2014

Exploring the influence of stigma, level of trauma, and social support on the experience of posttraumatic growth in adults living with HIV

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EXPLORING THE INFLUENCE OF STIGMA, LEVEL OF TRAUMA, AND SOCIAL SUPPORT ON THE EXPERIENCE OF POSTTRAUMATIC GROWTH IN ADULTS LIVING WITH HIV

by

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A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the College of Education and Human Performance
in the College of Education
at the University of Central Florida
Orlando, Florida

Spring Term
2014

Major Professors: W. Bryce Hagedorn & Sejal Barden

ABSTRACT

The present study investigated the influence of HIV-related stigma, social support, and impact of HIV diagnosis on posttraumatic growth (PTG) in adults living with HIV ($N = 126$). In addition, the study aimed to identify if social support moderated the relationship between stigma and PTG. Lastly, the study attempted to determine how impactful receiving an HIV diagnosis was to the sample. One hundred and twenty-six adults living with HIV within the state of Florida (41% response rate) participated in the research. Participants were recruited from a series of support groups and HIV focused agencies throughout the state, and responded through face to face survey administration. Each assessment packet consisted of the following assessments: (a) *Posttraumatic Growth Inventory;* [PTGI], Tedeschi & Calhoun, 1996, (b) *Multidimensional Scale of Perceived Social Support;* [MSPSS], Zimet, Dahlem, Zimet, & Farley, 1988, (c) *Berger HIV Stigma Scale*; Berger, Ferrans, & Lashley, 2001, (d) Impact of Event Scale *[IES-R* . Weiss & Marmar, 1996], (e) *Reynolds Short Form Social Desirability Scale;* Reynolds, 1982, and (f) a demographic questionnaire.

Multiple regression analysis was used to determine whether the independent variables were predictive of the outcome of PTG. Findings from the study revealed that each of the predictor variables (i.e., stigma, social support, and impact of diagnosis) contributed significantly ($p<.05$) to the model, and accounted for 12% of the variance in PTGI scores. In examining the moderating presence of social support between stigma and PTG, there was no found significant interaction between stigma and social support. Significant differences in PTG scores were also identified amongst differing demographic groups, specifically participant ethnicity and religious orientation. Findings also revealed that 38.5% of the sample reported their HIV diagnosis as so

impactful that they would likely qualify for a clinical diagnosis of posttraumatic stress disorder (PTSD). Furthermore, a detailed discussion of previous literature, study procedures and methodology, counselor implications, counselor educator implications, and recommendations for future research are discussed.

Keywords: posttraumatic growth, HIV, mental health counseling, HIV stigma, counselor education.

ACKNOWLEDGMENTS

These acknowledgments represent so much more than my gratitude from throughout the PhD process, but rather a gratitude for all those who have shaped me, supported me, and taught me throughout life. To my parents, who somehow managed the impossible- raising four girls with strong voices. I know my voice brought many a challenge, but thank you for recognizing that it should not be stifled. To my sisters, I promise not to make you attend any more graduations…but what a joy to know you would all be there anyway if there was one! More importantly, thank you to each of you for a lifetime of laughter. To Olivia, I guess this should really be half your dissertation since you were there for each post office run, and napped like a champ so "Seesa" could write. I can think of no better dissertation writing experience than starting off each morning at the park with you. And to Migs, I will always have fond memories of working at the kitchen table with you on Sunday's while I wrote. You have exemplified patience, support, and encouragement throughout my time in this program, and believed in my abilities more than myself at times.

A big thank you to my dissertation chairs, Dr. Bryce Hagedorn and Dr. Sejal Barden, for your help in getting me to this point. You both embraced my working style, rather than imposing your own, and made it obvious from the start that you were rooting for my success. To Dr. Gulnora Hundley, my cheerleader throughout this entire PhD experience. I am so grateful to have had you in my corner. To Dr. Lihua Xu, for all the time we spent together in CASTLE. Any confidence I have in statistics came from those moments.

A special thank you to my dirties (Dirty Water Scholars), the nuttiest bunch of doc students I know. You each have pushed me farther than I could have imagined, and I am so

proud to witness all of the success coming our way. I would also like to acknowledge the huge contributions of my MIRC family. Coming into my position at the MIRC I could never have anticipated the endless support and meaningful friendships I would find. It has been such a pleasure to come to work the past two years.

Last but not least, I must acknowledge the contributions of my participants. You welcomed me to your groups and shared your experiences with honesty and courage. I am better for having heard your stories and strength. This research would not be possible without you.

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CHAPTER ONE: INTRODUCTION

For people living with HIV/AIDS (PLWHA), the moment of diagnosis and forward can bring a series of life altering, potentially traumatic moments, which can affect overall quality of life (Martin & Kagee, 2011; Theuninck, Lake, & Gibson, 2010). Some individuals react to a HIV diagnosis so negatively that they meet diagnostic criteria for posttraumatic stress disorder (PTSD; Anderson et al., 2010; Martin & Kagee, 2011). In contrast, some PLWHA are able to make meaning of their diagnosis, and subsequent life experiences surrounding their illness, and therefore experience personal growth, bringing them to a level of functioning higher than they were prior to their illness (Murphy & Hevey, 2013; Sawyer, Ayers, & Field, 2010). Through this growth, PLWHA have reported less depression, less hospital visits, and stronger relationships than those who have not experienced such a growth (Littlewood, Vanable, Carey, & Blair, 2008; Nightingale, Sher, & Hansen, 2010). The following study aims to identify factors that contribute to, and serve as barriers for, such growth in an attempt to better understand the experience of growth following a HIV diagnosis. By exploring this under researched area, this study will contribute to the counselor education literature.

Background of the Problem

Acquired Immune Deficiency Syndrome (AIDS) was first identified over thirty years ago (Health Resources and Services Administration [HRSA], 2011). The Centers for Disease Control and Prevention (CDC) originally defined AIDS as "a disease at least moderately predictive of a defect in cell-mediated immunity, occurring in a person with no known case for diminished

resistance to that disease" (CDC, 1981, p. 1). Since then, the disease has become an epidemic, claiming the lives of over 25 million people worldwide (CDC, 2011). AIDS occurs through a detection of certain antibodies and/or antigens (Simon, Ho, & Karim, 2006), which have severely comprised an individual's immune system, leaving them unable to fight off illness or infection (CDC, 2012). An AIDS diagnosis emerges from human immunodeficiency virus (HIV); a virus that destroys blood cells (i.e. CD4+ cells) critical in helping the body fight off disease (CDC, 2006). In order to better understand the epidemic of HIV/AIDS, and therefore better understand the need for the present research, information pertaining to the following areas will be addressed: (a) the history of HIV/AIDS, (b) the prevalence of HIV/AIDS, (c) the clinical needs of those living with HIV/AIDS, and (d) the way these clinical needs have historically been addressed for people living with HIV/AIDS.

History of HIV/AIDS

The history of HIV/AIDS dates back over three decades, and charts a series of significant changes to the disease over this time. The first reported cases of pneumocystis carinii pneumonia (PCP) were discussed in the Morbidity and Mortality Weekly Report (MMWR), published by the CDC on June 5, 1981 (HRSA, 2011). In that report, five gay men, who had been previously healthy, were cited as having unusual infections, and a lack of immune systems (MMWR, 1981). In response to this report, doctors from all over the country began to contact the CDC with similar reports. By the end of 1981, 270 cases of PCP had been reported among gay men, and 121 of these men had died (HRSA, 2011). These accounts of PCP, which would later become known as acquired immune deficiency virus (AIDS), began the AIDS epidemic.

By 1982, the first AIDS clinic was established in San Francisco, the term AIDS had been introduced to the community, and money had been allocated to the National Institute of Health (NIH) for AIDS research (HRSA, 2011). The disease was now being reported in more diverse populations as well, (e.g., infants and women with male sexual partners) eliminating the theory that AIDS was specific to gay men (Fauci, 2003). Unfortunately, HIV-related stigma also developed quickly with the disease. In 1983, only two years after the first reported cases of AIDS, the first AIDS discrimination lawsuit was filed after a doctor in New York was threatened with eviction from his building for treating patients with AIDS (HRSA, 2011).

A major breakthrough in the AIDS community came with the introduction of antiretroviral treatments (ART) in 1996 (National Institute on Drug Abuse [NIDA], 2012). ART, also sometimes referred to as HAART, can be used in unique combinations to gain control of viral loads, and therefore, disease progression (NIDA, 2012). The introduction of ART brought a drastic decrease in the mortality rate associated with the diagnosis (Simon et al., 2006). In addition, ART changed an HIV diagnosis from a death sentence to an often times manageable, chronic disease (NIDA, 2012; Rosenfeld, Bartlam, & Smith, 2012; Simon et al., 2006). It is worth noting, however, that these advances have not always been seen in less industrialized countries. In fact, it is estimated that nearly 80% of those in need of these treatments are unable to get appropriate care due to restrictive costs and licensing policies (Simon et al., 2006). Therefore, although significant advancements have been made in terms of medical treatment for the disease, the disease is still widespread and life altering.

Prevalence of HIV/AIDS

Several factors influence the prevalence of HIV including: stigma, race, sexual orientation, and socioeconomic factors (Lorenc et al., 2011; Pellowski, Kalichman, Matthews, & Adler, 2013). An estimated 34.2 million people throughout the world are currently living with HIV/AIDS (CDC, 2013a). In 2011 alone, there were 2.5 million new cases of HIV reported worldwide (CDC, 2013a). Although the initial reports referring to AIDS as a gay male disease have been debunked, gay, bisexual, and men who have sex with men (MSM) continue to be the populations most affected by HIV (CDC, 2013a). In addition to gay men, African American males, particularly those who have sex with men, have the greatest prevalence of the disease, with Blacks representing 44% of new HIV infections (CDC, 2013a; CDC, 2013b). This may in part be due to stigma attached to being gay or a MSM, as well as concerns over testing centers not being confidential or gay friendly, which can inhibit men from these groups from being tested for HIV (Lorenc et al., 2011). Further, issues of poverty and class may be at play.

In addition to high prevalence of HIV with racial and sexual minorities, the disease has seemingly also become an epidemic of the socially disadvantaged (Nattrass, 2009; Pellowski et al., 2013). Factors such as financial stress and limited access to health care all lead to those in poverty being a vulnerable population (Pellowski et al., 2012). Furthermore, substance abuse among PLWHA is also found disproportionately in racial/ethnic minorities (Amaro, Raj, Vega, Mangione, & Perez, 2001). This finding further contributes to HIV prevalence disparities in minority groups, since substance use has been found to affect HIV risk (Amaro et al., 2001). Abusing substances adds to the risk of contracting HIV by inhibiting safe sexual and needle sharing practices (Pellowski, 2011). Since AIDS was first identified, almost 182,000 individuals

have died from HIV contracted through injection drug use (CDC, 2013a). In addition, injection

drug users continued to represent 16% of those living with HIV in 2009 (CDC, 2013a). Overall,

the populations with the highest rates of new infection are MSM and African American

heterosexual women; followed by all African Americans and Latinos (CDC, 2013b). Clearly no

longer just a disease of gay men, HIV continues to impact nearly all genders, ages, ethnicities

and cultures (CDC, 2013; HRSA, 2011).

Clinical Needs of Clients with HIV

Despite the aforementioned medical advancements, HIV tends to be a life altering,

traumatic experience that requires attention and expertise from mental health professionals

(Maguire, McNally, Britton, Werth, & Borges, 2008; Nightingale et al., 2010). If left untreated,

mental health concerns for PLWHA have the potential to affect the physical health of the

individual; threatening quality of life, physical abilities, and medication adherence (SAMHSA,

2006). In addition, the mental health needs of PLWHA are further complicated by the presence

of stigma, decisions of disclosure to loved ones, and a higher prevalence of prior trauma/sexual

abuse (Bornovalova, Gwadz, Kahler, Aklin, & Lejuez, 2008; Rintamaki et al., 2006). The

decision of disclosing ones status also brings the risk of social isolation, increased stress, and

potential abandonment, adding to the complex mental health needs of PLWHA (Kalichman et

al., 2007).

Adding to the stress of living with HIV is the stress and potential trauma that comes from

the moment of receiving an HIV diagnosis. PLWHA often cite the moment of diagnosis as

traumatic, and therefore, regularly meet diagnostic criteria for posttraumatic stress disorder

(PTSD; Anderson et al., 2010; Martin & Kagee, 2011; Sherr et al., 2011). PTSD is a "common

psychological and physiological response to a traumatic event" (Walter & Bates, 2012, p. 143).

Per the Diagnostic and Statistical Manual of Mental Disorders (*DSM-V*; APA, 2013), symptoms

of PTSD are triggered by exposure to events with actual or threatened death, serious injury, or

sexual violation. The explicit inclusion of sexual violation is an addition to this newest version

of the diagnostic manual, and some researchers (e.g., Walter & Bates, 2012) argue that the

criterion should be even broader to include events such as chronic illness; particularly since these

events are associated with symptoms of PTSD. In conclusion, given that receiving a HIV

diagnosis may be traumatic, there is a heightened need to understand the mental health concerns

and best practices for treatment when working with this population. With the disease changing

significantly over the past fifteen years, however, previously used mental health approaches may

no longer be most appropriate.

Historically Used Clinical Approaches

Historically, counseling approaches aimed at working with PLWHA have focused solely

on the negative mental health outcomes (e.g., depression, PTSD) of living with HIV as part of

treatment; while ignoring potential positive outcomes in clients (Leserman, 2008). Existential

questions, (e.g., considering the meaning of life, and coming to terms with one's mortality) were

previously appropriate treatment approaches (Orsulic-Jeras, Shepherd, & Britton, 2003). In

addition, clients were consoled while creating wills and plans for loved ones after their death,

while being taught to accept negative changes to their physical appearance due to their illness

(Dworkin & Pincu, 1993; Hoffman, 1996). Overall, mental health counselors have traditionally

utilized crises counseling approaches in working with clients with HIV.

With the increased likelihood of living fuller, longer lives with HIV (Rosenfeld et al., 2012; Simon et al., 2006) counseling approaches that are solely focused on grief and acceptance of death may no longer be most appropriate (Orsulic-Jeras et al., 2003). Research has begun to integrate strengths-based approaches to working with PLWHA (e.g., Milam, 2004, 2006), such as the research surrounding the concept of posttraumatic growth (PTG), into existing mental health approaches. Rather than crisis counseling, quality of life topics (e.g., career counseling, relationship challenges, disclosure concerns, and life stressors) are now relevant topics in the counseling relationship with PLWHA (Dahlbeck & Lease, 2010). Therefore, approaches aimed at increasing overall quality of life, such as PTG, should be further explored in order to provide more effective mental health counseling. This is particularly relevant when considering that clients who are able to experience posttraumatic growth also experience gains in overall mental health (e.g., decrease in symptoms of depression, less substance abuse, strengthened interpersonal relationships, and greater appreciation for life), as well as physical gains, such as increased medication adherence, and decreased viral load (Manne, Ostroff, Winkel, Goldstein, Fox, & Grana, 2004; Murphy & Hevey, 2013; Sawyer et al., 2010).

In sum, HIV/AIDS has reached epidemic proportions over the past 30 years, effecting over 32 million people worldwide. In addition, the disease has widespread influence, affecting the lives of diverse populations, including a range of ages, sexual orientations, races, and genders. Further, with advances in treatment approaches for HIV, individuals are able to live longer, healthier lives. Because of this, clinical approaches that were once focused on end of life goals and crisis counseling may no longer be most appropriate, and other counseling approaches should be explored.

Statement of the Problem

Of the 34.2 million people throughout the world who are living with HIV/AIDS, 1.1 million of these individuals are residing within the United States (CDC, 2013). In addition, while the advent of ART brought a drastic decrease in HIV fatalities, nearly 15,000 people continue to die each year from AIDS, suggesting the physical implications of the disease are severe (CDC, 2013b). Further, certain geographic regions of the country seem to be more greatly affected, in terms of identified number of cases, than others. The Southern United States leads in the number of reported HIV cases, with 15,855, or 13.7 cases per 100,000 residents (CDC, 2013b). Within the southern region, the state of Florida takes the lead for the highest population of those living with HIV/AIDS (Florida Department of Health [DOH], 2009). Florida currently has the second largest population of people living with HIV in the Nation. An estimated 125,000 individuals with HIV currently reside in Florida, which is 11.7% of the National average (DOH, 2009). Aside from the sheer volume of existing cases within the State, new cases are being diagnosed in Florida almost 60% more often than the National average (DOH, 2009). The high volume of HIV cases within Florida, when compared to the remaining United States, suggests a strong need for future HIV research, particularly within the State of Florida. To fully capture the magnitude of this epidemic, aside from the aforementioned statistics, it is necessary to also consider the emotional impact of living with HIV, in order to comprehend why mental health intervention and assistance for this population are so important. Effective mental health care has the potential to impact PLWHA physically (e.g., greater medication adherence, decrease in substance abuse, and decrease in risky sexual behaviors), while still addressing the emotional toll living with HIV can bring (Barskova & Oesterreich, 2009).

Emotional Impact of HIV

In addition to medical concerns associated with HIV (e.g., fever, diarrhea, weight loss, vision problems, pain disorders, and infection; McReynolds & Garske, 2001), the virus also brings a dearth of mental health concerns (Nightingale, Sher, & Hansen, 2010; Whetten, Whetten, & Murphy-McMillan, 2008). It is estimated that 48% of those living with HIV also struggle with mental health concerns, such as depression and substance use (Whetten et al., 2008). In fact, it is estimated that the prevalence of mental health concerns in PLWHA is substantially greater than that of the general population (Whetten et al., 2008). In addition, lack of appropriate treatment for such mental health concerns often has further reaching implications; (e.g., decreased physical health, lack of adherence to medication regimens, and increases in substance use; SAMHSA, 2006). For example, feeling debilitated by depression may keep proper adherence from being a priority, while feelings of shame surrounding ones illness may keep them from taking medication out of fear of disclosure from others seeing their medications (Wheten et al., 2008). Furthermore, the use of illegal substances can allow for HIV replication (e.g., sharing needles), therefore increasing infection in the individual and decreasing physical health (Pellowski et al., 2013). In addition, the presence of trauma has been shown to be predictive of mortality rates among those with HIV. Those who experience multiple traumas are almost three times as likely to die from their HIV (Pellowski et al., 2013). This reality is likely from decreases in medication adherence associated with a history of trauma, which often leads to disease progression (Pellowski et al., 2013).

To conclude, mental health concerns of PLWHA appear to have substantial physical consequences as well (e.g., increased mortality, lack of medication adherence, HIV replication).

This knowledge further necessitates the need for exploring appropriate mental health approaches within this population. As previously noted, these approaches may look very different from the outdated interventions previously used, and may focus more on quality of life, rather than end of life, concerns. For example, strengths based clinical frameworks, such as the concept of PTG, have gained attention in the last thirty years for their ability to positively affect client outcomes (Tedeschi & Kilmer, 2005). Clients who experience PTG have shown: growth in relationships, increases in quality and appreciation for life, decreased substance abuse, and greater self-esteem (Barskova & Oesterreich, 2009; Tedeschi & Calhoun, 2004) suggesting that adding to the dearth of literature on the this topic may be advantageous in learning how to effectively work with clients who have received an HIV diagnosis.

Future Clinical Approaches

Changes in what it looks like to be living with HIV bring new approaches to working in the field of mental health with PLWHA. Although research involving positive growth outcomes, including PTG, remains in its infancy, the field of mental health counseling has shown increased interest in strengths and growth-based research within the last twenty years (Tedeschi, Calhoun, & Cann, 2007; Tedeschi & Kilmer, 2005). The bulk of this line of research, however, continues to revolve around survivors of cancer (e.g., Bellizzi, 2004; Sawyer, Ayers, & Field, 2011). Additional research exploring PTG in PLWHA is needed since research exploring PTG within this population is lacking. In addition, better understanding PTG in PLWHA will better allow us to understand how we can elicit such an experience in our clients with HIV, and therefore, potentially bring them associated health benefits. Further, now that counseling approaches are able to cater to quality of life issues as opposed to solely grief counseling, common stressors for

living with HIV should be addressed. For example, the stress of HIV-related stigma is regularly cited as a top stressor for PLWHA, and therefore should be recognized and addressed by mental health counselors (Holzemer et al., 2009). Further, perceived HIV stigma can leave a significant negative impact on overall quality of life for PLWHA (Holzemer et al., 2009), increasing the necessity for stigma to be considered when conducting research with this population. The experience of PTG for PLWHA has been linked to increased mental health and physical health, including: decreased depression, less substance abuse, stronger immune systems, fewer hospitalizations, and increased medication adherence (Milam, 2004; Murphy & Hevey, 2013; Sawyer et al., 2011), further supporting the need for more PTG research in PLWHA. In addition, the presence of HIV-related stigma remains a large barrier to quality of life for PLWHA that can lead to further isolation in the population (Cao, Sullivan, Xu & Wu, 2006; Maguire et al., 2008), making this an area in need of intervention for PLWHA.

Significance

Nearly 1.1 million PLWHA are living in the United States, leading the disease to have reached epidemic proportions (CDC, 2013). Further, approximately 48% of these individuals are expected to be living with mental health concerns, and be in need of treatment (Whetten et al., 2008). In addition to the impact of the moment of diagnosis, living with HIV continues to bring a number of other social and emotional concerns. For instance, PLWHA often feel isolated out of fear of others finding out about their status, or feel shame in disclosing their illness (Cao et al., 2006; Maguire et al., 2008). In addition, research acknowledges the impact of HIV-related stigma on overall quality of life for PLWHA, and its effects on medication adherence, which impacts physical health (Li et al., 2011; Whetten et al., 2008). Aside from these stressors,

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PLWHA often cite the moment of HIV diagnosis as a traumatic event (Anderson et al., 2010; Martin & Kagee, 2011; Sherr et al., 2011). In fact, the moment of diagnosis is often so traumatic that roughly 30-40% of reported samples meet criteria for PTSD (Martin & Kagee, 2011; Peterson, Togun, Klis, Menten, & Colebunders, 2012). Despite all these stressors, and exposure to trauma, researchers have found that some PLWHA are able to grow from the experience of accepting their diagnosis as opposed to experiencing symptoms of PTSD. This growth following trauma, known as PTG, has been found to bring numerous health benefits to PLWHA who are able to experience it. Such benefits include: decreased depression, decreased drug and alcohol use, greater medication adherence, less hospitalizations, lower viral load, and greater access to social supports (Milam, 2004, 2006; Murphy & Hevey, 2013). These mental and physical health benefits suggest that being able to experience PTG is an ideal outcome for clients living with HIV. Additionally, financial benefits may exist through the previously identified increased physical outcomes (i.e., fewer hospitalizations, lower viral load, greater medication adherence) associated with PTG. Lifetime treatment costs for PLWHA in the United States was estimated at $16.6 billion in 2009 (CDC, 2013c). Further, since Florida has been identified with having such high incidence of new cases of HIV, over $1.923 billion of this cost (i.e., $400,000 for lifetime costs per individual with HIV) is estimated to stem from HIV medical care in Florida alone (CDC, 2013c). Although research points to the many benefits of experiencing PTG, the bulk of this research continues to look at survivors of cancer. Knowing the significant health benefits of PTG, further research with PTG and PLWHA is warranted. In addition, because this research has often looked outside of those with HIV, the influence of HIV-related stigma on PTG has rarely been explored.

