scored higher on this indicator of resiliency might experience very strong support from some family members and a dearth of support from others. Their overall sense of support, then, may be mitigated by these realities. It is essential to note that despite this result, social support is important and was significantly related to resiliency, particularly support from friends.
Clinical implications

The implications of the establishment of construct validity may be far-reaching. The validated R-PLA would allow clinicians to assess the relative level of resiliency of their HIV-positive clients, which in turn, may facilitate the development of goals to strengthen those areas that are heavily influenced by resiliency. For example, knowing that resiliency may involve an advocacy orientation, clinicians may work to encourage their clients to become involved in AIDS Service Organizations (ASO's) or other activities that foster a sense of agency. Through this process, HIV-positive individuals might find greater motivation and personal meaning within the context of their illness.

A second benefit of the R-PLA is that it may orient clinician and client alike in terms of the HIV-positive person’s relative psychological strength, which may be particularly useful for those clinicians taking a more narrative, solution-focused, or strength-based therapeutic stance. Clinicians often utilize assessment measures that fail to take into account healthy functioning. They subsequently work to ameliorate the presence of a pathology or dysfunction. This measure provides an index of healthy functioning for therapists who are interested in helping clients enhance strengths or resources. It also substantiates the notion that such constructs as a positive outlook and an internal locus of control are important and salient for those many view as lacking control and opportunity. In such a way, people with HIV are provided with a lens from which to see themselves as important agents in slowing or even potentially halting the disease process.

The results of this research may also have important programmatic implications. Researchers, clinicians, and patients have had over twenty years of collective experience
in responding to HIV and AIDS. As our understanding of the disease and illness processes has become more sophisticated, we continue to develop and refine medical and psychological interventions. Clearly, an important shift has occurred from a fearful reaction to the disease to one that is more proactive and focused on coping. This measure can be used to corroborate interventions based on coping and mental health functioning by measuring change in relative psychological resilience after a particular intervention. Programs that have already provided services that honor the positive aspects of those living with HIV may be enhanced by their knowledge of important resilience factors. The emphasis in these programs might be further shifted toward the development and enhancement of those parts of people’s lives that are related to resiliency.

Implications for future research

Any conclusions drawn from this research must be tentative due to the fact that the amended R-PLA (including 26 of the original 28 items) has not been validated on an independent sample. The R-PLA has been validated on a sample of individuals who are living with HIV; however, the original measure has been modified based on the results of the confirmatory factor analyses and the amount of variance accounted for by each of the items. Whenever a measure is amended, it must be administered a second time to a similar sample before it is appropriate to draw the conclusion that the scale is truly valid for the intended population (Kelloway, 1998). The next step in this process is to conduct this research on a population that is similar both in diagnosis (HIV/AIDS) and demographic backgrounds (including age, race, income, and mode of HIV transmission). Validating the measure on a similar sample is important because certain life experiences or realities may have a meaningful effect on the participants’ responses. For example, a
sample including older individuals may present quite differently in terms of their spiritual orientation than a younger sample may. Although a difference such as this one would be important to consider in future research endeavors, sample demographics should be held constant during measurement validation in order to avoid evident confounds.

Relational resilience is another area of inquiry that family scientists should consider. This has been done in terms of one’s relationship with God (Bower, 1996), but other important individuals may also influence or foster resilience. This study has shown that social support is related to resilience, particularly from friends of those who are HIV-positive. It will be important to further explore this connection and the role the relationships and social support play both on the individual as well as on the functioning of an entire family system or support network. There are methodological challenges to considering relational resilience; however, as our knowledge and understanding of resilience improves, researchers should challenge traditional linear notions of functioning and attempt to address positive systemic functioning, including relational resilience.

It will also be important to find connections between the experiences of HIV-positive persons and those living with other life-threatening or stigmatized physical illnesses. It may even be informative to validate a general resiliency measure for other traumatized, aggrieved, or adversely affected populations. An examination of the relative resilience of those coping with other illnesses to those coping with HIV might provide researchers with insight regarding the effects of living with a stigmatizing illness.