The following research is significant in that it intends to add to the limited research surrounding PTG and PLWHA. In addition, this research considers the construct of stigma; a variable predominantly ignored in the PTG literature. This addition of stigma is particularly important considering the identified role stigma has on quality of life for PLWHA. Through this research, a greater understanding of contributions and barriers to PTG for PLWHA will be developed. Such an understanding can allow researchers and clinicians to identify ways in which PTG may be reached with their own clients living with HIV. Furthermore, these findings hope to influence future mental health interventions for clients with HIV through bolstering the knowledge of PTG; particularly considering the aforementioned changing face of living with HIV.

<u>Theoretical Framework</u>

The need to explore PTG in the context of PLWHA is important since research highlights potential health benefits associated with the experience of PTG (e.g., decreased depression, greater access to social supports, decreased anxiety, and increased quality of life; Milam, 2004, 2006). Furthermore, since the bulk of PTG research has focused on cancer survivors, the presence of HIV-related stigma has not had a place in PTG research, and therefore been absent from the PTG literature. A review of the literature only produced *one* empirical research article surrounding the construct of stigma in relation to PTG. The need to include this construct in PTG research for PLWHA is strengthened by the breadth of literature citing the presence of stigma as the leading stressor for PLWHA (Buseh, Kelber, Stevens, & Park, 2008; Brown, Macintyre, & Trujillo, 2003; Holzemer, Human, Arudo, & Rosa, 2009). In addition, previous research has established the potential for social support to contribute to increased overall health and the

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experience of PTG in the chronically ill, making this a logical construct to include in the research (Denney, Aten, & Leavell, 2010; Hoffman, Lent, & Raque-Bogdan, 2013; Schwarzer & Knoll, 2007). Although these constructs have been looked at within the PTG literature they are less regularly looked at in regards to PLWHA, where increased stigma is present. Therefore, the following constructs will be explored in the following research: (a) PTG, (b) stigma, (c) social support, and (d) perception of trauma.

Posttraumatic Growth

Simply defined, the term posttraumatic growth (PTG) refers to positive psychological change a person goes through as a result of experiencing highly challenging, or traumatic, life circumstances (Calhoun & Tedeschi, 1999, 2001). Oftentimes, an HIV diagnosis in itself has the potential to serve as a traumatic event in the life of PLWHA, with clients often experiencing symptoms of posttraumatic stress disorder (PTSD; Anderson et al., 2010; Martin & Kagee, 2011; Sherr et al., 2011). Therefore, due to the potentially traumatic nature of an HIV diagnosis, by definition PLWHA may experience PTG.

While research has historically focused on the negative outcomes of traumatic experiences, the past fifteen years have seen a shift in recognizing that certain benefits may exist following difficult life events (Cadell, 2007). Being able to find meaning from trauma (e.g., identifying a closer relationship with God or family following a trauma) has the potential to bring emotional relief to the person experiencing the trauma, and may change core assumptions the person holds on life itself (Tedeschi & Calhoun, 1996). Terms like resilience and optimism are often mistakenly used interchangeably with PTG, but do not include an integral part of PTG: the person who experiences the trauma necessarily gains a level of functioning in some areas

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greater than they had prior to the trauma (Tedeschi & Calhoun, 2004). This growth in

functioning can be seen in three areas: (a) changes in self, (b) changes in interpersonal

relationships, and (c) changes in philosophy of life (Tedeschi & Calhoun, 1996). Each of these

areas are addressed in more detail in chapter two, but are introduced briefly here in the following

paragraphs.

Changes in Self

Changes in self refers to changes in how one perceives themselves, such as becoming a

better person, growing emotionally, or feeling like a stronger, more self-assured individual

(Tedeschi & Calhoun, 1996). When looking at correlations amongst 1,739 adults, Peterson and

colleagues (2008) found relationships between the number of traumatic events a person

experienced, and their personal growth related to the strengthening of their character (e.g.,

feeling stronger or more capable), according to the participant self-report. Therefore, while a

traumatic event may bring a person to recognize their vulnerability in life, they may also grow

with the recognition that they are strong enough to handle the challenges life may bring (Calhoun

& Tedeschi, 1998). This finding again speaks to the necessity of an event being deemed as

highly challenging or traumatic in order for PTG to occur.

Changes in Relationships

Changes in relationships with others can include a deepening of familial relationships, the

recognition of the importance of certain relationships, and/or a greater appreciation for loved

ones (Tedeschi & Calhoun, 1996). In addition, those who experience PTG may experience an

increase in their ability to express emotion, and a greater ability for understanding the suffering

of others (Calhoun & Tedeschi, 1998). For example, couples may report becoming closer following a traumatic event, or someone who has experienced a trauma may feel a new sense of appreciation and love for their children (Calhoun & Tedeschi, 1998; Tedeschi & Calhoun, 1996). In addition, those who have experienced trauma may feel more comfortable expressing emotion and reaching out for help, therefore increasing supportive relationships which may have been previously underutilized (Tedeschi & Calhoun, 1996).

Changes in Philosophy of Life

Changes in ones philosophy of life refers to clients being more appreciative of their own existence (Tedeschi & Calhoun, 1996). Clients who show growth in this area report a new perspective on life and make positive changes due to newly defined priorities (Tedeschi & Calhoun, 1996). Changes in philosophy of life may also include a greater willingness to explore, or new interests in, religious or spiritual areas (Calhoun & Tedeschi, 1998). Often, spiritual beliefs can be threatened following a traumatic experience, but the process of attempting to make meaning out of the experience can lead to strengthened beliefs (Tedeschi & Calhoun, 1996). These changes, whether relating to spirituality or perspective, are viewed by the client as solely positive (Calhoun & Tedeschi, 1998).

The existence of PTSD confirms that not all individuals are able to handle trauma successfully. Those who find themselves experiencing PTSD, as opposed to PTG, may suffer from poor quality of life, psychological distress, and severe maladjustment (Magruder et al., 2004). In addition, poorly coping with trauma can lead to increased drug and alcohol use (Shipherd, Stafford, & Tanner, 2005). In contrast, those who experience PTG as a result of

trauma show the aforementioned gains, which contribute to personal growth, and therefore, more effective coping.

Stigma

Due to the bulk of research on PTG having been focused outside of those with HIV, the influence of stigma on PTG has often been neglected. While cancer, and other terminal illnesses, carry their own stigma (e.g., association with mortality), such diseases lack two factors which make HIV stigma even more heightened: (a) HIV is seen as the individuals fault for contracting, and (b) the disease is contagious (Brown et al., 2003; Cao et al., 2006). Sawyer and colleagues (2011) reported that combining both HIV and cancer related PTG research in their meta-analysis was a methodological issue since those with HIV experienced a level of stigma not experienced by cancer survivors. In addition, research suggests that a moderate amount of distress, as opposed to too high or too low, is best for experiencing PTG (Tedeschi & Calhoun, 2004). Although an HIV diagnosis may be enough to create moderate distress and trauma, there is limited research to identify if the continued presence of stigma causes too much distress, and therefore complicates the experience of PTG (Murphy & Hevey, 2013).

For PLWHA, the presence of HIV-related stigma, or societal disapproval geared at PLWHA, directly affects quality of life for those living with HIV (Cao et al., 2006; Maguire et al., 2008). Further, stigma serves as a complicating barrier to effectively providing services to those living with HIV (Steward et al., 2008). Stigma is defined as an undesirable attribute that someone possesses that leads to a reduction in that person's status within society (Goffman, 1963). Oftentimes, this stigma undermines the work public health officials and clinicians are doing to treat clients living with HIV (Brown, Macintyre, & Trujillo, 2003). Stigma was first

attempted to be categorized through Goffman's (1968) seminal work, which categorized stigma as pertaining to one of three categories: (a) tribal (social) (b) character (personal), or (c) body (physical). Tribal stigma is used to refer to traits found in varying religions, nationalities, ethnicities, or races which are deemed to differ from the prevailing norms in a society. For example, many Muslim individuals experienced heightened stigma following the attacks of September 11th, 2001, solely based on sharing physical features of a stigmatized religion and race. Character stigma refers to personal traits society deems as deviant within a society. For example, drug and alcohol use, mental health disorders or a criminal history would all be seen as deviant character traits in Western culture. Lastly, physical stigma refers to external deviations from the norm, such as an individual with a physical disability, physical scarring, or obesity. Further, stigma can be applied to those living with HIV for four reasons: (a) HIV is often viewed as the bearer's responsibility, (b) HIV is seen as permanent and fatal, (c) HIV is contagious, and (d) HIV is sometimes accompanied by physical changes, especially for those with AIDS (Brown et al., 2003; Cao et al., 2006). To better conceptualize the multiple ways stigma can be felt by PLWHA, the following section will briefly address theories of stigma found in the literature.

Theories of Stigma

For PLWHA, stigma has the potential to be felt in a number of ways. Scambler's (1989) hidden distress model suggests there are three different ways individuals can experience stigma: (a) enacted stigma, (b) internalized stigma, and (c) felt-normative stigma. Enacted stigma has been used to refer to overt acts of discrimination aimed at a person due to their participation in a stigmatized group (Scambler, 1989). Internalized stigma occurs when the stigmatized person has come to accept the stigma they have felt and see it as valid (Scambler, 1989). Lastly, normative

stigma is more subjective, in that it describes an individual's felt awareness of stigma being present. The term *"perceived stigma"* has also been regularly used interchangeably with *"felt-stigma"* (Brown et al., 2003; Scrambler, 1998), and is often seen in clients living with HIV (Brown et al., 2003). In clients with HIV, perceived stigma can refer to an individual's belief that stigma would occur if others knew of their HIV diagnosis (Whetten, Reif, Whetten, & Murphy-McMillan, 2008). Typically, those associated with stigmatized traits, such as those living with HIV, are referred to as *targets* of stigma (Brown et al., 2003). In conclusion, stigma has several ways of affecting PLWHA, whether overtly, perceived, or internalized. Whichever way stigma is felt, it also has the potential to significantly impact the quality of life for PLWHA, and therefore, may influence the experience of PTG.

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Social Support

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Unlike stigma, the construct of social support has been more commonly explored in the context of its influence on PTG. The presence of social support has been thought to increase PTG through the narratives loved ones share about what they have observed (Tedeschi & Calhoun, 2004). Although there is a great deal of research identifying the impact of social support on PTG within clinical populations (e.g., Duru, 2007; Holmefjord & Mittelmark, 2012; Kaniasty, 2012), this research has not typically looked at these constructs for PLWHA. Research looking at social support and the chronically ill suggests that adequate social support helps people better cope with stressful situations, including illness (Awasthi & Mishra, 2007); further suggesting there may be ties with PTG.

Social support is a construct that refers to "the function and quality of social relationships, such as perceived availability of help, or support actually received" (Schwarzer &

Knoll, 2007, p. 244). Social support has been defined by sharing resources or by providing coping assistance. Types of social support have been identified as: tangible, such as the providing physical resources, informational, such as sharing advice with a friend, and emotional, such as actively listening to someone in distress (Schwarzer & Knoll, 2007). Several theoretical perspectives have also been established in reference to the construct of social support (i.e., stress and coping, social constructionist, and relationship) each of which acknowledges social support's ability to impact health positively (Lakey & Cohen, 2000). The stress and coping perspective asserts that social support contributes to better health outcomes through protecting individuals from the negative effects of stress (Lakey & Cohen, 2000). In essence, social supports serve as a coping mechanism in dealing with stressful life events. The social constructivist approach suggests that support enhances health through the promotion of self-esteem and self-regulation (Lakey & Cohen, 2000). Lastly, the relationship perspective suggests that relationship processes cannot be separated from health benefits or support, since all are thought to be co-occurring (Lakey & Cohen, 2000). Perhaps the most influential of these perspectives, and the approach most supported through literature looking at the chronically ill, is the stress and coping perspective. Since social support is most commonly seen through a coping perspective with the chronically ill, this is the lens social support will be viewed through for the present study. The following paragraph further elaborates how social support can be viewed from this perspective.

Theory of Social Support

Considering social support as a way to effectively cope with chronic illness coincides with findings that PLWHA with greater support also have more stable mental health (Derlega, Winstead, Oldfield, & Barbee, 2003; Reich, Lounsbury, Zaid-Muhammad, & Rapkin, 2010).

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Further, the presence of support has the potential to ward off loneliness and reinforce positive thinking in PLWHA (Reich et al., 2010). This stress and coping perspective of social support grew from Lazarus and colleagues (1984) theory of stress and coping. Per this theory, coping serves two primary functions: (a) to manage stress related emotions so that they do not impair functioning and (b) to improve one's situation, either by improving self or environment (Lazarus & Folkman, 1984). The literature consistently reports on the presence of social supports as a buffer against negative effects of stress, and contributor to greater mental health (Holmefjord & Mittelmark, 2012; Lakey & Orehek, 2011), strengthening its connection to coping. Therefore, a stress and coping model of social support not only coincides with the literature surrounding the chronically ill, but also fits in nicely with the role of social support in PTG. For the purposes of this research, social support will be conceptualized through this theoretical lens.

<u>Research Questions & Hypotheses</u>

The purpose of this study was to explore the relationship between Posttraumatic Growth, HIV stigma, social support, and religious coping amongst adults living with HIV, in order to better understand the experience of PTG for PLWHA. Knowing that adults with HIV who experience PTG also experience fewer symptoms of depression, less drug and alcohol use, increased medication adherence, and fewer hospitalizations (Murphy et al., 2013; Nightingale, Sher, & Hansen, 2010; Sawyer et al., 2011) it is necessary to gain more knowledge on how PLWHA obtain PTG so that steps towards PTG can be fostered in clinical practice with clients living with HIV. The following research hypothesis and exploratory questions are examined:

Primary Research Question 1

Does perceived stigma (as measured by the *Berger HIV Stigma Scale*, [Berger, Ferrans, & Lashley, 2001]), impact of HIV diagnosis (as measured by the *Impact of Events Scale-revised,* [IES-R, Weiss & Marmar, 1996]) and level of social support (as measured by the *Multidimensional Scale of Perceived Social Support,* [MSPSS. Zimet, Dahlem, Zimet, & Farley, 1988]), predictive of the experience of Posttraumatic Growth (PTG) (as measured by the *Posttraumatic Growth Inventory,* [PTGI, Tedeschi & Calhoun, 1996]) in adults living with HIV?

Primary Research Hypothesis 1

The research hypothesis that will be tested in this investigation will be: Adults with HIV who score higher (e.g., a score of 69 or above) on perceived social support (as measured by the *Multidimensional Scale of Perceived Social Support,* [MSPSS. Zimet, Dahlem, Zimet, & Farley, 1988]), and lower on perceived HIV stigma (e.g., a score of 100 or below; as measured by the *Berger HIV Stigma Scale*, [Berger, Ferrans, & Lashley, 2001]), will be more likely to develop PTG (as measured by the *Posttraumatic Growth Inventory,* [PTGI, Tedeschi & Calhoun, 1996]).

Primary Research Question 2

Does level of social support (as measured by the *Multidimensional Scale of Perceived Social Support,* [MSPSS. Zimet, Dahlem, Zimet, & Farley, 1988]), serve as a moderator between perceived stigma (as measured by the *Berger HIV Stigma Scale*, [Berger, Ferrans, & Lashley, 2001]), and Posttraumatic Growth (PTG) (as measured by the *Posttraumatic Growth Inventory,* [PTGI, Tedeschi & Calhoun, 1996]) in adults living with HIV?

Primary Research Hypothesis 2

The research hypothesis that will be tested in this investigation will be: Adults with HIV who score high (e.g., a score of 69 or above) on perceived social support (as measured by the *Multidimensional Scale of Perceived Social Support,* [MSPSS. Zimet, Dahlem, Zimet, & Farley, 1988]), will report low perceived HIV stigma (e.g., a score of 100 or below; as measured by the *Berger HIV Stigma Scale*, [Berger, Ferrans, & Lashley, 2001]), and therefore, will be more likely to develop PTG (as measured by the *Posttraumatic Growth Inventory,* [PTGI, Tedeschi & Calhoun, 1996]).

Secondary Research Question 1

Which demographic variables (e.g., age, gender, ethnicity, identified religion, sexual orientation, and length of time since diagnosis) best predict experiences of posttraumatic growth (PTG) (as measured by the *Posttraumatic Growth Inventory,* [PTGI, Tedeschi & Calhoun, 1996]) in adults living with HIV?

Secondary Research Question 2

Do adults diagnosed with HIV classify their diagnosis as traumatic, or as meeting diagnostic criteria for posttraumatic stress disorder (PTSD), (as measured by the *Impact of Events Scale- Revised,* [IES-R, Weiss & Marmar, 1996]).

Operational Definition of Terms

HIV:

Human Immunodeficiency Virus (HIV) is the virus that can lead to AIDS. HIV attacks a person's CD4+ T cells, therefore preventing the body from fighting off disease (CDC, 2006). HIV is spread through blood, semen, vaginal secretions, and breast milk.

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AIDS:

Acquired immunodeficiency syndrome (AIDS) is the late stage of HIV when the immune system of a person has become so damaged (as measured by CD4 cell count) they can no longer fight off diseases and cancers (CDC, 2012).

Posttraumatic Growth:

The term posttraumatic growth refers to positive changes a person experiences following highly challenging or traumatic events (Calhoun & Tedeschi, 2001; Tedeschi & Calhoun, 2004).

Posttraumatic Stress Disorder:

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-V, 2013), diagnostic criteria for posttraumatic stress disorder (PTSD) include: a history of exposure to a traumatic event where symptoms of intrusion, avoidance, negative changes in mood and cognitions, and changes in arousal and reactivity. These symptoms spawn from a traumatic event where the individual was exposed to real or threatened death or injury.

Traumatic Event:

Highly stressful and challenging environment (e.g., exposure to war, accidents, bereavement, threats to health) that has the potential to effect the individuals level of functioning (Tedeschi & Calhoun, 2004).

Stigma:

Stigma is defined as an undesirable attribute held by an individual that leads to discrediting that individual and reducing their societal status (Goffman, 1963).

HIV-Related Stigma:

Goffman's definition of stigma is applied to those living with HIV for four reasons: (a) HIV is viewed as the bearer's responsibility; (b) HIV is seen as permanent and fatal, (c) HIV is contagious, and (d) HIV sometimes carries physical symptoms, particularly in those with AIDS (Lee, Kochman, Sikkema, 2002).

Social Support:

Social support is the availability, function, and quality of social relationships, such as actual or perceived availability of help (Schwarzer & Knoll, 2007).

<u>Chapter Summary</u>

This chapter provided an introduction to the present study, including: an overview of theoretical constructs, a statement of the problem, research questions/hypotheses, and definitions of terms. Further, the chapter aimed to demonstrate why the chosen constructs warrant further research, while also identifying gaps in the current research in this area. As HIV counseling interventions continue to shift away from end of life counseling approaches, counseling outcomes such as PTG need more attention. To further define the PTG experience for PLWHA, typical coping strategies (i.e., social support) for this sample must be addressed. In addition, research surrounding this population needs to include HIV-related stigma, one of the greatest barriers to effective care and treatment for PLWHA, to fully understand the needs and experiences of this sample. Chapter two will next provide a more thorough review of the literature surrounding the constructs used. Chapter three will then present the methodology of the study, including: research design, population and sample, and instrumentation. The final two chapters (i.e., chapter four and chapter five) will outline the results found from the present study,

and then review these results in terms of their contributions to counseling and counselor

education.

CHAPTER TWO: REVIEW OF THE LITERATURE

Research supports the experience of posttraumatic growth (PTG), or personal growth after experiencing trauma, as an effective response to increase well-being following the presence of a traumatic event (Littlewood, 2007; Milam, 2006). Research surrounding the construct of PTG has looked extensively at survivors of medical trauma, but often focused outside the realm of those living with HIV. In order to provide a theoretical structure for the study, a review of constructs contributing to PTG is provided. Further, since PTG rests on the assumption that those experiencing it have experienced a highly challenging or traumatic event, support for receiving an HIV diagnosis as being traumatic is provided. Social support, a concept shown to have a relationship with PTG, will also be explored as well as a potential barrier to PTG: HIV-related stigma. Furthermore, chapter two presents a thorough review of the literature surrounding the experience of PTG for those living with Human Immunodeficiency Virus (HIV). Specifically, the chapter provides the following: (a) rationale and empirical support for viewing an HIV diagnosis as a traumatic event, (b) history and empirical support of PTG, (c) theories and empirical support of stigma, (d) theories and empirical support for social support and (e) relationships between each of the constructs (i.e., stigma, social support, perception of trauma, and PTG).

HIV Diagnosis as Trauma

In order for growth to occur after trauma (i.e., PTG), an individual must first experience the presence of a traumatic event (Tedeschi & Calhoun, 2004). For people living with HIV/AIDS (PLWHA), trauma can potentially occur from an HIV diagnosis itself (Anderson et

al., 2010; Nightingale, 2011). The number of individual's potentially experiencing trauma from an HIV diagnosis continues to grow, as nearly 50,000 people in the United States are newly diagnosed with HIV each year (Center for Disease Control and Prevention [CDC], 2011). Furthermore, the CDC estimates that over one million people in the United States are currently living with HIV (CDC, 2011). In addition, the state of Florida seems to be particularly affected by HIV, based on the number of cases of infection within the state. Florida currently has the second largest population of people living with HIV/AIDS (PLWHA) in the U.S., with an estimated 125,000 HIV positive individuals residing in the state, accounting for 11.7% of the national average of PLWHA (Care resource, 2013). Further, new cases are being diagnosed in Florida almost 60% more often than cases throughout the remaining United States (Florida Department of Health [DOH], 2009). The high volume of cases, coupled with increased prevalence within the state of Florida, suggests a strong need for future research surrounding this population. Medical advancements, such as the advent of highly active antiretroviral therapies (HAART) have changed the virus from being viewed as terminal to predominantly chronic, however, receiving a diagnosis of HIV is life altering and oftentimes traumatizing.

Aside from medical and physical implications of the virus (e.g., vision impairments, fever, susceptibility to cancers; McReynolds & Garske, 2001), HIV also brings a series of mental health concerns to those living with the disease (Nightingale et al., 2010; Whetten et al., 2008). An estimated 48% of persons living with HIV also suffer from mental health concerns, including substance use, depression, and adjustment disorders (Whetten et al., 2008). If left untreated, these mental health concerns have the potential to affect the physical health of the individual; threatening quality of life, physical impairment, and medication adherence (SAMHSA, 2006). In

addition, the mental health needs of PLWHA are further complicated by the presence of stigma, decisions of disclosure to loved ones, and an increased presence of previous trauma/sexual abuse (Bornovalova, Gwadz, Kahler, Aklin, & Lejuez, 2008; Rintamaki et al., 2006). The decision of disclosing ones status also brings the risk of social isolation, increased stress, and potential abandonment, adding to the complex mental health needs of PLWHA (Kalichman et al., 2007).

Adding to the stress of living with HIV is the potential trauma from the moment of receiving an HIV diagnosis. Individuals often cite the moment of diagnosis, and the realization that they are living with HIV as traumatic, and therefore, regularly meet diagnostic criteria for posttraumatic stress disorder (Anderson et al., 2010; Martin & Kagee, 2011; Sherr et al., 2011). Posttraumatic stress disorder (PTSD) is a "common psychological and physiological response to a traumatic event" (Walter & Bates, 2012, p. 143). Per the Diagnostic and Statistical Manual of Mental Disorders (*DSM-V*; APA, 2013), symptoms of PTSD are triggered by exposure to events with actual or threatened death, serious injury, or sexual violation. The explicit addition of sexual violation is an addition to the newest version of the manual, and some researchers argue that the criterion should be made even broader to include events such as chronic illness; particularly since these events are empirically associated with symptoms of PTSD (Walter & Bates, 2012). In sum, receiving an HIV diagnosis can be a potentially traumatic event. Additionally, living with HIV has the potential to be traumatizing for individuals to the extent that they may develop symptoms of PTSD. The presence of trauma following an HIV diagnosis supports the construct of posttraumatic growth being relevant to this population, and therefore being explored in this study.

Empirical Support for HIV Diagnosis as Traumatic

Empirical support for the presence of trauma following an HIV diagnosis also exists within the literature. In a qualitative investigation (Anderson et al., 2010), Caribbean participants living in London ($N = 25$) reported how they responded to the news that were HIV positive. Participants were sampled purposively, based on gender, place of birth, sexuality and age. Interviews were semi-structured and aimed at capturing participants' reactions and experiences of being diagnosed with HIV. For most of the participants, the HIV testing process was happenstance, and not directly sought after from a fear that they may be infected. Testing was typically sought as a last resort after client's flu like symptoms could not be otherwise explained. Results indicated participant experiences of complete shock, suggesting that an element of surprise may be common during HIV diagnoses, potentially adding to the traumatizing nature of the experience. Furthermore, Anderson and colleagues (2010) concluded that most participants heard their diagnosis as a death sentence, supporting the notion that an HIV diagnosis can be a traumatic event, due to the exposure of perceived fear of death (APA, 2013). Other themes found in the coding of the data further support the traumatizing nature of diagnosis. Themes included: (a) confusion, which created a reported chaos within the clients' minds, (b) end of life thoughts, including suicidal ideation and feelings of going into a trance-like state, (c) ending intimate relationships, and (d) acceptance. It should be noted that the sample for this research was limited to participants seeking resources from community HIV clinics. Therefore, the study excluded those clients who may have been dealing with the news of diagnosis even more poorly than the sample represented. This information not only supports the notion that an HIV diagnosis is potentially traumatizing, but may be even more traumatizing than empirical studies suggest. The

idea of an HIV diagnosis as traumatizing is crucial to the research at hand, since the presence of trauma is necessary for posttraumatic growth (PTG) to occur.

To further explore the traumatizing effects of HIV, Martin and Kagee (2011) utilized a cross-sectional design to determine the percentage of their sample that met diagnostic criteria for HIV-related PTSD or lifetime PTSD. Participants were recruited from public health clinics in Cape Town South Africa ($N = 85$), and had been diagnosed with HIV within the past year. HIV-related stigma was measured through diagnostic criteria in the DSM-IV, geared towards the experience of living with HIV. For example, participants were asked "After hearing that you were HIV-positive did you keep remembering that you were positive even when you didn't want to", or "did you avoid places or people or activities that might have reminded you that you were HIV-positive?" After looking at frequencies, means, and standard deviations of demographic information, the sample identified predominantly as Black (87.1%) and female (75.3%). Chi-square tests were also utilized to identify the extent to which PTSD was present within the sample. More than half of the sample (54.1%) met DSM-IV criteria for lifetime PTSD at a 95% confidence interval, with the prevalence being fairly even between genders. These findings indicate that clients with HIV have a high likelihood of bringing a history of trauma with them into counseling. In addition, 40% of the sample indicated symptoms that met full criteria for HIV-related PTSD, as measured through PTSD criteria in the DSM-IV. Although women reported higher incidences of HIV-related PTSD symptoms (40.6%) than male participants (38%), these differences were not statistically significant. Lastly, a binary logistic regression was run to identify potential demographic predictor variables which may predict a PTSD diagnosis within the sample. No significant predictors were identified. While these results suggest that

HIV-related PTSD is common within a sample of PLWHA, and not necessarily predictable through demographic variables, these results should be taken with caution. First, the sample is relatively small and therefore cannot be easily generalized to the greater population of PLWHA. Further, this sample was once again taken from those already seeking community resources for their HIV, suggesting this sample may already be better coping with their HIV diagnosis, and PTSD related symptoms within the HIV community may be even more rampant.

Nightingale and colleagues (2011) explored the impact of an HIV diagnosis on HIV-related trauma symptoms ($N = 118$). Structured clinical interviews, quantitative assessments, and medical chart reviews were used to collect data. The traumatic impact of HIV diagnoses were assessed through questions aimed at identifying the impact of that day. For example, participants were asked to recall the date they were diagnosed with HIV, whether they perceived this experience as a threat to their life or physical well-being, and if their response involved intense fear, helplessness or horror. Such questions are in line with Criterion A for PTSD in the DSM-IV. On average, participants had been living with HIV for 10.4 years, and 43% scored within the range indicative of moderate to severe traumatic stress, based on their HIV diagnosis. In addition clients with previous histories of trauma were more likely to experience HIV-related PTSD.

Outside of qualitative research, limited quantitative work has attempted to quantify the trauma of living with HIV. Peterson and colleagues (2012) attempted to measure the impact of an HIV diagnosis on PLWHA through the use of the *Impact of Events Scale-Revised (IES-R;* Peterson, Togun, Klis, Menten, & Colebunders, 2012). The studies main goal was to explore mood disorders among those living with HIV; therefore, little was reported from this scale aside from descriptive statistics. Additionally, because this scale was not the focus of this study, only

61% of the studies participants ($n = 153$) were able to complete the IES-R. The researchers admit that this scale was first to be omitted from the data collection in order to reduce participant wait time. From this sample, however, 30% of those sampled ($n = 46$) met screening criteria for PTSD. In addition, women participants were found more likely to test positive for PTSD from the sample. These findings support the previously reported qualitative accounts that PTSD symptoms are common among those diagnosed with HIV. The current study aims to greater prioritize this measure of trauma in participants, due to their HIV, in order to further look at this data in the context of PTG.

In summary, each of these citations point to the reality that an HIV diagnosis can be traumatizing; potentially to the extent that a PTSD diagnosis can be reached. Further, this potential for trauma from diagnosis seems to be true for both men and women. These findings are further complicated by the fact that samples were consistently drawn from health clinics, or participants who were already receiving some level of support from community resources. This may suggest that levels of PTSD within a population following an HIV diagnosis are even higher than reported when considering those too distraught to receive services, and therefore are underrepresented in the research. From the research cited above it is also clear that quantifying the trauma of HIV has rarely been given attention in research studies, but rather been briefly reported when describing sample demographics. Since the experience of trauma is crucial to the experience of PTG, the current study attempts to look at the traumatic impact of HIV diagnosis more closely. In addition, the aforementioned research discussed the potential for HIV trauma to lead to deficits, such as PTSD. In contrast, the present study explored how trauma from HIV can lead to personal growth, such as the concept of PTG.

Posttraumatic Growth

Research has historically focused on negative outcomes following traumatic experiences. The past fifteen years, however, have seen a shift in recognizing that certain benefits may exist after difficult life events (Cadell, 2007). Simply defined, the term posttraumatic growth (PTG) refers to positive psychological change a person goes through as a result of experiencing highly challenging, or traumatic, life circumstances (Calhoun & Tedeschi, 1999, 2001). PTG can be conceptualized through exploring the (a) history and (b) theory surrounding the construct.

History of PTG

Within the last century, substantial research has focused in on human trauma, particularly with the addition of Posttraumatic Stress Disorder in the DSM-III (DSM-III, American Psychiatric Association [APA], 1980). The breadth of research surrounding trauma and its impact on individuals, led to the understanding that highly stressful and traumatic experiences have the potential to alter an individual's core beliefs, and lead to the person questioning themselves, their world, and their place in the world (Walter & Bates, 2012). Simply put, traumatic events can shatter a person's sense of self and identity (Walter & Bates, 2012). While it is understood that trauma can have multiple negative psychological and physical consequences, less attention has been given to the notion that trauma can also leave a positive impact on an individual (Tedeschi & Calhoun, 1996).

The idea that suffering can lead to positive change is not new. For example, teachings in Buddhism, Hinduism, and Islam contain information on the transformative power of pain and suffering (Tedeschi & Calhoun, 2004). Viktor Frankl (1962) shared the power of meaning making in his accounts of surviving Nazi concentration camps through the use of logotherapy,

further suggesting that growth could come from pain and suffering. Historically, however, in the area of psychology, focus has been given almost exclusively to pathology, and healing damaged individuals following a medical/disease model (Seligman, 2002). Within the last decade the idea of positive psychology has gained popularity (Seligman, Steen, Park, & Peterson, 2005), suggesting that considering client strengths and building on what the client is successful at may be powerful therapeutic tools (Seligman, 2002). Traditionally, the field of counseling has been more development and wellness focused, as opposed to pathology focused (Harris, Thoresen, & Lopez, 2007). Therefore, while research has predominantly focused on the negative effects of trauma on clients, there is now growing interest in examining strengths or benefits people associate with these traumatic events (Tedeschi & Calhoun, 1996). Terms such as resilience, hardiness, and optimism, are often mistakenly interchanged with PTG, but do not fully capture the same experience. While these terms refer to an ability to carry on after challenge or maintain control, PTG refers to reaching a level of functioning greater than previously held by the individual who has experienced the trauma (Tedeschi & Calhoun, 2004).

Theory of PTG

From this history of positive outcomes from trauma, a theory of PTG emerged. Central to this theory is that finding meaning from trauma has the potential to bring emotional relief to the person experiencing the trauma, and may change core assumptions the person holds on life itself (Tedeschi & Calhoun, 1996). In developing an instrument to measure such a change, five factors were identified: relating to othe.3rs, new possibilities, personal strength, spiritual change, and appreciation for life (Tadeschi & Calhoun, 1996). On a broader scale, three categories of

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perceived growth were identified: (a) changes in self, (b) changes in interpersonal relationships, and (c) changes in philosophy of life (Tedeschi & Calhoun, 1996).

Changes in Self

Changes in self refers to changes in how one perceives themselves, such as becoming a better person, growing emotionally, or feeling like a stronger, more self-assured individual (Tedeschi & Calhoun, 1996). When looking at correlations amongst 1,739 adults, relationships were found between the number of traumatic events, and growth related to strengthening of character according to the participants (Peterson, Park, Pole, D'Andrea, & Seligman, 2008). While the traumatic event may bring a person to recognize their vulnerability in life, they may also grow with the recognition that they are strong enough to handle the challenges life may bring (Calhoun & Tedeschi, 1998).

Changes in Relationships

Changes in relationships with others can include deepening of familial relationships, recognizing importance of certain relationships, or greater appreciation for loved ones (Tedeschi & Calhoun, 1996). In addition, those who experience PTG may experience an increase in their ability to express emotion, and a greater ability for understanding the suffering of others (Calhoun & Tedeschi, 1998). For example, couples may report becoming closer following a traumatic event, or someone who has experienced a trauma may feel a new sense of appreciation and love for their children (Calhoun & Tedeschi, 1998; Tedeschi & Calhoun, 1996). In addition, those who have experienced trauma may feel more comfortable expressing emotion and reaching

out for help, therefore increasing supportive relationships which may have been previously unutilized (Tedeschi & Calhoun, 1996).

Changes in Philosophy of Life

Finally, changes in ones philosophy of life refers to clients being more appreciative of their own existence, having new perspective on life, and positive changes made due to new priorities (Tedeschi & Calhoun, 1996). Changes in philosophy of life may also include a greater willingness to explore, or new interests in, religious or spiritual areas (Calhoun & Tedeschi, 1998). Often, spiritual beliefs can be threatened following a traumatic experience, but the process of attempting to make meaning out of the experience can lead to strengthened beliefs (Tedeschi & Calhoun, 1996). These changes, whether relating to spirituality or perspective, are viewed by the client as solely positive (Calhoun & Tedeschi, 1998).

Empirical Research on Posttraumatic Growth

Despite significant research focusing on PTG within the last twenty years (e.g., Barskova & Oesterreich, 2009; Bellizzi, 2004; Cordova, Cunningham, Carlson, & Andrykowski, 2001), the bulk of this research has focused outside the realm of those living with HIV. For this reason, the review of the research will begin by looking at PTG amongst the chronically ill (e.g., cancer), and then more specifically at PTG amongst PLWHA.

PTG and the Chronically Ill

Cordova and colleagues (2001) suggest that cancer patients may experience growth through their illness, as opposed to experiencing purely negative effects. The purpose of the study was to compare adult breast cancer survivors over five years post diagnosis ($n = 70$) with

healthy participants (*n* = 70) who had never been diagnosed with cancer (Cordova, Cunningham, Carlson, & Andrykowski, 2001). Results indicated that the groups did not differ significantly in measures of depression or well-being, but did report greater levels of PTG. The researchers then explored predictors of PTG within the group of those who had been diagnosed with breast cancer at least five years prior to the study. Multiple regressions informed the researchers that previously having talked about their breast cancer, and their cancer diagnosis meeting criteria for PTSD, were both significant predictors of PTG. Therefore, social support may contribute to the experience of PTG in line with what Tedeschi and Calhoun (2004) have reported. Tedeschi & Calhoun (2004) suggest that PTG is able to occur through the narratives those closest to us share about the growth they have observed in us, which also allows for conversations surrounding ones diagnosis. It may also be inferred from these findings that clients with HIV will have to view their diagnosis as traumatic in order to fully experience PTG.

Weiss (2008) used qualitative approaches, in conjunction with the PTGI to validate the intersubjective experiences of women who experienced breast cancer and their husbands. Female cancer survivors in the research were asked: *"what would you describe as the most significant long-lasting negative changes in your life following the struggle with your breast cancer?"* and *"What would you describe as the most long-lasting positive changes in your life following the struggle with your breast cancer?"* When responding to these open ended questions, 98% of the women participants (*n* = 40) reported significant positive changes in their lives following their diagnosis of breast cancer. In addition, the five subscales of the PTGI (relating to others, new possibilities, personal strength, spiritual change, and deeper appreciation for life; Tedeschi & Calhoun, 1996) were used as a priori categories, and were validated through the content analysis

process. These reports of positive changes were found to coexist with reported significant negative changes, which were reported by 83% of the survivors. This finding is consistent with PTG literature, implying that growth does not negate the negative effects of the trauma. These findings further illustrate how frequent PTG experiences can be in medically ill clients, and also validate the use of the PTGI in the present study since change can be identified on these five domains.

Cordova and colleagues (2007) again looked at breast cancer survivors to examine the relationship between PTSD and PTG, since both are associated with a cancer diagnosis but little is known about the interaction or mutuality between the two outcomes. Participants ($N = 65$) were given assessments to account for PTSD and PTG (*PTGI*) which served as dependent variables in the research. Descriptive statistics indicated that 59% of the participants' experience of diagnosis met PTSD stressor criteria according to the DSM-IV, and the mean item ranking for PTG was 2.8. This indicates that a "moderate degree of change" was reported by participants', based on their cancer experience. Five predictor variables were also evaluated (a) age, (b) education, (c) type of surgery, (d) social constraints, and (e) perceived stressfulness of the cancer experience to examine their role in predicting PTSD symptoms or PTG. Age was inversely associated with the perception of cancer as a traumatic stressor ($r = -.35$, $p<.01$), but no other correlations were found to be significant. The five predictor variables together accounted for 43% of the variance in PTSD as measured by the PCL-C, p (5, 56) = 8.6, $p<.001$, but only social constraints (beta = .57, t = 5.6) and perception of cancer as a traumatic stressor (beta = .24, t= 2.1) were unique predictors. This research supports Cordova and colleagues previous research (2001) that viewing ones diagnosis as traumatic is a necessary step in reaching PTG. In addition,

this research suggests that demographic variables, particularly age, may be influential in the experience of PTG. In sum, these studies support the understanding that PTG is able to occur as a result of medical trauma; particularly, surviving cancer.

PTG and Living with HIV

Although less common, there is also empirical support for PTG occurring in PLWHA. Milam (2004) suggests that PTG can predict positive physical health changes (i.e., viral load and CD4 count) in some populations. In his study, participants ($N = 412$) were randomly selected from public HIV clinics in California, as part of a larger study examining sexual behaviors of those living with HIV. HIV RNA levels, the amount of viral load or nucleic acid in the bloodstream, and CD4 counts (i.e., cells associated with immune responses that fight infection) were reviewed through access to participants' medical charts (Milam, 2004). Demographic information was acquired along with the *PTGI* and self-reports of other health behaviors, such as exercise, that could have also impacted disease progression.

Results from Milam's study (2004) indicate that PTG rates were significantly different between men ($M = 3.98$) and women ($M = 4.15$), and that Hispanics ($M = 4.26$) were significantly more likely to experience PTG than Whites ($M = 3.91$). African Americans ($M = 4.10$) did not differ significantly in their PTG experiences from any of the other groups, but their mean score shows that minority groups reported experiencing PTG more often than White participants. Similarly, when reviewing the variables through multiple regressions, PTG was not associated with CD4 counts, except for with Hispanic participants. Hispanic participants that reported greater PTG had greater CD4 counts, and therefore greater immune health. These findings appear to be consistent with other research, in that PTG is more consistently found

outside of White samples. Milam's research further explored this finding by removing religious-oriented items from the PTG measurement, which reduced the significance of the interaction. This finding suggests that religious changes, and perhaps their cultural ties, may have a greater relation to PTG than even previously thought.

Milam continued looking at factors that contribute to PTG in those living with HIV through the use of correlational analyses (Milam, 2006). Milam's research focused on lower income participants, and aimed to answer three questions: (a) whether or not PTG could occur in this specified population, (b) determine correlates of PTG within this lower income sample, and (c) whether correlates present in PTG are consistent over time, ($N = 835$ at time 1) and ($N= 434$ at time 2) . The *PTGI* (Tedeschi & Calhoun, 1996) was used to assess PTG within the sample. In addition, participants were assessed on: demographic information, health behaviors, optimism/pessimism, and depression. Information was also collected regarding the participants' length of time since HIV diagnosis, medical status regarding their HIV, and whether the participant was religious or not. Overall, most participants (55%-59%) reported experiencing moderately positive changes since their diagnosis, although negative changes were also reported (Milam, 2006a). Findings indicated that females had significantly higher scores of PTG, as consistent with the literature (Barskova & Oesterreich, 2009; Bellizzi, 2004). A one-way ANOVA was used to examine mean differences between ethnic groups, and while the literature and data suggests that Whites tend to have lower levels of PTG when compared with other groups, these findings were not significant in Milam's research. Other findings reported that healthy participants generally scored higher in PTG than those who were less healthy (as measured by CD4 counts and viral loads). Those on Antiretroviral Therapy (ART), a

combination of medications aimed at suppressing the virus, also showed significantly higher

scores of PTG than those not receiving this treatment. In addition, those who had not used illegal

drugs in the past three months had significantly higher PTG scores than participants engaging in

drug use, indicating that substance use may serve as a barrier to experiencing PTG. Through the

use of hierarchical multiple regressions, PTG was shown to have significant negative

associations with age, gender, alcohol use, depression, and pessimism at time one of the

assessments. Positive associations at time one were found to have relationships with Hispanic

and African American ethnicities (when compared with White participants), eating a healthy

diet, and optimism. Milam (2006) also explored a longitudinal regression model and found that

religiosity remained a significant predictor of PTG over time.

Milam's (2006) results are important in confirming the ability of low-income clients with

HIV to achieve PTG. These results also are beneficial in showing the influence religion may

have in one's ability to experience PTG, however, these results should be taken with caution

since religion was measured by two researcher generated questions (e.g., "Other than for

weddings and funerals, how often have you typically attended religious services?", and "Are you

a member of a church, synagogue, or other place of worship?"), and not a psychometrically

sound instrument. In addition, these questions are aimed at assessing participants' formal

membership to a religion, and not a more personal spiritual relationship, which is more in line

with the construct measured with the *PTGI*. The research also suggests that depressive symptoms

significantly interfere with a client's ability to achieve PTG, further supporting the need for

mental health counselors to take an active role in working with this population.