Understanding the relationship between resiliency and other behavioral outcomes will also provide researchers and clinicians with important information that can be used to develop advanced interventions. Although a connection between mental health and
physical health has not been unequivocally established, it would be interesting to examine the connection between physical and psychological resilience as well as how relative physical health or decline might mediate psychological resilience. This would be particularly important if a connection could be found between psychological resilience, physical resilience, and treatment adherence. For example, if a circular relationship were found among treatment adherence and psychological and physical health, researchers could work to uncover those aspects of this equation that could be controlled. While there are limitations to the efficacy of medical interventions, understanding the relative impact of physical or psychological health on the ability of the infected person to complete treatment recommendations would be important to improving patient-physician relationships, patient health care, and the efficiency of drug treatment protocols.

Evidence has been found that risky sexual behaviors may be influenced by the relative quality of their significant and familial relationships (Kimberly & Serovich, 1999). Because HIV is primarily transmitted through unprotected risky sexual behaviors or through unsafe needle-sharing practices by injection drug users, it will be important to further uncover how mental health and resilience are related and to what degree the presence of resiliency factors influence healthy behavioral choices. Information of this kind will likely prove to be key to slowing the spread of the disease.

It will be important to continue to question developing notions about resilience beyond the scope of HIV. Considerable controversy exists regarding its definition, components, antecedents and consequences. Researchers need to learn more about the personal and familial origins of resilience, which may be biological, neurological, psychological, learned, or some combination of factors. If it is something that is
learnable or trainable, is there a critical period for the development of resilience?

Researchers who examine resilience as in develops across the lifespan (including perinatal development) and under different types and degrees of stressors will gain insight into these questions. Answers to such questions will ultimately influence how clinicians and other service providers work to foster these qualities in people.

Study limitations

There are three important limitations regarding the sample of participants that need to be addressed. First, there were 119 men and 26 women in this sample. The results presented here were based on their collective responses. The uneven distribution of men and women made it ill advisable to examine gender differences statistically in terms of resiliency. This may be problematic particularly in light of some evidence that suggests that men and women differ in terms of their mental health, subjective experience of crises, as well as coping styles (Folkman & Lazarus, 1988). There may have been important gender differences that would have emerged had more women been included in the sample. Given the small number of female participants, they were included with the men in these analyses. Future research should examine gender differences regarding resiliency and HIV.

A related limitation is that the men and women did differ in terms of race. Female participants were more likely to identify as African-American than male participants. This difference was carefully considered before deciding to combine the sample. The manifestation of resiliency requires that one have suffered adversity in some regard. The one type of adversity that everyone in this sample has in common is an HIV diagnosis. It is nearly impossible to quantify adversities by simple addition or on a scale.
of degree, since stressors or adversities, by their very nature, are subjective experiences (Lazarus & Folkman, 1984). Still, belonging to a non-Caucasian race lends oneself to having to endure racism, which could easily be considered an important adversity. African-American women who daily must cope with racism in all its forms certainly can be considered to have even more stress dealing with HIV than privileged white men also dealing with the disease. It is important to recognize that the men and women in this study did not differ in terms of income and therefore have similar economic stressors. The men in this sample have identified as belonging to a sexual minority, which also puts them at risk for homophobic reactions. Given these complex realities, no easy solution emerged and the samples were combined. Caution should be exercised when generalizing these results to all HIV-positive individuals.