Siegel and Schrimshaw (2000) also explored the potential for positive growth connected with living with HIV. The researchers sampled from African American, Puerto Rican, and White women living with HIV in New York (*N* = 54), and found that 83% of participants acknowledged positive changes as a result of their illness. The researches utilized a series of three interviews with each participant, and required that participants be between the ages of 20-45 and not used injection drugs within the past six months. In addition to general questions regarding changes participants had experienced due to their HIV, specific questions were also asked in reference to changes in behavior, relationships, spirituality, goals, and how the participants were different than before infection. From this sample, 55% reported past IV drug use, supporting the strong correlation between HIV and substance use. Again, this research supported the literature that women of color are more likely to experience growth after trauma than their White, male counterparts, with 83% of African American participants, 94% of Puerto Rican participants, and 78% of White participants reporting growth from their illness.

Although the participants reported great tragedy and adversity that had come from their HIV diagnosis, most were also able to recognize positive changes in their lives as a result of their diagnosis. Participants reported positive changes in health behaviors as a result of their diagnosis, including attributing motivation to get sober to their diagnosis. This finding once again highlights the connection between HIV and substance use. Changes were also found relating to religious and spiritual growth; primarily, an increase in faith. In addition, growths in relationships were also cited as a positive change following HIV diagnosis. Other areas that were found to be positively influenced by participants' HIV diagnosis included changes in value of life (e.g., a greater appreciation of life), goal-related changes, and positive self-change (e.g.,

feeling more caring, stronger, or more empathic). These findings are consistent with the five factors measured through the *PTGI*, which include: relating to others, new possibilities, personal strength, spiritual change, and appreciation for life (Tedeschi & Calhoun, 1996).

These findings are important because while they report growth in relationships as a primary positive change in the women interviewed, the women also report a great deal of isolation, stigmatization, and rejection as a result of sharing their HIV diagnosis. Furthermore, the researchers indicate that nearly all of the participants involved acknowledged experiences of HIV related stigma, yet no measure or questions aimed at this construct were used in data collection. These findings support the need to further investigate the impact of stigma on one's social support network, and furthermore, what effect this may have on an individual's ability to reach PTG.

Littlewood and colleagues (2008), focused on changes in health behaviors and psychosocial adaptation as a result of finding benefits from an HIV diagnosis in men and women (*N*= 221). Participants were recruited through a University-based infectious disease clinic in New York, and were assessed on: demographic information, data from medical records, HIV-related symptoms, depressive symptoms, social support, physical activity, substance use, including cigarettes, drugs and alcohol, medication adherence, and benefit finding. Consistent with other studies, benefit finding was most common among women ($M = 3.8$ vs. 3.5) and African American participants ($M = 3.8$) when compared to other ethnicities ($M = 3.5$). Contrary to what the researchers hypothesized, benefit finding was not inversely associated with substance use. Findings from the research should be interpreted with caution because the instrumentation for each of the variables measured is not fully described to the reader.

Looking at descriptive statistics, and averaging benefit finding items, participants scored lowest on items relating to positive changes in social support (e.g., "having had HIV disease has brought my family closer together", and "having had HIV disease has led me to meet people who have become some of my best friends"). Further, the relation between depression and benefit finding was decreased significantly when social support was introduced; leading the researchers to conclude that social support partially mediated the association of benefit finding to depression. Further investigation surrounding social support and growth after HIV diagnosis within the counseling field is needed to expand on these results. The researchers share that their benefit finding results are impressive considering the level of stigma and discrimination experienced by those with HIV. The study could be improved by exploring the impact such stigma may have had on the mediating effects found in social support. In addition, the study measured benefit finding through a scale primarily used to measure benefit finding in patients with cancer. The *Posttraumatic Growth Inventory* (PTGI, Tedeschi & Calhoun, 1996) may have been a more appropriate scale choice due to its wider use in research focusing on clients living with HIV. In sum, although the bulk of PTG research has focused on cancer survivors, empirical evidence exists to suggest this is also a viable outcome for PLWHA.

<u>Overview of Stigma</u>

In addition to the potential presence of PTG in PLWHA, research also regularly cites the presence of stigma as a major stressor for PLWHA (Brown, Macintyre, & Trujillo, 2003; Chaudoir et al., 2012; Steward et al., 2008). Stigma serves as a complicating barrier to effectively providing services to those living with HIV (Steward et al., 2008). Stigma is defined as an undesirable attribute that someone possesses that leads to a reduction in that persons status

within society. Oftentimes, this stigma undermines the work public health officials and clinicians are doing to treat clients living with HIV (Brown et al., 2003). Stigma was first attempted to be categorized through Goffman's (1968) seminal work, which categorized stigma as pertaining to one of three categories: (a) tribal (social) (b) character (personal), or (c) body (physical). Tribal stigma is used to refer to traits found in varying religions, nationalities, ethnicities, or races which are deemed to differ from the prevailing norms in a society. Character stigma refers to personal traits society deems as deviant within a society. For example, drug and alcohol use, mental health disorders or a criminal history would all be seen as deviant character traits in Western culture. Lastly, physical stigma refers to external deviations from the norm, such as an individual with a physical disability, physical scarring, or obesity. To better conceptualize the construct of stigma, the following sections will address, (a) theories and history of stigma, and (b) stigma specific to the HIV community.

Theories and History of Stigma

Stigma has been conceptualized through Scambler's (1989) hidden distress model, which suggests there are three different ways individuals can experience stigma: (a) enacted stigma, (b) internalized stigma, and (c) felt-normative stigma. Enacted stigma has been used to refer to overt acts of discrimination aimed at a person due to their participation in a stigmatized group (Steward et al., 2008). Internalized stigma occurs when the stigmatized person has come to accept the stigma they have felt and see it as valid (Steward et al., 2008). Lastly, normative stigma is more subjective, in that it described an individual's felt awareness of stigma being present. More specifically, the term refers to an individual's perception of stigma being normative (Scambler, 1989). The term *"perceived stigma"* has also been regularly used

interchangeably with *"felt-stigma"* (Brown et al., 2003; Scambler, 1989), and is often seen in clients living with HIV (Brown et al., 2003). In clients with HIV, perceived stigma can refer to an individual's belief that stigma would occur if others knew of their HIV diagnosis (Whetten, Reif, Whetten, & Murphy-McMillan, 2008). Typically, those associated with stigmatized traits, such as those living with HIV, are referred to as *targets* of stigma (Brown et al., 2003).

From a historical perspective, the idea of stigma is not new to public health concerns. There are far too many unfortunate accounts of prejudice, discrimination and isolation of individuals based on a person's identification with a medical illness (Valdiserri, 2002). Leprosy was once deemed as justifiable punishment for morally corrupt behaviors, leading those suffering from the illness to be excluded from society (Valdiserri, 2002). Similarly, those who suffered from Cholera were publically shamed as lazy, and associated with immoral behaviors. As medical advancements emerged, including the emergence of germ theory, negative misconceptions associated with medical illnesses and its potential contagiousness remain. As recent as 2000, a CDC national survey reported that 18.7% of people polled endorsed the statement, "People who got AIDS through sex or drug use have gotten what they deserve" (CDC, 2000). This finding suggests that stigma is not only a relevant concern today, but particularly concerning in the HIV community.

Stigma in the HIV Community

Although stigma is not unique to HIV/AIDS, there are defining characteristics associated with the virus which bring additional levels of stigma. HIV/AIDS has four characteristics that contribute to the high levels of stigma associated with the illness: (a) the disease is perceived as the bearer's fault, since transmission is possible through behaviors which are seen as voluntary,

(b) the disease is seen as unalterable and fatal, (c) the disease is contagious, and (d) stigma is greater when the condition is visible, such as someone with advanced AIDS who shows physical symptoms of the disease (Lee, Kochman, Sikkema, 2002). In addition, HIV stigma is often heightened due to being layered upon other stigmatized traits, such as drug use, sexual promiscuity, or homosexuality (Lee et al., 2002). Stigma associated with HIV can also lead to isolation and difficulties with social supports due to fear of disclosing ones HIV status (Whetten et al., 2008).

Empirical Support for HIV Stigma

Holzemer and colleagues (2009) used a cross-sectional design to explore the effects of stigma on quality of life for individuals living with HIV ($N = 726$). The study employed the Berger HIV Stigma Scale (Berger et al., 2001) to measure the amount of perceived stigma individuals felt, such as not feeling socially accepted, or feeling rejection due to their illness. Participants were recruited from Africa, Puerto Rico, and the United States, from community HIV clinics. Each of the groups was compared in terms of quality of life, stigma, and depressive symptoms. While there were no mean differences found in terms of depressive symptoms or quality of life, significant differences were found in terms of perceived stigma. Participants from Africa reported significantly less symptoms of stigma ($M = 10.4$) as compared to the American participants (African American, $M = 45.6$, Hispanic, $M = 48.9$, and White, $M = 41.5$). These results suggest that HIV related stigma is an unfortunate reality for the majority of those living in the United States, and a construct that needs to be further explored. After experiences of stigma were found, a multiple regression was utilized to determine the effect stigma negatively played on quality of life after controlling for symptoms of depression (Holzemer et al., 2009). Stigma

accounted for 5.3% of the variance in scores for quality of life, further confirming that stigma had a significant effect on participants' quality of life. These results help to support the hypotheses in the present research, which predicts that stigma may have a negative influence on quality of life, by impeding a client's ability to experience PTG. The results were taken from an impressive sample, but also a sample that looked at three unique populations (i.e., Puerto Rico, Africa, and the US). The current study intended to maintain a more focused sample, and therefore may not be affected by the potential presence of geographical influences.

Lee and colleagues (2002) also sought to identify how prevalent stigma was in those living with HIV, and focused on the effects of internalized stigma within this population. Participants were assessed on Hopelessness, through *The Beck Hopelessness Scale* (BHS; Beck & Steer, 1993), Social Support, through *the 40-item Instrumental Support Evaluation List* (ISEL; Cohen et al., 1985), depression and anxiety, through *The Structured Interview Guide for the Hamilton Depression and Anxiety Scales* (SIGH-AD; Williams, 1988), Coping with illness, through the *31-item Coping with Illness Inventory* (CWI; Namir et al., 1987), Grief Reactions through the *Grief Reaction Index* (GRI; Lennon et al., 1990) and Internalized Stigma, through two items on the *Functional Assessment of HIV Infection* (FAHI; Cella et al., 1996). Participants were 268 adults living with HIV from throughout the United States.

The first research question from this study was to identify the prevalence of internalized HIV stigma within the sample (Lee, Kochman, & Sikkema, 2002). While the majority of the sample reported some level of embarrassment surrounding their disease, or some level of difficulty in disclosing their HIV status, there were no significant differences based on age, race, gender or sexual orientation. Significant differences did exist, however, in geographic location of

participants. Participants were located in Wisconsin (Milwaukee and Madison) and New York City. Those from Wisconsin ($M = 3.90$, $SD = 2.62$) experienced significantly more internalized stigma than those in New York City ($M = 2.92$, $SD = 2.59$), t (264) = 2.97, p = .003. Mean differences were also evaluated between the high and low internalized HIV stigma groups, through the use of *t* tests, and no significant differences were found in terms of age. However, high levels of internalized stigma were more common in those who had been diagnosed with HIV more recently. While these results further confirm the high volume of HIV related stigma felt by this population, the results were gathered using two items from a generic assessment measuring overall well-being in those with HIV. Further, of the six subscales the assessment measures, none of them specifically address the area of stigma. A validated instrument, such as the *Berger HIV Stigma Scale* (Berger et al., 2001) would have been a more appropriate measure of this construct.

As previously discussed, HIV stigma is typically characterized by four qualities: the disease is perceived as the bearer's fault, the disease is seen as fatal, the disease is contagious, and advanced AIDS can have visible symptoms (Lee, Kochman, Sikkema, 2002). Cao and colleagues (2006) set out to explore levels and types of stigma present when looking at a population deemed as "blameless". This population had acquired the disease through blood transfusions, and therefore did not necessarily meet that first level of HIV stigma- the disease being the bearers fault due to socially deviant behaviors. This qualitative study took place in China, and included participants who had learned of their status within the last 1-3 years ($n =$ 20). Additionally, interviews were conducted with family members of those living with HIV ($n =$ 20), local health care workers ($n = 20$), uninfected villagers ($n = 20$) and village leaders/teachers

($n = 8$). Of the types of stigma identified through the interviews, social and physical isolation was most commonly cited. Participants reported changing their routes home to avoid driving past the homes of those infected, refusing to sit near people known to have HIV, or being asked to separate from their own family due to their infection. This type of stigma was seen to cause barriers to health care as some participants reported avoiding sharing their status with their medical doctors due to discrimination. Within this study, the introduction of educational HIV campaigns by the government seemed to limit the felt effects of stigma, suggesting that stigma reducing interventions may be effective in lessening the effects of stigma on those living with HIV. Further, these findings suggest that no matter the route of transmission, stigma was still highly present for PLWHA, even those in a so called "blameless" population. Cultural considerations should also be taken into account when considering these results, since the data was collected in China and the present research took place within the United States.

In sum, empirical support for stigma in the HIV community is abundant. Further, there seems to be no lack of agreement that stigma is rampant within this population, and serving as a barrier to effective treatment. The stigma associated with HIV has managed to work its way into clinical settings as well, leading to client mistrust in mental health workers (Whetten, et al., 2008). In a review of the HIV-related stigma literature, Brown and colleagues (2003) found that health care workers, including mental health counselors, were at times hesitant to work with PLWHA, only further contributing to this culture of HIV-stigma (Brown, Macintyre, & Trujillo, 2003). Although research on HIV stigma is available, there is a dearth of information surrounding HIV stigma and its potential influence on PTG. The need to explore the impact of

stigma on PTG is regularly cited throughout the PTG literature, however, only *one* known empirical article was found on the topic.

Overview of Social Support

Considering the trauma and stress that accompanies an HIV diagnosis, and the associated stigma that comes with this, it is no surprise that PLWHA often utilize coping approaches (i.e., relying on social support) to manage. Due to medical advances changing the disease from terminal to chronic (Maguire, McNally, Britton, Werth, & Borges, 2008), learning to cope and live with HIV is now a viable option. In addition, the introduction of highly active antiretroviral therapy (HAART) as a treatment option for the virus has increased life expectancies for individuals living with HIV. With these advances, clinical approaches to working with clients living with HIV have shifted from existential and end of life conflicts, to increasing quality of life by focusing on decreasing psychosocial stressors (Orsulic-Jeras, Shepherd, & Britton, 2003). From a cognitive-transactional model of stress, health and functioning are mediated through the use of coping strategies and resources (Lazarus & Folkman, 1984). From PTG and trauma research, a social support approach to coping will be explored.

Theories of Social Support

Social support is a construct that refers to "the function and quality of social relationships, such as perceived availability of help, or support actually received" (Schwarzer & Knoll, 2007, p. 244). Social support has been defined by sharing resources, providing coping assistance, or as a personality trait. Types of social support have been identified as: tangible, such as the providing physical resources, informational, such as sharing advice with a friend, and emotional, such as actively listening to someone in distress (Schwarzer & Knoll, 2007). Several

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theoretical perspectives have also been established in reference to the construct of social support: (a) the stress and coping perspective, (b) the social constructionist perspective, and (c) the relationship perspective (Lakey & Cohen, 2000). Within each of these perspectives, social support is acknowledged for its ability to impact health positively. The stress and coping perspective asserts that social support contributes to better health outcomes through protecting individuals from the negative effects of stress (Lakey & Cohen, 2000). In essence, social supports serve as a coping mechanism in dealing with stressful life events. The social constructivist approach suggests that support enhances health through the promotion of self-esteem and self-regulation (Lakey & Cohen, 2000). Lastly, the relationship perspective suggests that relationship processes cannot be separated from health benefits or support, since all are thought to be co-occurring (Lakey & Cohen, 2000). Perhaps the most influential of these perspectives, and the approach most supported through literature looking at the chronically ill, is the stress and coping perspective.

This perspective on social support grew from Lazarus and colleagues (1984) theory of stress and coping. Per this theory, coping serves two primary functions: (a) to manage stress related emotions so that they do not impair functioning, and (b) to improve one's situation, either by improving themselves or improving their environment (Lazarus & Folkman, 1984).With these functions in mind, social support fits nicely into this framework for its empirically validated ability to hit on both of these purposes. The literature consistently reports on social supports ability to buffer against the negative effects of stress, and contribute to greater mental health (Holmefjord & Mittelmark, 2012; Lakey & Orehek, 2011), strengthening its connection to coping. Furthermore, social support leads to self improvement, such as PTG, by allowing those

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closest to us to share narratives of changes they have witnessed in the individual attempting to cope (Tedeschi & Calhoun, 2004). Therefore, a stress and coping model of social support not only coincides with the literature surrounding the chronically ill, but also fits in nicely with the role of social support in PTG. For the purposes of this research, social support will be conceptualized through this theoretical lens of coping.

Empirical Support for Social Support

Though there is a breadth of literature surrounding the impact of social support on clinical populations (e.g., Duru, 2007; Holmefjord & Mittelmark, 2012; Kaniasty, 2012), there is less empirical research when looking specifically at social support in the context of PLWHA and their experiences of PTG. For this reason, empirical support of this construct will begin by looking at research that has been done with social support and the chronically ill, and then focus in on research that has examined social support and PLWHA.

Social Support and the Chronically Ill

Since the introduction of HAART treatment approaches for PLWHA, HIV has shifted from being understood as a terminal illness, to being more widely accepted as a chronic illness (Holzemer et al., 2009). Therefore, empirical research on other chronic illnesses, such as diabetes and cancer, has the potential to carry clinical implications for PLWHA. One such example of this type of research includes Awasthi and Mishra's (2007) research looking at the role of social support in women living with diabetes. Participants ($N = 100$) were given instruments on illness consequences, illness controllability, and social support, in addition to a single question aimed at understanding what coping strategies the women employed in dealing with their illness. Results showed negative correlations for illness consequences (e.g., interpersonal, physiological, and

psychological) and each of the types of support (e.g., emotional, information, social companionship, practical, and overall). These findings are consistent with the literature, and the present studies hypotheses, that people with adequate social support are better able to adjust to stressful situations, including physical illness. The correlational design utilized in this study limits the generalizability of such results, since causality cannot be determined.

In continuing to look at the impact of social support on chronically ill clients, Penedo and colleagues (2011) attempted to identify changes in perceived social support pre and post treatment for survivors of head and neck cancer (HNC). Similar to the present research, participants from this study were recruited from the state of Florida. Participants were assessed prior to their cancer treatment, and six weeks post treatment in order to determine changes in support during this time. Results indicated that there were significant losses of perceived social support ($p < .01$) between pre ($M = 27.4$) and post ($M = 24.9$) treatment. Further, when accounting for changes in assessed quality of life, these changes did not account for a significant amount of this reported change in social support. The authors propose that changes may have been due to the often severe side effects that occur with HNC. Similarly, physical changes are more likely to occur in late stage HIV/AIDS, which the literature suggests is when more HIV related stigma is likely to occur (Lee et al., 2002). Likewise, these findings may suggest that social support is further threatened as physical symptoms occur. The study outlined, however, pulled from a sample of only 32 participants, leading to a less than optimal effect size.

Social Support and PLWHA

Derlega and colleagues (2003) examined people living with HIV ($N = 125$) to identify links in types of support and depressive symptoms. Similar to the present research, participants

were recruited through HIV service organizations. Support seeking behaviors (i.e., how they approached someone when they needed support, and what kind of support behaviors that person provided) were measured through four sets of questionnaires that had yet to have been reported in the literature. Findings indicated that participants reported directly asking for support more frequently with close friends and intimate partners and close friends than parents. Similarly, close friends and intimate partners were more likely than parents to provide approach behaviors (e.g., providing support and solace), and less likely to exhibit avoidant behaviors. Since the support scale in the present study looks at the support of family, friends, and significant others, we may hypothesize from the presented research that friends and significant others will contribute more support to the current researches participants. In addition, Derlega and colleagues (2003) hypothesized that increased avoidance behaviors from support networks would contribute to increased depressive symptoms in participants. Through the use of multiple regressions, avoidance behaviors positively predicted depressive symptoms amongst each of the relationships: friends, intimate partners, and parents.

Since the questionnaires used by Derlega and colleagues (2003) had never been reported in the literature, sound psychometric properties could not be guaranteed and therefore, results should be read with caution. The present study relied on a support measurement found regularly in the literature (i.e., *MSPSS*), and boasts sound internal consistency and reliability. In addition, despite the recent publication date of the reviewed study, the article reports that most of the data was collected between 1989 and 1999, suggesting the current study may have very different findings surrounding the construct.

Reich and colleagues (2010) continued to examine the effects of social support on well-being in PLWHA, with the prediction that social support would be correlated with greater mental health. Results were gathered through interviews with 626 participants receiving HIV services in New York City. Data was modeled through a hierarchical classes procedure (HICLAS), which allows the data to be categorized into "classes" based on participant responses. In reviewing the results, the authors found social support items to be endorsed by a higher percentage of participants (91%) than any other items. Multiple regressions also showed that having an important person in one's life was significantly linked with increased mental health scores. Having an important person was found to be more indicative of greater mental health even when accounting for those with access to support and assistance, but no identified important person. The majority of important people cited (59.47%) were family members, and 18.67% were friends. Further, the availability of an important person was found significantly more often in female participants. The findings suggest that having support is important for stable mental health in PLWHA, but having a targeted person of importance is perhaps even more necessary. The current study aimed to build on these results by further determining the need for support and therefore identifying appropriate counseling solutions (i.e., group counseling approaches, strong need for supportive counselor-client relationship with this population). The research project discussed was heavily funded, allowing for an impressive sample. Alternatively, the project relied on the use of qualitative questioning to assess participants' social support access and satisfaction. Qualitative research, by nature, allows for levels of bias that will hopefully be avoided through the quantitative approach of the present study. This study, as well as the other studies outlined in this section, illustrates the important role social support plays in coping with

chronic illness, including HIV. Further, these studies indicate the positive effect adequate social support can have on ones overall mental health.

<div align="center">Relationships between PTG, Stigma and Social Support</div>

In addition to the solitary influences of each of these aforementioned constructs, (i.e., PTG, stigma, and social support) each of these concepts have also been found to work in tandem with other constructs. The following section offers empirical support for the relationships between these core constructs, including: (a) the influence of stigma on PTG PLWHA, and (b) the influence of social support on PTG,

<div align="center">*PTG and Stigma in PLWHA*</div>

When looking at HIV stigma and PTG, Murphy and Hevey (2013) looked explicitly at internalized HIV-related stigma (IHRS), defined as: the acceptance of "negative societal narratives about HIV and those living with it as being true and applicable to the self" (p. 1811). Due to the normally distributed relationship of distress and PTG, those who experience adequate distress, while still not being overly distressed, are more likely to experience PTG. Therefore, the researchers hypothesized that an over abundance of internalized stigma may lead to fewer experiences of PTG in clients with HIV. Participants (*N*= 74) were recruited from HIV/AIDS agencies throughout Ireland, and were included if over the age of 18. Assessments were provided as hard copies through the agencies, or through email with the use of SurveyMonkey. Assessments included: a demographic questionnaire, *The Internalized AIDS-related Stigma Scale* (*IA-RSS*; Kalichman et al., 2009), a resiliency assessment, and the *PTGI*. Based on demographic information, the majority of the sample identified as male (75.7%), homosexual (68.9%), single

(58.1%), and Catholic (44.6%). In addition, the mean time since diagnosis in the sample was 7.89 years ($SD = 6.70$), and the mean age of participants was 39.79 ($SD = 9.21$).

Results from Murphy and Hevey's work (2013) indicated that there were no significant correlations between time since diagnosis, health rating, and growth outcomes. These results strengthen the argument for not including time since diagnosis in the inclusion criteria of the current study. In addition, the research discussed compared growth among routes of HIV transmission, and through Kruskall-Wallis tests, found those who contracted the virus through male-male sexual transmission had significantly lower scores of growth in the areas of relating to others, personal strength, spiritual change, and total *PTGI* score than those who contracted HIV through male-female sexual transmission. These findings may support the hypothesis that stigma serves as a barrier to experiencing PTG, since male-male transmission of HIV brings additional stigma when compared to male-female transmission. Multiple regressions were also used to identify the potential of IHRS to serve as a predictor of PTG, and found that stigma was a significant predictor in three of the models used. An increase in IHRS scores significantly decreased scores in relating to others ($b = -1.50$, $t = -2.35$), new possibilities ($b = 1.06$, $t = -2.09$), and personal strength ($b = -.83$, $t = -2.53$). These findings support the hypotheses of the present study, which sought to identify what role stigma served in experiencing PTG for PLWHA. While the results of this study are the first of their kind, there are some limitations that should be noted when considering the findings. The sample in this research was limited in size and in diversity, and excluded participants who contracted the virus through drug use. Therefore, the present study attempted to gather a more diverse and larger sample.

PTG and Social Support

Prati and Pietrantoni (2009) conducted a meta-analysis of 103 studies examining social support as a contributing factor to PTG. The authors collected literature surrounding the construct of PTG, and then coded the literature based on the source of the publication, the year of the publication, research design, number of participants, participants' gender/age, type of trauma experienced, length of time since the event, and the type of growth assessment used. The meta-analysis explored the construct of social support, in addition to several other constructs (e.g., religious coping) in an attempt to determine an effect size for each of the constructs identified. The average effect size found for social support (.26) was highly significant, and moderately correlated with positive change (i.e., PTG). The authors postulate that social support might be a predictor of PTG due to its use in desensitizing negative feelings, increase in closeness with others, and it brings an awareness of personal strengths. Similarly, the current study also recognizes these benefits that social support can bring to someone experiencing trauma, and expects that social support will serve as a predictor of PTG for PLWHA as well.

While the aforementioned study was not able to provide demographics the studies looked at, the literature tells us that moderator variables, such as gender, may influence the role social support plays in the development of PTG. Typically, women report experiencing PTG in much greater levels than men, however, little is known about why this phenomena occurs. Swickert and Hittner (2009) hypothesized that the variable of social support would act as a mediating variable between gender and PTG. The researchers looked at college students and community members near the college ($N = 221$) who had self-reported experiencing a distressing event. Participants were given *The Perceived Benefit Scale* (PBS; McMillen & Fisher, 1998), to assess

for growth from their distressing event, and *The Coping Strategy Indicator* (CSI; Amirkhan,

1990) to assess their use of seeking social supports as a form of coping. Findings indicated that

support coping scores were significantly correlated with each of the PBS subscales, as well as the

PBS total score. These findings further support that social support is correlated with the ability to

grow from a distressing event. In addition, the researchers' hypothesis was supported since

female participants were more likely to look to social supports to aide in coping, and more likely

to report perceived benefits. Further, social support was found to partially mediate the

relationship between gender and perceived benefits. Specifically, "the addition of social support

coping as a mediator reduced the total effect on gender on Perceived Benefits by 75.5 percent

(the coefficient for gender changed from 7.18 to 1.76)" (Swickert & Hittner, 2009, p.391).

Although these findings have significant implications for the importance of social support for

women to experience benefit finding (or PTG), it should be noted that the relationship between

social support and benefit finding in this study was consistent between men and women. Both

genders were more likely to report benefits as a result of seeking social support, but women were

much more likely to identify these supports. Findings from this study contribute to the present

study by (a) further acknowledging the role of social support in creating growth after trauma, and

(b) citing the need to further explore the role of demographic variables in the experience of PTG.

Social Support and PTG in the Chronically Ill

Weiss (2004) attempted to expand on the knowledge of which factors contribute to PTG

by exploring variables in a social context among female, married, breast cancer survivors ($n =$

72). Historically, social constructs have not been widely explored in terms of their connection to

PTG, primarily due to the multidimensional nature of the construct (Weiss, 2004). These social

contexts are worth exploring, however, based on what they provide in terms of (a) emotional

support and (b) providing alternate views of the negative, traumatic experience (Calhoun &

Tedeschi, 1998; Weiss, 2004). Contradictory to these theories, data from this research failed to

support that social support was predictive of PTG in the sample whether based on participants'

number of social supports or overall satisfaction of social supports. The study utilized a series of

questionnaires, including the *PTGI* to explore social constructs on the PTG experience.

Significant correlations were only found between PTG and marital support quality ($r = .24$) when

examining qualities of marital relationships and PTG. The hypothesis that social support is

predictive of PTG was supported, however, from data that examined PTG and contact with

others who had experienced PTG (Weiss, 2004). Women reported that these models of PTG

included co-workers, employers, family members, support group members, spiritual contacts

(such as a member of the same church or temple), and friends. In addition, after running

correlations, a multiple regression analysis determined that a model of marital support, contact

with a PTG model, education level, and time since diagnosis accounted for 25% of the variance

in survivors' level of PTG. Such findings provide mixed implications. The data is consistent with

PTG assumptions that social supports have a clear place in the development and experience of

PTG, but also suggests that quality and context of such supports may be more predictive than

sheer number of supports available. From this research, the aspects of social support that were

associated with PTG were (a) contact with other individuals who had experienced PTG, and (b)

emotional support from a husband. These findings show inconsistencies with other studies in the

area and suggest a need for further research. In addition, the implication that type of social

support may be just as relevant as a presence of social support provides support for the present

study using the *MSPSS*, which measures support on three domains: family, friends, and significant others.

Lelorain and colleagues (2011) used open interviews to study PTG in breast cancer survivors (*N* = 28). The all women participants were French, and had been diagnosed with breast cancer 5-15 years prior to the study. Speech analyzing software yielded four categories from the data. The first and most common category was "PTG", which accounted for 34% of the analyzed data. This category included concepts such as being more appreciative of life and feeling stronger and more confident than before diagnosis. The third category, however, which contained 13% of the analyzed text, was "people around: support and stress". Within this category participants mentioned the support they had received from family and friends, while also sharing that knowing others whom had died from cancer brought an added stress. In addition, worrying about the people participants may have to leave behind brought an extra burden. Descending hierarchical classification found a large overlap existed between the categories of "PTG" and "people around", leading the researchers to suggest that the experience of PTG was dependent on support. Furthermore, participants with low resources (i.e., social support & coping) were furthest away from experiencing PTG. These findings suggest that chronically ill individuals without social support resources are less likely to process their illness in a way that benefits can be derived. Overall, the data analysis procedures of the summarized research were vague, and therefore not able to be critiqued for quality. In addition, the study was conducted in a country with socialized health care; therefore, the participants may have had different (e.g., financially less stressful) experiences which could have impacted their experiences of PTG.

Schroevers and colleagues (2010) also looked at cancer survivors when examining the role of social support following a cancer diagnosis and subsequent experiences of PTG. The researchers utilized a longitudinal research design with 206 participants. Social support was assessed at both three months and eight years following a cancer diagnosis. The initial study recruited participants through hospitals in the Netherlands, had to be 18 years of age or older, been informed of a cancer diagnosis, and have an expected life expectancy of at least one year. Data collection consisted of the *Silver Lining Questionnaire* (SLQ, Sodergren & Hyland, 2000), *The Social Support List* (SSL, Sonderen, 1991) to measure positive changes from illness, and in home interviews. Of the support subscales used (i.e., perceived emotional support, received emotional support, and dissatisfaction with emotional support), only received emotional support was significantly associated with PTG ($r = 0.29$, $p<0.001$). Further, participants who received more emotional support following their diagnosis were more likely to have had experienced PTG at the eight year follow up. These findings suggest that receiving emotional support not only contributes to PTG, but can also sustain PTG up to eight years later in the chronically ill. Regression analysis were also run, and received emotional support significantly predicted 6% of PTG in participants ($\beta = 0.29$, $p<0.001$). In addition, at the eight year follow up the relationship between initial received support and PTG remained significant when controlling for simultaneous levels of emotional support ($\beta = 0.27$, $p<0.001$). This model also explained 13% of the total variance. The findings from this study not only show the impact social support has on PTG, but also illustrate how social support can impact PTG in the chronically ill. However, since these results represent individuals with cancer, they should be read with caution when considering the present research that will look at clients with HIV. Particularly since participants

with HIV will have the added burden of stigma to consider, and empirical research exists that suggests stigma may limit availability of social support for PLWHA. To conclude, each of the aforementioned studies in this section contributes to the knowledge that the presence of social support can help lead to PTG in the chronically ill. In addition, the presence of social support can affect the way chronically ill individuals make meaning of their illness, and therefore lead to PTG experiences.

Stigma and Social Support

Qualitative accounts of PLWHA suggest that HIV-related stigma may serve as a barrier to forming and maintaining supportive relationships. Through semi-structured interviews with Puerto Rican's living with HIV ($N = 30$), Varas-Díaz and colleagues (2005) found that stigma had negatively influenced the social relationships of the participants. Themes that emerged from the data included: stigma and family members, stigma and friends, stigma and sexual partners, stigma and coworkers, and stigma and health professionals. From these themes, stigma from family members was the most commonly discussed. Participants also cited friends abruptly ending relationships after finding out about their HIV, and relationships being ruined due to pity, physical changes, or being uncomfortable with the association or mortality. These results strengthen the need for the current research, since it will look at the relationship between social support and PTG, while also recognizing the potential impact stigma has on these constructs. However, the results discussed were obtained from an entirely Latino sample, which is not representative of the current study.

In continuing to look at the effects of stigma on access to social support, Ware and colleagues (2006) conducted a series of interviews with PLWHA ($N = 52$). Through these

interviews, the researchers noted that stigma had led to loneliness and isolation for many of the participants. Since we have previously acknowledged the multiple positive mental health implications associated with strong social support, these findings seem all the more harmful. In addition, the fear of disclosing ones HIV status had interfered with participants' medication adherence, since doses were missed out of fear of disclosure. Participants reported juxtaposition between wanting to work towards healthy relationships, and protecting themselves from stigma and disclosure through self-inflicted isolation. The outlined research was focused on exploring medication adherence, rather than PTG, and therefore is not comparable to the present research. However, these findings further demonstrate the breadth of impact stigma has on maintaining adequate social support, and again strengthens the need to explore both constructs simultaneously when looking at PTG in PLWHA.

Unfortunately, the impact of stigma on social support can also have direct consequences within a counseling setting. In the previously reported study by Lee and colleagues (2002), nearly all of the participants ($N=$ 268) had experienced internalized stigma. Of these participants, those who reported stigma were less likely to attend an HIV support group. The findings from this study again suggest that stigma serves as a barrier for PLWHA to gather appropriate mental health services. This finding further necessitates the need for the present research so that treatment options aimed at combating HIV stigma may be used, and therefore potentially bring more clients to both treatment and the experience of PTG.

Lastly, HIV-stigma may serve as a mediator to social support in PLWHA. Vyavaharkar and colleagues (2010) used a cross-sectional design to look at the relationship between stigma, social support, and depression in African American women living with HIV ($N = 340$).

Specifically, the sample included women from rural towns, with populations of less than 50,000, who were over the age of 18, had demonstrated symptoms of depression through a score of 16 or higher on a depression scale, and had not previously received peer counseling services. Over half of the participants (58%) had prior depression diagnoses, but only half of these participants were receiving treatment through medication or counseling. Social support was measured in terms of availability of support, sources of support, and satisfaction with support, and stigma included both perceived and internalized stigma. The results of this study were dramatic: none of the demographic characteristics were significantly associated with depression scores, while *all* of the social support and stigma variables were significantly correlated with symptoms of depression. In addition, both perceived and internalized stigma served to mediate the relationship between social support and stigma. Therefore, all forms of social support were negatively predictive of symptoms of depression, but this prediction was negated by the addition of stigma. In this study, the dependent variable of depression centered on the negative outcomes associated with HIV, particularly stigma. This is not surprising considering the literature in the area typically focuses on these negative mental health outcomes of living with HIV. In contrast, the present study aimed to look at the potential of positive outcomes of living with HIV, such as personal growth through PTG.

In sum, all of these findings suggest that the presence of HIV-related stigma may interfere with the positive outcomes obtained through the presence of social support. Further, obtaining social support may be a difficult task in itself due to the presence of stigma. Since stigma appears to have a mediating influence on social support, prior research which exclude the construct of stigma may have been missing an important piece in understanding the mental

health needs of PLWHA. The present study aims to add to this line of research by exploring the

mental health needs of PLWHA which considering the impact of HIV-related stigma. In

addition, the current study focuses on identifying positive outcomes for PLWHA, such as PTG,

rather than continuing to focus on negative mental health outcomes of the virus.

Chapter Summary

This chapter has provided an overview of the theoretical constructs of posttraumatic

growth, stigma, and social support as they contribute to the model for the present study. In

addition, the potential traumatic impact of receiving an HIV diagnosis was addressed. A review

of the relationships between each of these variables was also provided. Specifically, the ways in

which stigma, and social support contributed to growth in the chronically ill were presented.

Relationships between these variables were emphasized in order to provide empirical support for

the studies research model, and how these constructs could contribute or serve as a barrier to

PTG. The research presented consistently provided support for the notion that social support

aides in coping following experiences of trauma. In addition, while social support can lead to

experiences of PTG, stigma may serve as a barrier to effectively utilizing this coping resource.

Although empirical support exists on the construct of social support and its contributions to PTG,

more research is needed to identify what role stigma plays in this experience.

CHAPTER THREE: RESEARCH METHODOLOGY

The purpose of the following study was to investigate the influence of variables on the process of posttraumatic growth (PTG). Specifically, this study tested the influence of stigma (as measured by the *Berger HIV Stigma Scale*, [Berger, Ferrans, & Lashley, 2001]), impact of HIV diagnosis (as measured by the *Impact of Events Scale- revised,* [IES-R, Weiss & Marmar, 1996]) and level of social support (as measured by the *Multidimensional Scale of Perceived Social Support,* [MSPSS. Zimet, Dahlem, Zimet, & Farley, 1988]), on the experience of posttraumatic growth (as measured by the *Posttraumatic Growth Inventory,* [PTGI, Tedeschi & Calhoun, 1996]) in adults living with human immunodeficiency virus (HIV). The model carries a directional hypothesis that adults living with HIV, who score higher on perceived social support, will score lower on perceived HIV-related stigma, and therefore be more likely to experience PTG. In congruence with the literature the study also hypothesizes that participants whom score higher on perceived impact of their HIV diagnosis will also score higher on PTG. In addition, the study examined social support as a moderator variable between perceived HIV stigma, and the experience of PTG. It was hypothesized that the presence of social support would reduce perceived HIV-related stigma, and therefore result in an increase in PTG. The influence of demographic characteristics (e.g., age, sex, time since HIV diagnosis, sexual orientation, substance use behaviors) were also explored to identify their impact on adult's experiences of PTG. Lastly, the impact of an HIV diagnosis (as measured by the *Impact of Events Scale-revised,* [IES-R, Weiss & Marmar, 1996]) was explored to identify how impactful, and potentially traumatic, adults view their diagnosis, and how often PLWHA meet diagnostic criteria for PTSD, following their HIV diagnosis.

This chapter presents the research design, method, and procedures for the research investigation. In addition, detailed rationales for the instruments chosen, potential threats to internal and external validity, and descriptions of sample recruitment procedures are included. The chapter is divided into three primary sections: (a) research questions (including research hypotheses); (b) research methodology (which includes research design, sampling, population, instruments, and data collection and analysis procedures, and; (c) potential limitations and challenges associated with the methodology presented.

Research Questions

The study attempted to add to the needed research surrounding PTG in PLWHA, while also aiming to fill the gap on stigmas influence on PTG for PLWHA. The studies research questions were as follows:

1. Does perceived stigma, level of social support and impact of diagnosis predict the experience of Posttraumatic Growth (PTG) in adults living with HIV?

2. Does level of social support serve as a moderator between perceived HIV stigma and Posttraumatic Growth (PTG) in adults living with HIV?

3. Which demographic variables (e.g., age, gender, ethnicity, identified religion, sexual orientation, education level, relationship status and length of time since HIV diagnosis) best predict experiences of Posttraumatic Growth (PTG) in adults living with HIV?

4. Do adults diagnosed with HIV quantify their diagnosis as traumatic, or as meeting diagnostic criteria for posttraumatic stress disorder (PTSD).

<u>Variables</u>

Within these guiding research questions, independent, dependent, and moderating variables are present. For the first research question, examining the influence of social support stigma and impact of diagnosis on PTG, the construct of PTG served as the dependent variable. This outcome was chosen for its potential as the ideal outcome for clients living with HIV (Tedeschi & Calhoun, 2004; Tedeschi, Calhoun, & Cann, 2007). In addition, the instrument to measure this variable provided five subscales, therefore providing additional dependent measures. These subscales included: (a) relating to others, (b) new possibilities, (c) personal strength, (d) spiritual change, and (e) appreciation for life. In this research question, stigma and social support served as independent variables. Theoretically, the construct of social support was chosen because it may be most likely to affect the dependent variable based on the literature. Further, the construct of stigma was chosen for its strong influence on quality of life for PLWHA, and the need for future research exploring this construct in the context of PTG. Lastly, including the variable of impact of diagnosis was chosen due to the literature that cites PTG only being possible when the triggering event was seen as highly stressful or traumatic. Specifically, the independent variable of social support will represent support from family, friends, and significant others, while the variable of stigma represented personalized stigma, disclosure concerns, negative self-image, and concern with public attitude. The independent variable of the impact of the diagnosis measured how impactful this event was in terms of intrusion, avoidance, and hyperarousal. For the second research question, social support served as a moderating variable, moderating the relationship between perceived HIV stigma and PTG. Demographic variables served as independent variables against the dependent variable of PTG in order to

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answer the third research question, which explored the influence of demographic variables on the construct of PTG. Lastly, scores from the *Impact of Events Scale* were used to measure the level of trauma participants attributed to their HIV diagnosis.

<u>Hypotheses</u>

A thorough review of the literature surrounding the theoretical constructs (i.e., posttraumatic growth, stigma, and social support) allowed for hypothesizing directional hypotheses. These hypotheses were as follows:

1. *Null Hypothesis:* There is no statistically significant difference in participants' reported levels of PTG between those with higher or lower levels of perceived social support.
   Hypothesis: Adults with HIV who score higher on perceived social support will be more likely to experience PTG.

2. *Null Hypothesis:* There is no statistically significant difference in participants' reported levels of PTG between those with higher or lower levels of perceived HIV stigma
   Hypothesis: Adults with HIV who score lower on perceived HIV stigma will be more likely to develop PTG.

3. *Null Hypothesis:* There is no statistically significant difference in participants' reported levels of PTG between those with higher or lower levels on the impact of the event of diagnosis.
   Hypothesis: Adults with HIV who score higher on impact of the event will be more likely to develop PTG.

4. *Null Hypothesis:* There is no statistically significant difference between HIV stigma and the experience of PTG when social support is used as a moderating variable.

Hypothesis: Increased social support will moderate the relationship between HIV stigma and the experience of PTG.

5. *Null Hypothesis:* There is no statistically significant difference in participants' reported levels of PTG based on demographic variables, such as: sex, age, ethnicity, time since diagnosis, religious identification, sexual orientation, education level, and intimate relationship status.

   Hypothesis: Demographic variables, such as: sex, age, ethnicity, time since diagnosis, religious identification, sexual orientation, education level, and intimate relationship status will be predictive of the experience of PTG.

6. *Null Hypothesis: M < 33.*

   Hypothesis: Adults with HIV will report the event of their HIV diagnosis as impactful and potentially traumatizing (i.e., $M = 33$ on the *Impact of Events Scale-Revised*).

<u>Research Design</u>

A descriptive correlational research design was used to investigate the research questions and hypotheses. Correlational research is designed to determine relationships between two or more variables, while also exploring if directional relationships are present in the data (Fraenkel et al., 2011). Therefore, a correlational research design was appropriate for this study since it sought to determine relationships and directionality between one dependent variable (PTG), and multiple independent variables (stigma, social support, and impact of diagnosis). Convenience sampling utilizing HIV agencies and resources throughout Florida was utilized to ensure participants fit the identified inclusion criteria for the study.

<u>Population</u>

Of the estimated 34.2 million people worldwide living with HIV/AIDS (CDC, 2013a), 125,000 of these individuals are residents of Florida (DOH, 2009); giving Florida the second largest population of those living with HIV/AIDS within the United States. The population of interest for this study was adults living with HIV/AIDS in the State of Florida.