A third limitation of this study may be the absence of a control group consisting of HIV-negative individuals. While the objective of the research was to develop and validate a measure of resilience among HIV-positive people, it might have been both interesting and relevant to understand how these participants differ in contrast to other, physically healthy samples. No such control group was included in this study primarily because the construct of resiliency requires that one have experienced a particular level of hardship. Examining resiliency through the limited scope of those who have experienced HIV facilitated the primary research objective because all individuals were similar in that regard. Future researchers could provide an alternative to a healthy control group by including a group that is also afflicted by an illness, but one that carries with it different life consequences or fewer stigmas.
The objective of developing and providing preliminary evidence for the validation of a resiliency measure was achieved. Further research is necessary to validate the amended measure. The validated R-PLA may then be used for clinicians and researchers in order to enhance their work toward understanding the experience of living with HIV from a more positive, less pathological perspective. In this regard, knowledge about HIV will continue to grow and ultimately, medical and psychological interventions will jointly come to enhance treatment outcomes, quality of life, and transmission prevention measures.
LIST OF REFERENCES


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APPENDIX A
EXAMPLE OF RECRUITMENT MATERIALS FOR MEN
The Kiss & Tell Project

WHAT IS THE PROJECT ABOUT?
The purpose of The Kiss & Tell Project is to gain knowledge about why those with HIV may choose to tell or not to tell someone of their HIV-positive status. These "someones" include parents, siblings, extended family, lovers, co-workers, and friends. The project also looks at various other variables such as social support from family and friends, needs related to disclosure, sexual behaviors, sexual attitudes, resiliency, depression, and coping skills. Hopefully, this information will help others understand better the lives of those individuals living with HIV/AIDS.

CAN I JOIN THE PROJECT?
There are a few eligibility requirements. In order to become a participant in The Kiss & Tell Project, you must meet the following:

- You must be at least 18 years old.
- A gay man who has HIV/AIDS.
- Sexually inactive or sexually active.
- Women are being recruited for a similar project and can obtain information at the same phone number.

WHY SHOULD I PARTICIPATE?
These are the benefits of participating:

- You can earn up to $205 in cash (See the payment schedule on the back).
- You will be contributing to the knowledge base about persons living with HIV/AIDS.
- Free condoms and beverages while you are at our office.

WHAT IS EXPECTED OF ME?
The project is set up to last for 3 years. The first time you visit with us, your participation will last for about 2 hours. At this time, you will be interviewed and you will complete questionnaires. Six months from your first interview, you will be asked to complete another questionnaire either in our office or at the Clinic. Then in six more months it is to our office again for another interview. Six months after that it is time for another questionnaire, and so on.

CONFIDENTIALITY?
Your participation is strictly voluntary and you may quit or refuse to answer any question at any time. The National Institute of Mental Health has granted a certificate of confidentiality protecting the identity of research participants in this project. Other precautions are also taken to protect research participants' identity. Not participating in the project or stopping participation will not result in any negative repercussions.
APPENDIX B
EXAMPLE OF RECRUITMENT MATERIALS FOR WOMEN
WHAT IS THE PROJECT ABOUT?

The purpose of The Kiss & Tell Project for Women is to gain knowledge about why those with HIV may choose to tell or not to tell someone of their HIV-positive status. These "someone" include parents, siblings, extended family, significant others, co-workers, and friends. The project also looks at various other variables such as social support from family and friends, certain needs, resiliency, depression, and coping skills. Hopefully, this information will help others understand better the lives of those individuals living with HIV.

CAN I JOIN THE PROJECT?

There are a few eligibility requirements. In order to become a participant in The Kiss & Tell Project for Women, you must meet the following:

- You must be an HIV-positive woman who is at least 18 years old.
- Either sexually inactive or active.
- Men are being recruited for a similar project and can obtain information at the same phone number.

WHY SHOULD I PARTICIPATE?

These are the benefits of participating.

- You can earn up to $75 in cash (See the payment schedule on the back).
- You will be contributing to the knowledge base about women living with HIV/AIDS.
- Free, dental dams, female and male condoms, beverages while you are at our office.

WHAT IS EXPECTED OF ME?

The project is set up to last for 1 year where you will participate three times. The first time you participate, your participation will last for about 2 hours. At this time, you will be interviewed and you will complete a questionnaire. Six months from your first interview, you will be asked to complete another questionnaire. Then in six more months, you will complete another questionnaire and another interview.