The inclusion criteria for the sample included participants who (a) had been diagnosed with HIV (to include those individuals who were asymptomatic, asymptomatic, or had AIDS), (b) were over the age of 18, (c) were currently residing in the state of Florida, and (d) were able to give informed consent. Participants were not excluded from the study based on other demographic information, such as: race, gender, sexual orientation, or length of time since diagnosis. The sample was kept demographically broad due to the previously cited notion that HIV/AIDS affects nearly all populations. Further, a diverse demographic representation was helpful in answering how demographic characteristics influenced PTG.

Desired Sample Size

Approximately 1.2 million people are currently living in the United States with HIV, per the most recent national estimates (Center for Disease Control and Prevention [CDC], 2010). Taking into account that 125,000 of these individuals are living in the State of Florida, a minimum sample of 384 participants was needed to ensure generalizability at a 95% confidence level for a population of this size (Krejcie & Morgan, 1970). The confidence level was considered since it is the likelihood of accurately representing the true population through the selected sample (Creswell, 2002). In accounting for the likelihood of a type II error, however, the desired sample size would be 77 participants if running multiple regression analyses on the data.

This sample size was determined through the use of G*power statistical software (Faul, Erdfelder, Lang, & Buchner, 2007), at a .05 alpha level and a power of .80. If running regressions at a .05 alpha level and a power of .95, 119 participants were needed, per the same G*power statistical software. Accounting for type II error was important for this study since it is the likelihood of rejecting a false null hypothesis. In other words, a type II error in this study would suggest the independent variables did not contribute to PTG, when a relationship did in fact exist. Lastly, Tabachnick and Fidell (2007) recommend a simple formula for determining necessary sample sizes when using multiple regressions. This formula is $N > 50 + 8m$, where m represents the number of independent variables. The current research relies on three independent variables (i.e., social support, impact of event, and stigma) suggesting that a minimum sample size of 74 was necessary. If using the subscales for each of these variables, the minimum desired sample size then became 130.

<center>Data Collection Procedures</center>

The data collection procedures for the study included both recruitment and assessment procedures. Recruitment procedures involved the process of identifying, and recruiting participants, whereas assessment procedures refer more specifically to the way participants were assessed once they had been recruited. Both are explained further below.

<center>*Recruitment Procedures*</center>

To ensure that participants were adults living with HIV within the state of Florida, convenience sampling was employed. This sampling allowed participants to be selected based on shared characteristics, such as: being adults, having an HIV diagnosis, and living in Florida. Participants were recruited through HIV support groups throughout the state of Florida (e.g., *The*

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Center, in Orlando, Florida, *Positive Attitudes of Jacksonville,* in Jacksonville Florida, and *Trinity Charities*, in Sarasota, Florida) as well as state agencies aimed at serving adults living with HIV (e.g., *Care Resource* in Miami, Florida, and *Centaur* of Orlando, Florida). Participants were obtained by the researcher identifying and contacting organizations and support groups throughout the state, explaining the proposed research, and gaining permission to access the organizations' clients for voluntary participation. HIV positive adults at each of these programs were then invited to participate via face to face contact through either the researcher herself or staff of the participating agencies.

Data collection took place over the course of four months (October, 2013-January, 2014), and was completed in the spring of 2014. Approval to conduct this study was obtained from the University's institutional review board prior to any data collection. Participation in the study was advertised as voluntary, and no names or identifying information were collected in order to ensure participant anonymity. In addition, data was stored in a secured, locked box to further protect participant confidentiality. Potential participant benefits included being able to contribute to the knowledge and research surrounding the mental health needs of clients living with HIV in Florida. In addition, to show gratitude to the participants agreeing to participate, the researcher offered to share or present study findings to the organizations following data collection and analysis.

Assessment Procedures

Participants were assessed voluntarily through their affiliation or membership with participating agencies and organizations. Interested participants were asked to complete an assessment packet containing scales measuring each of the constructs: stigma (*Berger HIV*

Stigma Scale, [Berger, Ferrans, & Lashley, 2001]), level of social support (*Multidimensional Scale of Perceived Social Support,* [MSPSS, Zimet, Dahlem, Zimet, & Farley, 1988]), and posttraumatic growth (*Posttraumatic Growth Inventory,* [PTGI, Tedeschi & Calhoun, 1996]). In addition, participants were asked to complete a demographic questionnaire and a social desirability scale (Reynolds, 1982). The traumatic impact of participants' HIV diagnosis was measured through the *Impact of Event Scale-Revised, (IES-R* . Weiss & Marmar, 1996). Completion of all five scales, and the demographic questionnaire, was expected to take participants 15-30 minutes. During data collection, participants completed the questionnaire in as little as eleven minutes. Additionally, some participants were read the assessments, if requested, due to differing levels of literacy. In reference to the use of assessments, various implementation strategies are recommended to decrease measurement error when doing assessment based research (Dillman et al., 2008). Although measurement error in the current study could exist due to concerns regarding (a) social desirability and (b) instrumentation, the following safeguards were established.

Social Desirability

A noted problem when utilizing assessments in research is social desirability bias (Heppner, Kivlighan, & Wampold. 2008). For example, a participant of the present study may report more personal growth following their diagnosis than they actually feel, in order to answer in a way that is assumed to be more desirable to the researcher. Taking this problem into consideration, participants were responsible for filling out their own assessments, unless assistance was needed for exceptional reasons, rather than having participants answer directly to

the researcher. In addition, a measure of social desirability (Reynolds, 1982) was utilized in order account for participant social desirability.

Instrumentation

When working with assessments, potential for error automatically exists. Dillman and colleagues (2008) suggested including instruments that are legible and have clear instructions in order to minimize such error. In order to accommodate this suggestion, a review of data collection instruments was done to ensure easy readability. Assessments, including the demographic questionnaire, were also reviewed by professionals in the counseling field to ensure face validity of the instruments. In addition, assessments were carefully chosen for their sound psychometric properties and frequent use within the field. Hard copies of the collected data were stored in a locked file box in the researcher's office. Since the data was also inputted into a computer for analysis, electronic data was stored in a password protected computer belonging solely to the researcher. The instruments used in this study are described in the following section.

<div align="center">Instruments</div>

The following instruments were used to measure the constructs investigated through this research: (a) Posttraumatic Growth (*Posttraumatic Growth Inventory;* [PTGI], Tedeschi & Calhoun, 1996), (b) Perceived Social Support *(Multidimensional Scale of Perceived Social Support;* [MSPSS], Zimet, Dahlem, Zimet, & Farley, 1988), and (c) HIV Stigma *(Berger HIV Stigma Scale*; Berger, Ferrans, & Lashley, 2001), and (d) Impact of Event Scale *[IES-R* . Weiss & Marmar, 1996]). The *IES-R* was also administered in order to assess the traumatic impact a

HIV diagnosis had on participants. In addition, a demographic questionnaire was used including questions that examined participants' age, sex, time since HIV diagnosis, religious affiliation, intimate partner status, sexual orientation, and race, in order to explore their relationship with posttraumatic growth. The instruments were combined into one packet, which included a social desirability scale, and was administered one time only to each participant. In addition, assessment packets included a copy of the informed consent, informing participants of the voluntary and anonymous nature of the research, and a sheet of counseling and HIV related community resources should the surveys elicit emotions from participants. Each list of resources catered to the general region the participating agency or support group was located in. All but three assessment packets were filled out with a face-to-face, pencil and paper approach. The remaining three participants completed the assessments in an online format through the use of the data collection program Qualtrics. These three participants were recruited through an online gathering for a HIV group within Florida. The following section includes information on each of the data collection instruments used, including (a) descriptive information on the instrument, and (b) the psychometric properties of the instrument.

Posttraumatic Growth Inventory (PTGI)

To measure the construct of posttraumatic growth, the *Posttraumatic Growth Inventory* (PTGI) was used (Tedeschi & Calhoun, 1996). The *Posttraumatic Growth Inventory* was developed out of the authors' realization that there was a breadth of research on the negative effects of trauma, while little attention was paid to the potential positive associations with trauma (Tedeschi & Calhoun, 1996). The *PTGI* instrument measures growth over five domains, including: (a) relating to others, (b) new possibilities, (c) personal strength, (d) spiritual change,

(e) and appreciation for life. Based on the literature surrounding PTG, these five factors appear to be all encompassing of the reported experiences of PTG, further supporting the use of this instrument in measuring the construct of PTG. The instrument produces a total score, as well as a score for each of the five factors. The *PTGI* has been used extensively over the past fifteen years with a variety of populations, including: suicide survivors, cancer survivors, survivors of war, and individuals living with HIV. The instrument has been used so widespread that the scale has been translated into a number of languages, including Spanish and Dutch.

Five Subscales

In addition to a total score, the PTGI provides five sub-scales based on each of the five identified factors contributing to PTG (i.e., relating to others, new possibilities, personal strength, spiritual change, and appreciation for life); as identified by the creators of the PTGI, Tedeschi and Calhoun (1996). The first subscale, *relating to others*, refers to an increase in more meaningful interpersonal relationships. Individuals reporting growth on this factor cite that they feel closer with friends and family since the trauma. *New possibilities* are the realization of what is possible within the individual's life. Growth on this factor may inspire an individual to change their career or lifestyle due to awareness following a trauma. The third factor of *personal strength* occurs when an individual begins to recognize their own strength as a result of witnessing their ability to deal with the trauma they are going through. *Spiritual change* refers to a deepening in spiritual relationships due to the trauma, such as an individual reporting a closer relationship with God, or a renewed commitment to the church. Finally, *appreciation of life* is seen when those who have experienced trauma report a new gratitude for things they may have previously taken for granted. Oftentimes, those who have experienced PTG report a new

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appreciation for the small, day to day events of life, which previously may not have been appreciated.

Description of the Instrument

The PTGI is a 21-item assessment aimed at measuring growth and increased functionality following a traumatic event (Tedeschi & Calhoun, 1996). The instrument utilizes a 6 point Likert type response with selections ranging from 0-5. Example items to rate from the inventory, representing each of the five subscales, include: "a sense of closeness with others" (relating to others), "new opportunities are available which wouldn't have been otherwise" (new possibilities), "a feeling of self-reliance" (personal strength), "a better understanding of spiritual matters" (spiritual change), and "I established a new path for my life" (appreciation for life). Potential scores on the PTGI can range from 0-105. According to the American Psychological Association (APA), typical or average scores on each of the subscales are as follows: relating to others (23), new possibilities (18), personal strength (15), spiritual change (5), appreciation for life (11) (APA, 2013). A response selection of 3 indicates moderate change in reference to the item, therefore a total score of 63 or above for all 21 items indicates a moderate amount of personal change has been experienced.

Psychometric Properties

The *PTGI* shows strong psychometric properties, with an internal consistency of .90. Additionally, internal consistencies for the five scales are as follow: relating to others ($\alpha = .85$), new possibilities ($\alpha = .84$), personal strength ($\alpha = .72$), spiritual change ($\alpha = .85$), and

appreciation for life (α = .67). The instrument also has adequate reliability with (r = .70). Reliability was obtained through test-retest procedures, ensuring that the instrument is consistent.

Multidimensional Scale of Perceived Social Support (MSPSS)

Social support has regularly been recognized for its contributions to overall mental health (e.g., decreased depression, increased medication adherence) and increased physical health (Clara, Cox, Enns, Murray, & Torgrude, 2003; Lakey & Orehek, 2011). The *MSPSS* was originally developed as a way to subjectively measure social support regarding support from family, friends, and significant others, through a brief self-report scale (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). More recently, the *MSPSS* has been widely used in social science research for its brief and multidimensional format (Clara et al., 2003). The scale has primarily been used with collegiate samples upon development but it has since been used, and validated, with a variety of populations, including: pregnant women (Zimet et al., 1990), the elderly (Stanley, Beck, & Zebb, 1998), the medically ill (Pedersen, Spinder, Erdman, & Denollet, 2009).

When looking specifically at medically ill populations, social support (as measured by the *MSPSS*) has indicated relationships with emotional distress, medication adherence, and disease progression (Pedersen et al., 2009). Pedersen and colleagues (2009) attempted to validate the instrument with cardiac patients, and found that the three factor model (i.e. family, friends, and significant others) was confirmed in this chronically ill population. This study noted that social support within this population was not a stable construct, which appears to be consistent with the social support literature. Therefore, the research predicts that social support scores in the present study will reflect a moment in time for participants, and will be an area for regular re-evaluation by mental health counselors working with the population. This specific measurement

of social support was chosen for the study due to its multidimensional approach looking at support of family, friends, and significant others. The literature surrounding social support and PLWHA suggests that distinct differences exist amongst perceived levels of support from these three groups (e.g., Derlega et al., 2003; Reich et al., 2010), demonstrating that a multidimensional approach to measuring social support will provide more meaningful data.

Description of the Instrument

The MSPSS measures social support in the areas of friends, family, and significant others (Zimet et al., 1988). The MSPSS is a 12-item scale that takes approximately five minutes to administer, and includes Likert responses ranging from 1 to 7. Resulting scores can range from 7-84, with 12-48 indicating low social support, 49-68 indicating adequate social support, and 69 and above representing high social support (Zimet et al., 1988). Four of the questions represent responses aimed at measuring family support, four items are aimed at measuring support from friends, and four items are aimed at measuring the support of significant others. An example question measuring each of the three areas of support respectively include: "My family really tries to help me", "I can talk about my problems with my friends", and "There is a special person who is around when I am in need". The scale measures perceived support, which refers to an individual's personal assessment of how supportive their environment is. This type of social support has been found to be most predictive of overall health and well being (Cohen & Wills, 1985).

The scale has shown strong internal consistency with an alpha ranging from .85-.91. The scale has been validated on a number of populations in an attempt to extend the scales use by the researchers. Through this research, reliability of the scale was consistently found within a variety of populations, including: pregnant women (family: α = .90, friends: α = .94, significant others: α = .90), adolescents (family: α = .81, friends: α = .92, significant others: α = .83), and medical residents (family: α = .83, friends: α = .90, significant others: α = .98). In addition, the scale has also shown reliability with medically ill samples (family: α = .94, friends: α = .95, significant others: = .91) when used on those with cardiac conditions (Pedersen et al., 2009). The scale has been widely used, including internationally, and validated with diverse populations (Duru, 2007; Hardesty & Richardson, 2012). Further, the instrument has been validated through negative correlation with measures of depression.

Berger HIV Stigma Scale

The Berger HIV Stigma Scale was used in the present study to measure perceived stigma in those living with HIV. The scale was developed specifically for this population, and measures feelings, opinions, and experiences of the participants (Berger et al., 2001). The scale developed out of the overwhelming literature illustrating the connection between living with HIV, HIV-related stigma, and subsequent psychosocial health factors. The need to explore the concept of stigma within the HIV community remains necessary, since stigma continues to contribute to health barriers in PLWHA. More specifically, stigma often discourages PLWHA from disclosing their status, therefore limiting them from appropriate social supports, medical assistance, and

mental health resources (Holzemer et al., 2009; Whetten et al., 2008). Due to the potential

negative impact of perceived HIV stigma, the *Berger HIV Stigma Scale* was used.

<u>Description of the Instrument</u>

The Berger HIV Stigma Scale consists of 40 questions, measured through a self-report

Likert scale. The scale contains four subscales measuring: (a) disclosure concerns, (b)

personalized stigma, (c) concern with public attitudes, and (d) negative self-image. These four

factors emerged from exploratory factor analysis ($N = 318$) from questionnaires completed by

individuals living with HIV. Examples of questions covering these four factors of disclosure

respectively are: "In many areas of my life, no one knows that I have HIV", "People don't want

me around their children once they know I have HIV", "Some people close to me are afraid

others will reject then if it becomes known that I have HIV" and "When people learn you have

HIV, they look for flaws in your character" (Berger et al., 2001). Each of the subscales receive a

separate score (i.e., personalized stigma scores range from 18-72, disclosure scores range from

10-40, negative self-image scores range from 13-52, and public attitudes scores range from 20-

80). Despite these separate scores, however, the scale works on a raw total score for the entire

scale, with scores ranging from 40-160. In a study examining this scale, Bunn and colleagues

(2007) found the average score of stigma on this scale was 100.1. Similar findings have been

found when looking at the scales use in specific populations (e.g., the elderly and men who have

sex with men), and the average scores have been similar, 94.32 and 102 respectively (Emlet,

2008; Dowshen, Binns, & Garofalo, 2009). For this reason, the current study will identify a score

of 100 as an average stigma score. In addition, the scale has been used with a variety of samples

which are present in the current study (e.g., African American men, older adults) and continued

to show sound psychometric properties (Buseh, Kelber, Stevens, & Park, 2008; Emlet, 2008).

Psychometric Properties

Through exploratory factor analysis ($N = 318$), the instrument shows excellent

psychometrics with an internal consistency of .96. Each of the subscales offers strong reliability

as well: personalized stigma ($\alpha = .93$), disclosure ($\alpha = .93$), negative self-image ($\alpha = .91$), and

public attitudes ($\alpha = .93$). Construct validity was supported through the scales relationship to

related constructs (i.e., self-esteem, social support, depression, and social conflict). Buseh and

colleagues (2008) used the scale in examining quality of life for HIV positive, Urban, African

American men ($N = 55$) and found the overall scale to have a Cronbach's α of .93 for this

sample. Similarly, Emlet (2008) used the scale with a sample of HIV-positive adults over the age

of 50 ($N = 25$) to explore the scales use with the sample, and found the scale to once again be

effective. The study found the scale, as well as the four subscales to show strong reliability:

personalized stigma ($\alpha = .96$), disclosure ($\alpha = .93$), negative self-image ($\alpha = .92$), public attitudes

($\alpha = .94$) and total scale score ($\alpha = .96$).

Impact of Event Scale

To measure the emotional impact of a HIV diagnosis and the incidence of PTSD that

occurs from such a diagnosis, the Impact of Event Scale- Revised was used (Weiss & Marmar,

1996]). The original form of this scale was initially developed in 1978, prior to the

acknowledgement of PTSD in the DSM-III a year later, out of a need to assess the degree of

symptoms individuals experienced following exposure to trauma (Weiss & Marmar, 1996).

Although this form of the scale has been the most widely used self-report measurement on stress

responses, this version only measured symptoms on avoidance and intrusion, neglecting to measure hyperarousal responses. Therefore, the revised version, which includes seven additional items aimed at measuring hyperarousal symptoms, was utilized for this study. The scale has been so widely used that it has been translated into Chinese, Japanese, French, and Spanish (Beck et al., 2008).

Description of the Instrument

The scale consists of 22 Likert scaled questions, with response values ranging from 0-4. Items measure stress responses through three subscales: (a) avoidance, (b) intrusion, and (c) hyperarousal. Sample items from each of these areas are: "I stayed away from reminders about it", "I thought about it when I didn't mean to", and "I had trouble falling asleep" respectively. Eight items represent the area of avoidance, eight items represent symptoms of intrusion, and six items are geared towards assessing symptoms of hyperarousal. For each item, participants are asked to report the degree to which they have experienced such symptom, ranging from experiencing symptoms "not at all" to "extremely". Participants are directed to respond to each of these symptoms based on how distressing each symptom has been for them in the past seven days. Scoring of the instrument results in three separate scores for each of the subscales, as well as a total score based on the sum from each of the subscales. The maximum score for the IES-R is an 88, with higher scores representing a greater presence of trauma following an event. Total scores of 33 and over are typically considered to represent the presence of PTSD (Creamer, Bell, & Failla, 2003).

<u>Psychometric Properties</u>

Creamer and colleagues (2003) explored the psychometric properties of the IES-R on a sample of Vietnam veterans ($N = 120$) as well as a community sample with varying degrees of stress ($N = 154$). High internal consistency was shown for the scale with each of these populations, with a found alpha of 0.96. This study also adds further support to the regularly used PTSD cutoff score for the scale (e.g., a score of 33) by showing strong correlations between this cutoff score and the PTSD checklist (Creamer et al., 2003). It should be noted that exploratory factor analysis on the instrument in this study suggested that the three subscale model may not be the best fit for the data. The findings instead suggested a one-two scale model would be most appropriate (Creamer et al., 2003). The scales use in other languages (e.g., Chinese, Japanese, French, and Spanish) however, has found the three subscales to have more of a fit (Beck et al., 2008). These inconclusive findings suggest that the sample of war veterans may have altered results of the factors analysis, and that more research is still needed in this area.

Reynolds Short Form Social Desirability Scale

Measurements of social desirability are used to confirm the validity of participant answers on other instruments (Beretvas, Meyers, & Leite, 2002). Crowne and Marlowe (1960) developed a scale to address social desirability due to dissatisfaction with the related scales that were being used at the time. Prior to Crowne and Marlowe's scale (1960), the predominant social desirability scale was based off the Minnesota Multiphasic Personality Inventory (MMPI), which led to the scale being confounded with issues of pathology (Stober, 2001). The Marlowe-Crowne scale has since been formatted into three shortened versions: (a) form A, (b) form B, and (c) form C (Reynolds, 1982). Confirmatory factor analyses have been used to evaluate the

effectiveness of these shortened versions, and in certain studies, the shortened version has been found an even greater fit for populations than the full scale (Loo & Thorpe, 2000). Specifically, form A and B have been found to be the best fits of the shortened scales. For the purposes of this research, the Reynolds (1982) shortened scale (form A) was used, due to its shorter length, and direct connection to the original Marlowe-Crowne scale.

Description of the Instrument

The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964), which the Reynolds short form is drawn from, is one of the most frequently used scales used to measure whether assessment responses are biased due to social desirability. Form A of the scale consists of 11 forced-choice, true-false items referencing typical daily behaviors. For five of the 11 questions, a point is awarded for a selected *"true"* response. These questions are indicative of a participants' apparent strong desire to answer in a way that is socially desirable. Likewise, the remaining six items are awarded a point for a selection of a *"false"* answer. These items are categorized as denial items, and include negatively viewed, yet common, behaviors such as: "I am sometimes irritated by people who ask favors of me". Questions in the shortened version have been directly pulled from the full version of the Marlowe-Crowne Social Desirability Scale. Specific questions from form A of the scale include: "I sometimes feel resentful when I don't get my way", and "I have never deliberately said something that hurt someone's feelings."

Psychometric Properties

Shortened versions of the scale have shown less than enthusiastic internal consistency, with Chronbach alpha's ranging from .59-.62. However, these numbers have been obtained from

samples only consisting of college students, and have not been norm referenced on the present sample. The scale has been used with research looking at PLWHA before, and found the shortened scales to be helpful in looking at this population. Simoni and colleagues (2002) added a shortened form of the *Marlow-Crowne Social Desirability scale* into their research on social support, and HIV medication adherence amongst a homeless population in New York City. Self-report of medication adherence is often overestimated; therefore, one would expect social desirability scores to be correlated with reports of adherence. Like expected, social desirability scores were correlated with measures of adherence, showing convergent validity within this population. In addition, each of the shortened versions of the original scale, including form A, has shown strong correlations with the standard scale (Fischer & Fick, 1993).

Demographic Questionnaire

Participants in this study completed a researcher-developed demographic questionnaire as part of the assessment, including demographic elements found throughout the PTG literature. The questionnaire gathered information pertaining to: biological sex (female, male, or other), sexual orientation (bisexual, heterosexual, homosexual, or men who have sex with men), age (fill in the blank), education (ranging from less than HS diploma-Doctorate degree), amount of time that has passed since HIV diagnosis (ranging from less than a year-more than 10 years), intimate relationship status (single, in a relationship, cohabitating, married, separated/divorced, or widowed), religious affiliation (Buddhist, Christian, Catholic, Hindu, Muslim, Non-religious, Jewish, or other), number of social supports (none, 1-2, 3-4, 5 or more), and ethnicity (Asian, Black, White, Hispanic, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, other). A demographic questionnaire was included in the study due to literature suggesting that

demographic differences exist in experiences of PTG (e.g., women of color are most likely to experience PTG), social support seeking behaviors (e.g., women are more likely to report seeking and benefitting from social support), and perceived stigma (e.g., layered stigma exists for sexual and ethnic minorities, as well as those who report substance use). Further, specific questions on the demographic form were drawn from these supported findings, or to further contribute to the findings of the other instruments (e.g., ethnicity and biological sex identification further detailing the findings on the *PTGI*).

<div align="center">Data Analysis</div>

When conducting quantitative research, researchers should consider (a) desired effect size, (b) significance level, and (c) appropriate sample size (Balkin & Sheperis, 2011). The effect size helps to measure the magnitude of the relationships explored. The sample determined through the use of G*power was calculated to detect a moderate effect size. The significance level is also referred to as the Type I error rate, or the probability of concluding a relationship that does not really exist within the data. To ensure this type of error is accounted for, a .05 significance level was used within data analysis. Lastly, appropriate sample sizes were estimated based on the population of those living in Florida with HIV (Krejcie & Morgan, 1970).

When running statistical analyses, several statistical assumptions must be met, including: independence, linearity, homogeneity of variance, and normality. The first assumption, independence, ensures that each of the observations were independent of each other. For this assumption to be met, residuals should not form a pattern. The other assumptions, homogeneity of variance, linearity, and normality, will also be tested through histograms, and QQ plots

(Tabachnick & Fidell, 2007). In addition, concerns such as missing data, outliers, and multicollinearity were explored prior to running data analysis.

Research in this area has typically relied on the use of regressions to explore the construct of PTG, but has more commonly utilized correlational analysis. Due to the predictive nature of the research questions, multiple regressions were utilized in the analysis process. In addition, interaction effects were analyzed in order to examine the moderating effect of social support on the variables of stigma and PTG. Further, ANOVA analyses were completed in order to explore differences in scores amongst groups, particularly based on demographic variables.

Limitations/Challenges

All research designs face threats to internal and external validity (Onwuegbuzie & McLean, 2003). Potential limitations for the present study existed in (a) research design, (b) sampling, and (c) data collection. Limitations in each of these areas bring additional threats to internal and external validity. These threats are addressed below:

Research Design Limitations

The research design is supported through construct validity, or the degree to which the theory supporting the research explains the findings (Tabachnick & Fidell, 2013). The research questions and hypotheses were formed from a thorough review of the literature in order to align the findings with a strong theoretical base. In addition, construct validity has been considered for the present study. Construct validity, or the inference that the study is actually measuring the appropriate desired construct, has been strengthened through the literature review and clearly defined constructs; which help to direct the research and hypotheses. A limitation to the research

design, however, exists in the correlational nature of the research. Without a true experimental research design, correlational research can imply relationships but not causality. This is a potential threat to the external validity of the study as well, or the ability to generalize results from the sample to the greater population (Fraenkel et al., 2012).

<p style="text-align:center">Sampling Limitations</p>

The study utilized convenience sampling as opposed to random, which brings some strengths and disadvantages. Through this sampling approach, the sample has necessary characteristics needed to contribute to the study (i.e., being HIV-positive, living in Florida, and an adult), but purposive sampling carries potential bias on the part of the researcher. Therefore, findings cannot be easily translated into the greater population (Fraenkel et al., 2012). The sampling approach may also limit the variance in results, due to shared characteristics of those who would volunteer to be involved in the research.

Additional sampling limitations exist due to the marginalized nature of this population. Shame and stigma associated with HIV has kept many HIV-positive individuals away from appropriate resources. Therefore, the selected sampling approach (i.e., using HIV related treatment agencies) was limited to those already seeking some form of assistance for their HIV. In other words, the individuals available for participation may already have a level of support above those too stigmatized to seek HIV resources in the community. The researcher acknowledges this limitation, and recognizes that levels of perceived stigma and social support may vary in less available samples.

Data Collection Limitations

Lastly, the research has potential threats to internal validity, or how accurately the independent variables are predictive of the dependent variable, due to the instruments used. To account for this, the instruments used were selected for their sound psychometric properties. It is also noted that the instruments listed rely on self-report from participants. The *Social Desirability Scale* was used to ensure that participants were honest in their use of self-report, and the temptation for social desirability did not skew results. In addition, environmental influences cannot be fully controlled for in allowing participants to complete assessments on their own. The researcher selected instruments with strong psychometric properties as well as instruments that have commonly been used to measure the identified constructs in an attempt to lessen threats to internal validity based on instrumentation. That being said, the *MSPSS* has not been previously normed on those living with HIV, so some measurement error may be present.

Ethical Considerations

Ethical considerations were contributed to from recommendations of the universities Institutional Review Board (IRB) as well as the dissertation committee. The following precautions were taken to make sure research was handled in an ethical manner:

1. A preliminary phone conversation was held with a member of the University of Central Florida IRB, to ensure that the submitted research proposal was following expected ethical guidelines.

2. An IRB protocol application was submitted through the University of Central Florida (IRB # SBE-13-09627) in order to collect data. Permission from the IRB was granted before moving forward with data collection. In addition, dissertation co-chairs and committee members

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reviewed the proposed research prior to implementation in order to ensure the study was

sound and ethical.

3. All of the data used in this research was free of identifying information that could be linked

    to specific participants. Confidentiality of the participants was prioritized throughout the data

    collection and data analysis process by ensuring anonymity, and storing data in locked,

    private locations.

4. Participant permission was obtained prior to their involvement in the study. In addition,

    participants were given the option of withdrawing from the research at any point, without any

    penalty, which was further clarified in their informed consent.

5. Authors of the instruments used in the research were contacted in order to secure full

    permission to use the instruments in the proposed research. In addition, authors were

    consulted for their input on instrument scoring procedures.

<p align="center">Chapter Summary</p>

The purpose of this chapter was to describe the research questions and hypotheses being

explored through the research, and outline the methodology. The methodology was employed to

help evaluate relationships between PTG, stigma, social support, and the impact of HIV

diagnosis. The sample and instrumentation have also been described. In addition, the data

collection and data analysis procedures were explained. Lastly, the limitations and ethical

considerations for the study were described.

CHAPTER FOUR: RESULTS

Chapter four presents the results of the study as it relates to the experience of PTG in adults living with HIV in the state of Florida. The results are divided into three sections: (a) preliminary statistical analyses (e.g., missing data, normality), (b) descriptive statistics of the sample, and (c) results from the statistical analyses connected with each research question. Through these sections, this chapter will present the impact each independent variable (i.e., stigma, impact of HIV, and social support) plays in the experience of PTG. In sum, the following chapter presents the key findings of the research investigation.

Preliminary Statistical Analyses

Data collection for this study occurred between October 2013 and January 2014. Prior to beginning data collection, the researcher had gained approval from the institutional review board (IRB) to conduct the study. In addition, each participant was provided an informed consent prior to their participation in the research. Once data was collected, the researcher entered all of the completed instruments collected into SPSS, labeled the variables appropriately, screened the data for data entry accuracy, and screened for missing data. It was determined that less than 5% of the data was missing for each variable; PTGI (3.1% missing), Berger HIV Stigma Scale (1.5% missing), MSPSS (.8% missing), and IES-R (3.1% missing).

Outliers were also screened for amongst the independent and dependent variables; particularly since extreme outliers have the potential to greatly impact regression analyses (Stevens, 1984). Outliers were assessed by comparing the means of each variable with the 5% trimmed means of each variable, and determining if these two values differed greatly. Box plots

were also created to identify if outliers were present, and found no concerns. Lastly, Mahalanobis distances were examined to further inspect the presence of outliers, which may threaten the data (Tabachnick & Fidell, 2007). For a study like the one presented, where three independent variables are present, the critical value when looking at Mahalanobis distances should not go above 16.27 (Tabachnick & Fidell, 2007). Critical values for the present study did not exceed 10.47, suggesting that the data was free from extreme outliers.

Pre-analysis screening procedures were also conducted before analyzing the data. Pre-analysis procedures included checking for: (a) normality, (b) linearity, and (c) homoscedasticity of residuals. Normal probability plots (P-P plots) were created to explore the normality of the data set. The P-P plot showed that the data points assumed a reasonably diagonal line, suggesting that the data was normally distributed. Further testing of normality was done through a Kolmogorov-Smirnov test. This test further confirmed normality for the variables of PTG and stigma, however, the independent variables of social support and impact of diagnosis both showed significance, suggesting these variables may not be completely normally distributed. To further assess normality of the data, skewness of each of the predictor variables was explored. Each of the variables fit the rule of one (i.e., no skewness statistics were greater than one), suggesting that no variable transformations were necessary. In continuing to check these assumptions, linearity was assessed through a visual check of scatter plots. In addition, curve estimation was completed in SPSS, which further verified that each of the variables have a linear relationship. Lastly, homoscedasticity, or homogeneity of variance, was assessed through the use of box plots. Each of these steps helped to assure the data was as clean as possible, and ready for analysis, starting with exploring the demographics of the sample.

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<u>Descriptive Statistics</u>

Descriptive statistics are presented to give a better understanding of the data collected, including the participants from whom the data was collected. In order to give a clear picture of the data for the study, descriptive statistics will be presented in reference to: (a) participant demographics, and (b) instrument scores.

Participant Descriptive Statistics

Fifty HIV agencies and support groups throughout the state of Florida were contacted for the opportunity to participate in the research. Of these groups, eleven were able to assist in the data collection process. Amongst these eleven agencies, 316 research packets were dispersed. The number of packets sent to each agency was determined based on an initial phone conversation between the researcher and the organization. From this phone conversation, agencies agreed to participate in the research and also reported how many participants they liberally thought they could recruit based on their client interactions. These participant estimates from each agency contributed to the 316 research packets dispersed. The final convenience sample included 130 participants, indicating a response rate of 41%. The demographic representation within this sample is as follows. The sample was primarily male, with a total of 88 males (67.7%), 39 females (30%), and 3 transgendered participants (2%) who volunteered for the study. Among the 112 participants who responded to the question of age, the mean was 49.36, with participants ranging between 21 and 75 years of age. When looking at ethnicity ($n = 130$), 55 participants (42.3%) identified themselves as African American or Black, 55 (42.3%) identified as White (non-Hispanic), 9 (6.9%) identified as Hispanic or Latino, 3 (2.3%) identified as Asian, 4 (2.3%) identified as Native Hawaiian or Pacific Islander, and 3 (2.3%) identified as

two or more races. The sample showed diversity in regards to sexual orientation, with over half

the sample (*n* = 70) being gay males (53.8%), forty-three participants (33.1%) reported being

heterosexual or straight, ten participants (7.7%) reported being bisexual, three participants

(2.3%) reported being a lesbian, and three participants (2.3%) preferred not to answer this

question. Table 1 below illustrates the frequency distributions of the sample's gender, ethnicity,

and sexual orientation.

Table 1 Frequency Distribution: Gender, Ethnicity, and Sexual Orientation

Variable	Frequency (*n*)	Percent
Gender		
Female	39	30.0
Male	88	67.7
Transgender	3	2.3
Ethnicity		
African American	55	42.3
American Indian	1	.8
Asian	3	2.3
White (non-Hispanic)	55	42.3
Hispanic or Latino	9	6.9
Native Hawaiian	4	3.1
Two or more Races	3	2.3
Sexual Orientation		
Bisexual	10	7.7
Gay (male)	70	53.8
Heterosexual	43	33.1
Lesbian	3	2.3
Prefer not to answer	3	2.3

The sample responded as mostly single (*n* = 61, 46.9%), when asked to respond on their

current intimate relationship status. Thirty-six (27.7%) of the sample reported they were

currently in a relationship, 4 participants (3.1%) reported that they were cohabitating, 15 (11.5%)

reported being married, 5 (3.8%) reported being separated or divorced, and 6 participants (3.8%)

reported being widowed; (three participants (2.3%) refrained from responding to this item).

Concerning religious affiliation, the sample was primarily of Christian faith, with fifty-nine participants (45.4%) identifying as Christian. Twenty-one participants (16.2%) reported being non-religious, nineteen participants (14.6%) identified as Catholic, and 3 participants (2.3%) reported being Buddhist. Response options of Hindu, Muslim, and Jewish each were chosen by 1 participant (.8%). In addition, twenty-three participants (17.7%) reported that they identified as something other than these faiths. Participants also represented diverse educational backgrounds, with participants reporting the following levels of completed education: less than a high school diploma, 14.6% ($n = 19$); high school or GED equivalent, 20.8% ($n = 20.8$); vocational/technical degree, 9.2% ($n = 12$); some college, 33.1% ($n = 43$); Bachelor's degree, 13.1% ($n = 17$); Master's degree, 6.2% ($n = 8$); Doctorate degree, .8% ($n = 1$); and 3 did not answer (2.3%).

Lastly, in regards to the amount of time that had passed since participants were diagnosed with HIV, the sample displayed less diversity. The majority of the sample ($n = 89$), 68.5%, identified as long term survivors of HIV, and had been diagnosed more than 10 years ago. Fourteen participants (10.8%) reported being diagnosed for 7-10 years, 11 participants (8.5%) reported being diagnosed for 4-6 years, 9 participants (6.9%) reported being diagnosed for 1-3 years, 3 participants (2.3%) reported being diagnosed between 7 months and 1 year, and 4 participants (3.1%) reported being diagnosed for less than 6 months. Table 2 below presents the frequency distributions for participants' intimate relationship status, religious affiliation, completed education, and length of time since diagnosis.

Table 2 Frequency Distribution

Variable	Frequency (n)	Percent
Highest Completed Education		
Less than HS Diploma	19	14.6
HS or GED	27	20.8
Vocational/Technical	12	9.2
Some College	43	33.1
Bachelor's	17	13.1
Master's	8	6.2
Doctorate	1	.8
Intimate Relationship Status		
Single	61	46.9
In a Relationship	36	27.7
Cohabitating	4	3.1
Married	15	11.5
Separated/Divorced	5	3.8
Widowed	6	4.6
Religious Affiliation		
Buddhist	3	2.3
Christian	59	45.4
Catholic	19	14.6
Hindu	1	.8
Muslim	1	.8
Non-religious	21	16.2
Jewish	1	.8
Other	23	17.7
Time Passed Since Diagnosis		
Less than 6 months	4	3.1
7 months-1 year	3	2.3
1-3 years	9	6.9
4-6 years	11	8.5
7-10 years	14	10.8
More than 10 years	89	68.5

Instrument Scores Descriptive Statistics

The Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) was used to asses for areas of growth following participants' (*n* = 126) HIV diagnosis. The scale utilizes a six-point Likert scale response (e.g., 0 = *I did not experience this change as a result of my crisis, 1 = I experienced this change to a very small degree, 2 = a small degree, 3 = a moderate degree, 4 = a great degree, 5 = a very great degree as a result of my crisis*). Total scores on the assessment consisted of the sum of scores of five subscales (i.e., relating to others, new possibilities, personal strength, spiritual change and appreciation of life). Each of these subscales is scored by totaling seven, five, four, two, and three items respectively. Total PTGI scores for participants were the following: (*M* = 63.27, *SD* = 26.69, range = 0-105). Scoring for the PTGI indicates that a total score of 63 or greater typically indicates a moderate change experienced by the participant following trauma. Furthermore, the author of the instrument, Calhoun, has suggested using quartiles of individual data sets to determine high, low and moderate scores for the instrument (Bennett, 2010). Examining the quartiles of the present data set suggests that a PTGI score of 87 or higher indicates a high level of posttraumatic growth, a PTGI score of 63 represents a moderate level of posttraumatic growth, and a PTGI score of 46 or less represents a low level of posttraumatic growth. These quartiles suggest that scores ranging from 47-86 represent moderate growth within the current data set. Mean scores for each of the subscales of the PTGI were as follows: subscale 1, relating to others, (*M* = 20.01, *SD* = 9.75); subscale 2, new possibilities, (*M* = 15.04, *SD* = 7.18); subscale 3, personal strength (*M* = 12.5, *SD* = 5.56); subscale 4, spiritual change, (*M* = 5.74, *SD* = 3.51); and subscale 5, appreciation for life, (*M* = 10.02, *SD* = 4.59).

Stigma scores were assessed using the Berger HIV Stigma Scale (Berger, Ferrans, &

Lashley, 2001) which assessed stigma over four subscales (i.e., personalized stigma, disclosure,

negative self-image, and public attitudes). The scale consists of 40 Likert scale questions (e.g., 1

= *strongly disagree, 2 = disagree, 3 = agree, 4 = strongly* agree). Subscales were scored through

sums of items that were identified by the instruments authors (personalized stigma included 18

items, disclosure included 11 items, negative self-image included 13 items, and public attitudes

included 21 items). Total stigma scores (n = 128) were: (M = 97.55, SD = 26.67, range = 45-

159). When contacting the author of this scale, Berger reported that the scale had not established

limits for what constituted high, moderate, or low stigma scores (B. Berger, personal

communication, August 27, 2013). From a literature review, similar studies that have used the

scale typically report an average stigma score of 98-100. These findings suggest that a stigma

score of greater than 98 represents greater than average reported stigma, and a stigma score of 97

or less represents a less than average stigma score. When looking at the four subscales of the

scale, the means from the sample were as follows: subscale 1, personalized stigma, (M = 42.45,

SD = 13.73); subscale 2, disclosure, (M = 29.62, SD = 7.91); subscale 3, negative self-image, (M

= 28.40, SD = 9.83); and subscale 4, public attitudes, (M = 52.02, SD = 14.84).

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem,

Zimet, & Farley, 1988) assessed participants social support in the areas of friends, family, and

significant others; each of which were subscales. The scale includes twelve Likert response

questions (e.g., 1 = *very strongly agree, 2 = strongly disagree, 3 = mildly disagree, 4 = neutral,* 5

= *mildly agree, 6 = strongly agree, 7 = very strongly* agree). Each of these subscales (i.e.,

significant others, family, and friends) were assessed by the sum of four associated items. Total

social support scores ($n = 129$) were ($M = 63.07$, $SD = 18.42$, range = 12-84). Scoring for the

MSPSS suggests that a total score of 49-68 represents adequate social support. Similarly, a score

of 69 or above represents a high level of social support, and scores of 48 and below suggest low

social support. The MSPSS also includes three subscales, support of significant others ($M =$

22.62, $SD = 6.63$), support of family ($M = 19.28$, $SD = 8.43$), and support of friends ($M = 21.17$,

$SD = 6.85$).

The Impact of Events Scale-Revised (*IES-R*; Weiss & Marmar, 1996) was used to

measure the traumatic impact that receiving an HIV diagnosis had on each of the participants.

The three subscales- intrusion (eight items), avoidance (eight items), and hyperarousal (six

items) - are obtained by using the sum of these relevant items. The scale consists of 22 Likert

response items (e.g., 0 = *not at all*, 1 = *a little bit*, 2 = *moderately*, 3 = *quite a bit*, 4 = *extremely*).

Total IES-R scores ($n = 126$) were ($M = 30.8$, $SD = 27.97$, range = 0-88). Scores of 33 or higher

on this instrument are typically associated with a posttraumatic stress disorder (PTSD) clinical

diagnosis. Additionally, this scale measures the impact of events in three areas: intrusion ($M =$

11.13, $SD = 10.28$), avoidance ($M = 11.31$, $SD = 10.54$), and hyperarousal ($M = 8.37$, $SD =$

8.29).

Lastly, the 11-item Reynolds Social Desirability Scale (Reynolds, 1982) was used to

evaluate the likeliness that participants were responding in a way they believed to be most

socially desirable. The scale utilizes 11 forced choice (i.e., true or false) items, accounting for

participants' denial of negative characteristics, and attribution of socially desirable qualities.

Scores range from 0-11, with lower scores representing those who answer in a socially

undesirable way and higher scores representing respondents who are highly concerned about

social approval. The majority of participants in studies typically fall into a middle score range for this assessment, implying they show an average degree of concern and conformity. Social desirability scores for the sample (n = 130) were (M = 6.78, SD = 2.52), with scores ranging from 0-11. This mean score is significantly greater (p < .00) than the average score typically found in populations (M = 4.81), suggesting this sample may be more conscious of how socially desirable their answers appear (Reynolds, 1982). The mean of the present sample, however, still falls into the middle range of scores for the assessment, suggesting that participants appear to have average social desirability concerns.