CONFIDENTIALITY?

Your participation is strictly voluntary and you may quit or refuse to answer any question at any time. Strict precautions are taken to protect research participants' identity. Access to the information you provide will only be made to the Kiss & Tell Project research associates. Not participating in the project or stopping participation will not result in any negative repercussions.
APPENDIX C
ROSENBERG SELF-ESTEEM SCALE (RSE)
1. I feel that I'm a person of worth, at least on an equal basis with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.
1. If I get sick, it is my own behavior, which determines how soon I get well again.
2. No matter what I do, if I am going to get sick, I will get sick.
3. Having regular contact with my physician is the best way for me to avoid illness.
4. Most things that affect my health happen to me by accident.
5. Whenever I don’t feel well, I should consult a medically trained professional.
6. I am in control of my health.
7. My family has a lot to do with my becoming sick or staying healthy.
8. When I get sick, I am to blame.
9. Luck plays a big part in determining how soon I will recover from an illness.
10. Health professionals control my health.
11. My good health is largely a matter of good fortune.
12. The main thing which affects my health is what I myself do.
13. If I take care of myself, I can avoid illness.
14. When I recover from an illness, it’s usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.
15. No matter what I do, I’m likely to get sick.
16. If it’s meant to be, I will stay healthy.
17. If I take the right actions, I can stay healthy.
18. Regarding my health, I can only do what my doctor tells me to do.
APPENDIX E
CENTER FOR EPIDEMIOLOGIC STUDIES—DEPRESSED MOOD SCALE (CES-D)
During the past week:

1. I was bothered by things that usually don’t bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt that I was just as good as other people.
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.
13. I talked less than usual.
15. People were unfriendly.
16. I enjoyed life.
17. I had crying spells.
18. I felt sad.
19. I felt that people disliked me.
20. I could not “get going.”
APPENDIX F
PERCEIVED SOCIAL SUPPORT—FRIENDS (PSS-Fr)
1. My friends give me the moral support I need.
2. Most other people are closer to their friends than I am.
4. Certain friends come to me when they have problems or need advice.
5. I rely on my friends for emotional support.
6. If I felt that one or more of my friends were upset with me, I'd just keep it to myself.
7. I feel that I'm on the fringe in my circle of friends.
8. There is a friend I could go to if I were just feeling down, without feeling funny about it later.
9. My friends and I are very open about what we think about things.
10. My friends are sensitive to my personal needs.
11. My friends come to me for emotional support.
12. My friends are good at helping me solve problems.
13. I have a deep sharing relationship with a number of friends.
14. My friends get good ideas about how to do things or make things from me.
15. When I confide in friends, it makes me feel uncomfortable.
16. My friends seek me out for companionship.
17. I think that my friends feel that I'm good at helping them solve their problems.
18. I don't have a relationship with a friend that is as intimate as other people's relationships with friends.
19. I've recently gotten a good idea about how to do something from a friend.
20. I wish my friends were much different.
APPENDIX G
PERCEIVED SOCIAL SUPPORT—FAMILY (PSS-Fa)
1. My family gives me the moral support I need.
2. I get good ideas about how to do things or make things from my family.
3. Most other people are closer to their family than I am.
4. When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.
5. My family enjoys hearing about what I think.
6. Members of my family share many of my interests.
7. Certain members of my family come to me when they have problems or need advice.
8. I rely on my family for emotional support.
9. There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.
10. My family and I are very open about what we think about things.
11. My family is sensitive to my personal needs.
12. Members of my family come to me for emotional support.
13. Members of my family are good at helping me solve problems.
14. I have a deep sharing relationship with a number of members of my family.
15. Members of my family get good ideas about how to do things or make things from me.
16. When I confide in members of my family, it makes me feel uncomfortable.
17. Members of my family seek me out for companionship.
18. I think that my family feels that I'm good at helping them solve their problems.
19. I don't have a relationship with a member of my family that is as intimate as other people's relationships with family members.
20. I wish my family were much different.