In addition, in order to assure the instruments were reliable within the present sample, reliability analyses were ran on each of the instruments. Further, the reliability scores derived were compared to studies with similar populations to ensure adequacy. When reviewing corrected item-total correlations, no negative values were present for any of the scales used (i.e., *PTGI, Berger HIV Stigma Scale, MSPSS, IES-R*), suggesting that each of the items on a given scale were measuring the same core characteristics. The inter-item correlation matrix for the Berger HIV Stigma Scale showed that two negative correlations existed between items, suggesting two items may have been measuring slightly different characteristics than the other items. Scoring of the instrument, including items needing to be reverse scored, were checked and found to be appropriately entered during data analysis. Further, the presence of all positive correlations in the corrected item-total correlations allowed the researcher to assume the instrument was as reliable as the Chronbach's alpha indicated. No other concerns were encountered when exploring the reliability for each of these scales. The Chronbach's alpha value for each of the instruments is displayed in the table below. It is worth noting that each of these

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instruments boasts reliability greater than .7, suggesting each of the scales showed very good

internal consistency within the sample (DeVellis, 2003).

Table 3 Instrument Chronbach's Alpha Values

Instrument	Chronbach's Alpha
PTGI	.950
Stigma	.96
MSPSS	.935
IES-R	.975

Data Analyses & Results for Research Questions

The present research study sought to answer four research questions: (a) are perceived

stigma, level of social support and impact of diagnosis predictive of the experience of

Posttraumatic Growth (PTG) in adults living with HIV, (b) does social support serve as a

moderating variable between perceived HIV stigma and PTG for adults living with HIV, (c) are

demographic variables (e.g., age, gender, ethnicity, identified religion, sexual orientation, and

length of time since diagnosis) predictive of the experience of PTG in adults living with HIV,

and (d) do adults living with HIV quantify their HIV diagnosis as traumatic, or as meeting

diagnostic criteria for posttraumatic stress disorder (PTSD). A description of the statistical

analyses and results of each research question are described in this section.

Research Question 1

The first research question examined whether perceived stigma (as measured by the *Berger HIV Stigma Scale*, [Berger, Ferrans, & Lashley, 2001]), level of social support (as measured by the *Multidimensional Scale of Perceived Social Support,* [MSPSS. Zimet, Dahlem, Zimet, & Farley, 1988]), and impact of diagnosis (as measured by the *Impact of Events Scale-revised,* [IES-R, Weiss & Marmar, 1996]) were predictive of the experience of Posttraumatic Growth (PTG) in adults living with HIV. In order to assess the predictive nature of these predictor variables (i.e., stigma, impact of diagnosis, and social support) on PTG, a multiple regression analysis was performed. Prior to moving forward with the analysis, the previously mentioned assumptions (i.e., normality, linearity, homogeneity of variance) were checked. In an effort to ensure that multicollinearity was not present between predictor variables, correlations were run to determine if highly correlated relationships (i.e., r = .9 or above) were present. A correlation matrix of the independent variables is seen in table 4. In addition, issues of multicollinearity were checked for by running collinearity statistics. Variance inflation factors (VIF) for each of the variables were less than two, suggesting that issues of multicollinearity were not present in the data set. The correlation matrix also identified that significant correlations existed between social desirability and the variables of impact of diagnosis and stigma, thus suggesting that temptation to answer in a socially desirable way may be more present within these assessments. Significant correlations were not found when looking at the relationship between social desirability and PTG, or social support.

Table 4 Correlation Matrix between Predictor and Outcome Variables

	PTG Total	Stigma Total	MSPSS Total	IES Total	SD Total
PTG Total					
Pearson	1	-.238**	.265**	-.017	.084
Sig.		.008	.003	.851	.347
Stigma Total					
Pearson	-.238**	1	-.424**	.637**	-.186*
Sig.	.008		.000	.000	
MSPSS Total					
Pearson	.265**	-.424**	1	-.290**	.164
Sig.	.003	.000		.001	.064
IES Total					
Pearson	-.017	.637**	-.290**	1	-.254**
Sig.	.851	.000	.001		.004
SD Total					
Pearson	.084	-.186*	.164	-.254**	1
Sig.	.347	.035	.064	.004	

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Stepwise and enter method regressions were run with the predictor variables of stigma, social support, and impact of diagnosis, on the dependent variable of PTG to determine the best model fit. An enter method was chosen for the final regression model and each of the predictor variables were included in the model due to each of them having a significant contribution. Together, these variables (i.e., impact of event, stigma, and social support) were statistically significant predictors of posttraumatic growth in the sample, ($F_{(3,118)}$ = 4.143, p < .005), and accounted for 12% of the variance in PTGI scores (Table 5). The equation produced from this regression was: PTG = 67.078 - .298(stigma) + .288(social support) + .222(impact of event), with every predictor contributing significantly (p < .05) to this equation. More specifically, PTG was significantly associated with stigma (b = -.298, p < .05), social support (b = .288, p < .05), and the impact of receiving an HIV diagnosis (b = .222, p < .05), as seen in table 6.

Table 5 Regression Model Summary: Stigma, Social Support, Impact of Event

R	R Square	Adjusted R Square	Std. Error of the estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics			
.345	.119	.096	25.490	.119	5.298	3	118	.002

Table 6 Regression Coefficients: Stigma, Social Support, and Impact of Events

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	67.078	16.150		4.153	.000		
StigmaTotal	-.298	.122	-.295	-2.447	.016	.515	1.943
MSPSSTotal	.288	.137	.202	2.092	.039	.804	1.244
IESTotal	.222	.107	.235	2.077	.040	.586	1.707

Research Question 2

The second research question explored whether level of social support (as measured by the *Multidimensional Scale of Perceived Social Support,* [MSPSS. Zimet, Dahlem, Zimet, & Farley, 1988]), serves as a moderator between perceived stigma (as measured by the *Berger HIV Stigma Scale*, [Berger, Ferrans, & Lashley, 2001]), and Posttraumatic Growth (PTG) (as measured by the *Posttraumatic Growth Inventory,* [PTGI, Tedeschi & Calhoun, 1996]) in adults living with HIV. In order to respond to this research question, a regression analysis was run, with the addition of an interaction variable between the moderating variable of social support, and the predictor of stigma. For this regression, each of the predictor variables were entered into the first

block, followed by the interaction variable between stigma and the moderating variable being entered in the next step.

Prior to testing moderating effects in counseling research, three steps should be followed to prepare the data: (a) creating or transforming predictor variables, (b) creating product terms, and (c) structuring the equation (Frazier, Tix, & Barron, 2004). The first step of creating or transforming the predictor variables includes representing categorical variables with code variables through the use of dummy coding. Since none of the predictors used in this analysis were categorical, this procedure was not needed. In addition, this step involves centering or standardizing continuous variables, which helps to control potential issues of multicollinearity. Centering was completed by subtracting the sample mean for each predictor variable from each participant's score. The second step of testing a moderating effect is to create product terms (i.e., multiply together the moderator and predictor variable). In the case of the current research, an interaction variable was created by multiplying the centered social support variable with the centered stigma variable. The third and final step, structuring the equation, simply refers to layering the centered variables in the regression, making sure to include each of the original predictor variables in addition to the newly centered interaction variable.

Although each of the predictor variables contributed to PTG in a statistically significant way in the first research question, testing the moderator effect of social support determined that the interaction did not account for a significant ($p > .05$) amount of additional variance in PTG scores (Table 7).

Table 7 Moderator Analysis

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
MSPSS_Stigma_centered	.084	.857	.393	.079	.781

Research Question 3

Research question 3 questioned the role of demographic variables (e.g., age, gender, ethnicity, identified religion, sexual orientation, and length of time since diagnosis) in predicting experiences of posttraumatic growth (PTG) (as measured by the *Posttraumatic Growth Inventory,* [PTGI, Tedeschi & Calhoun, 1996]) in adults living with HIV. Pearson correlations, as well as descriptive statistics identifying mean PTG scores among varying demographic categories, were ran in an attempt to identify significant relationships that existed within the sample, based on demographic characteristics. After reviewing the correlations, a statistically significant relationship was only found between total PTG score, and highest completed level of education. In addition, this finding ($r = -.197$, $p < .05$) suggested that a negative relationship was present between PTG and level of completed education.

To further explore significant differences that may be present in PTG scores based on demographic variables, an independent samples t-test was conducted to determine if mean PTG scores of the sample were statistically different based on the reported gender of the participants. After running the analysis, it was found that women reported more posttraumatic growth, on average, ($n = 38$, $M = 68.42$, $SD = 24.68$) than male participants ($n = 85$, $M = 60.36$, $SD = 27.09$), but this difference was not statistically significant ($p > .05$). (Table 8)

Table 8 Independent Samples t-test

	Leven's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PTG Total									
Equal Variances Assumed	.124	.725	1.565	121	.120	8.056	5.147	-.2134	18.246
Equal Variances not Assumed			1.622	77.664	.109	8.056	4.966	-1.831	17.944

In continuing to explore differences in PTG scores amongst demographic variables, a one-way analysis of variance (ANOVA) was used to determine if significant mean differences existed amongst participants for each of the remaining demographic variables. Results showed that no significant differences ($p > .05$) in PTG total scores existed between groups based on sexual orientation, highest completed education level, intimate relationship status, amount of time that had passed since their HIV diagnosis, intimate relationship status, or age. Significant differences in PTG, however, were identified between groups based on religious affiliation ($p < .05, \eta^2 = .104$) and ethnicity ($p < .05, \eta^2 = .147$). Scheffe post hoc tests were then run on these two demographic variables (i.e., ethnicity and religious affiliation) to identify where exactly the significant mean differences were. This particular post hoc test was chosen due to the unequal sample sizes with the demographic levels being observed. Looking first at mean differences

between religious affiliation and PTG score, the following results were obtained. There was a statistically significant difference ($F_{4,119} = 2.83$, $p = .05$) in mean scores between participants who identified as Christians, group 2, ($M = 66.90$), and participants that identified as non-religious, group 6, ($M = 46.10$). Scheffe post hoc test was then run looking at mean differences in PTG scores based on identified ethnicity. There was a statistically significant difference ($F_{5, 119} = 4.102$, $p = .01$) in mean scores between participants who identified as African American or Black, group 1, ($M = 70.98$), and participants who identified as White (non-Hispanic), group 4, ($M = 51.40$).

To further explore the predictive nature of each of these demographic variables on PTG multiple regressions were used, with PTG serving as the dependent variable. Due to the variables being categorical, each predictor variable (i.e., gender, sexual orientation, education completed, time since diagnosis, intimate relationship status, religious affiliation, and ethnicity) was dummy coded prior to running any regression analyses. Each of these variables, even gender, contained more than two levels, therefore necessitating the dummy coding process. This process resulted in 46 additional variables being added to the data set; one for each of the levels represented in the demographic variables.

Once dummy coding was completed, each of the dummy coded variables were examined in an enter method regression, alongside the predictor variables from the first research question (i.e., stigma, social support, impact of diagnosis), to determine their contribution to the dependent variable. This method resulted in a model that included six variables related to ethnicity (i.e., American Indian, Asian, White, Hispanic, Native Hawaiian, and two or more races), all but one of the variables related to religion (i.e., Buddhist, Christian, Catholic, Hindu,

Muslim, non-religious, and other), all six of the relationship variables (i.e., single, in a relationship, cohabitating, married, separated/divorced, and widowed), all but the highest amount of time that had passed since diagnosis (i.e., less than six months, 7 months-1 year, 1-3 years, 4-6 years, and 7-10 years), six of the education variables (i.e., less than high school, high school or GED equivalent, vocation/technical, some college, bachelor's, and master's), all but one of the sexual orientations (i.e., bisexual, gay, heterosexual, lesbian, and prefer not to answer), current age, and being female. In addition, total scores from the Impact of Events Scale, Berger HIV Stigma Scale, and Multidimensional Scale of Perceived Social Support were included in this model. Together, these variables resulted in a model summary with an R square of .502, suggesting the combination of these predictor variables accounted for 50% of the variance in the PTG scores. However, when looking at the coefficients for each of these variables only one of the variables contributed to the model in a statistically significant way, stigma. None of the aforementioned demographic variables contributed significantly to the model, or were approaching significance.

The same variables were then used in a stepwise regression. Four models were presented from this analysis, using the variables of White ethnicity, Stigma score, Master's level education, and Bachelor's level education. In each of the models, these variables were able to contribute to the variance in PTG scores in a statistically significant way, therefore, the model with the largest R square was chosen. This model included all four of the aforementioned variables (i.e., White ethnicity, stigma score, Masters level education, and Bachelor's level education), and predicted 25.7% of the variance in PTG scores. This R squared represents a medium effect size for the analysis (Cohen, 1992). It is important to note that the beta coefficients for each of these

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variables are negative; suggesting each of these variables contributes negatively to final PTG

scores within the sample. The regression equation from this model was: PTG = 101.361 –

19.461(White ethnicity) - .277(Stigma score) – 19.844(Bachelor's degree) – 14.822(Master's

degree). The model summary for this model is presented in the table below.

Table 9 Regression Model Summary: Demographics

R	R Square	Adjusted R Square	Std. Error of the Estimate
.507	.257	.231	23.508

note. Predictors: (Constant), White, Stigmatotal, masters, bachelors.

Research Question 4

Lastly, research question 4 examined whether adults diagnosed with HIV classify their

diagnosis as traumatic, or as meeting diagnostic criteria for posttraumatic stress disorder (PTSD)

(as measured by the *Impact of Events Scale- Revised,* [IES-R, Weiss & Marmar, 1996]).

Typically, a cutoff score of thirty-four on the *IES-R* is associated with a positive screening for

PTSD. In the sample of the current research ($N = 126$), the mean *IES-R* score was 30.80, with a

standard deviation of 27.97. The researcher then used dummy coding to transform the *IES-R*

scores into a new variable with only 2 categories, those who scored high enough on the *IES-R* to

meet PTSD screening criteria (i.e., scores of thirty-four and higher) and those who scored too

low to be considered a positive PTSD screening (i.e., scores of thirty-three and lower). After

running descriptive statistics on the newly dummy coded variable, the following results were

found: 38.5% of the sample ($n = 50$) scored high enough on the *IES-R* to screen positively for

PTSD. In comparison, 58.5% of the sample ($n = 76$) scored lower than a score of thirty-four, and

therefore scored under the typical cutoff for PTSD (Table 10). In addition, a one sample t-test

was performed to determine if the mean score on the IES-R, for the sample, (30.80) was significantly different than the IES-R cutoff score typically associated with a PTSD diagnosis (33). This analysis was not significant (p > .05), suggesting the mean score for this sample was not significantly different from those meeting criteria for PTSD. In other words, the mean of this sample is likely associated with PTSD or PTSD symptoms.

Table 10 Percentage of PTSD in Sample

	Frequency (n)	Percent
IES-R < 33	76	58.5
IES-R $\leq$ 33	50	38.5
Total	130	100

ANOVA analyses were once again utilized to determine if demographic characteristics accounted for statistically significant mean differences amongst *IES-R* scores. Significant differences were not found in the impact that a HIV diagnosis had on participants based on gender identity, sexual orientation, intimate relationship status, time that had passed since HIV diagnosis, or ethnicity. Significant mean differences in *IES-R* scores were found, however, based on the highest level of completed education a participant reported and the identified religious orientation of participants. There was a statistically significant difference ($F_{5, 117} = 4.285$, p $\leq$ .001) in mean scores between participants who identified as having a HS or GED equivalent education ($M = 43.88$, $\eta^2 = .164$) and participants who reported having some college ($M = 20.90$, $\eta^2 = .158$). Similarly, a statistically significant difference ($F_{4,118} = 4.814$, p $\leq$ .001) in mean scores between participants who identified as Buddhist ($M = 88$), when compared to those who

identified as Christian ($M = 32.35$), Catholic ($M = 22.06$), Non-religious ($M = 20.86$), and those of a faith other than what was listed ($M = 33.92$).

Chapter Summary

Chapter 4 presented details of the statistical analyses used for the present research investigation. Furthermore, analysis results of the identified procedures were reported. Key findings included: a regression model that suggested stigma, social support, and the impact of HIV diagnosis accounted for 12% of variance in PTG scores, a lack of interaction effect found between social support and stigma on PTG, statistically significant mean differences existing between demographics (i.e., ethnicity and religious orientation) and experiences of PTG, and 38.5% of the sample screening positive for symptoms of PTSD following their HIV diagnosis. In addition, a significant negative correlation was found between the construct of PTG and highest completed level of education. PTG scores were also found to have significant mean differences based on ethnicity and religious orientation. Lastly, significant mean differences in the impact of diagnosis were found based on demographic characteristics such as highest completed education level and religion. The next, and final, chapter will discuss implications from these findings.

CHAPTER FIVE: DISCUSSION

This chapter provides a brief review of the study, including: methodology, results, and comparing the findings to the research presented in chapter two. More specifically, the chapter uses the literature in chapter two to draw appropriate explanations for the study's findings. In addition, limitations and conclusions from the research are discussed, along with proposed clinical implications taken from the findings. Lastly, a summary of the study is presented, as well as suggestions for future research.

Summary of the Study

The purpose of this study was to examine the influence of individual variables (i.e., stigma, social support, level of trauma) on the experience of posttraumatic growth (PTG) in adults living with HIV in the state of Florida. The goals of the research were to: (a) extend counselor education literature by further understanding empirically based clinical approaches for clients living with HIV, (b) to determine which variables serve as barriers, or contributors, to the process of PTG, and (c) to better understand if social support serves as moderator between perceived stigma and PTG in adults with HIV.

Theoretical Constructs

Three primary constructs served as the theoretical framework for the research study: (a) posttraumatic growth (PTG), (b) stigma, and (c) social support. In addition, the traumatic impact of an HIV diagnosis was considered to fully conceptualize the participant's experiences. The construct of PTG refers to positive psychological changes a person has the potential to go through following a highly challenging, or traumatic, life event (Calhoun & Tedeschi, 1990,

2001). More specifically, the *PTGI* measured PTG using the following subscales: relating to others, new possibilities, personal strength, spiritual change, and a deeper appreciation of life. Tedeschi and Calhoun (1996) suggested that this positive growth can happen in three distinct areas: (a) changes in self, (b) changes in relationships, and (c) changes in philosophy of life. More specifically, changes in self refers to changes in how one perceives themselves, such as feeling like a stronger more confident individual (Tedeschi & Calhoun, 1996). Changes in relationships may occur through a strengthening, deepening, or greater appreciation of relationships with loved ones. Lastly, changes in philosophy of life refer to those, who have experienced trauma, learning to be more appreciative of their own existence (Tedeschi & Calhoun, 1996).

The second construct, stigma, was utilized in the study due to its noted relationship with overall quality of life for those living with HIV (e.g., Cao et al., 2006; Maguire et al., 2008). Stigma refers to undesirable attributes an individual possesses, which lead to a reduction in their status within society (Goffman, 1963). The instrument used to measure this construct, assessed stigma in terms of personalized stigma, concern with public attitudes, negative self-image, and disclosure concerns. Although PTG research has grown significantly in the past twenty years, this research continues to primarily focus outside the realm of HIV. Stigma serves as the central construct delineating HIV research from PTG research surrounding other chronic illness (e.g., cancer, diabetes). Although stigma can be found in PTG cancer research, it is more heightened in HIV research due to the perception that HIV is the bearer's fault, as well as the fact that HIV is contagious (Brown et al., 2003; Cao et al., 2006).

The final construct, social support, was included for its common presence in PTG research. For the purposes of this investigation, social support was defined as the presence and quality of social relationships (Schwarzer & Knoll, 2007), as perceived by the participants. An increase in PTG is oftentimes associated with social support due to the potential for loved ones to share narratives of growth they have seen in those who have experienced trauma (Tedeschi & Calhoun, 2004). In addition, the stress and coping perspective of social support asserts that social support contributes to increased health by serving as a buffer to negative effects of stress (Lakey & Cohen, 2000). Social support was measured in the present study in terms of support from family, friends, and significant others.

Lastly, the traumatic impact of participants' HIV diagnosis was considered throughout the research due to the relationship between trauma and PTG. In order for PTG to take place, individuals must first perceive an experience as highly challenging or traumatic (Tedeschi & Calhoun, 2004). Prior research has supported the notion that the moment of receiving an HIV diagnosis can be potentially traumatic (Anderson et al., 2010; Nightingale, 2011). The Diagnostic and Statistical Manual of Mental Disorders (*DSM-V*; APA, 2013) states that posttraumatic stress disorder (PTSD) symptoms can be triggered due to an actual or perceived threat of death or serious injury. Through this definition, an HIV diagnosis also has the potential to be viewed as highly traumatic, and bring symptoms of PTSD.

Each of these constructs also show relationships with one another when looking at this population. The literature consistently reports that individuals must identify an event as traumatic or highly challenging in order for PTG to take place. Likewise, the presence of social support is beneficial in assisting individuals to experience PTG. While the presence of stigma on PTG has

little to no experiential support, previous research suggests that stigma may negatively interfere with the construct of social support. Lastly, the current study suggests that stigma may impact the level of trauma individuals assign to their HIV diagnosis, suggesting that each of these constructs is further intertwined.

Participants

Fifty HIV focused groups and agencies throughout the state of Florida were contacted to participate in this study. Of these groups, eleven different groups and agencies committed to participate in data collection. Amongst these organizations, 316 assessment packets were dispersed. Of those distributed assessment packets, 130 packets (41%) were returned. Participants ($N = 130$) were selected from organizations located throughout Florida, including: Central Florida (i.e., Orlando), North Florida (i.e., Jacksonville), the West Coast of Florida (i.e., St. Pete, Tampa), and South Florida (i.e., Lake Worth, Miami, Wilton Manors). Additionally, organizations in other areas (i.e., Tallahassee, Palm Springs, and Melbourne) were invited to participate but declined to be a part of the research. In total, 14.6% ($n = 19$) of participants came from Central Florida; 35.3% ($n = 49$) of participants came from North Florida; 14.6% ($n = 19$) of participants came from South Florida; and 35.3% ($n = 49$) of participants came from West Florida.

Overall, men ($n = 88$; 67.7%) were more represented than women ($n = 39$; 30%). The average reported age was 49.36 years old ($SD = 10.81$; range = 21-75). The racial/ethnic representation of the sample was the following: White, 42.3% ($n = 55$); African American, 42.3% ($n = 55$); Hispanic or Latino, 6.9% ($n = 9$); Native Hawaiian or Pacific Islander, 3.1% ($n = 4$); Asian, 2.3% ($n = 3$); two or more races, 2.3% ($n = 3$), and American Indian or Alaska Native,

0.8% (*n* = 1). Additionally, the sexual orientations participants identified as were: gay (males), 53.8% (*n* = 70); heterosexual, 33.1% (*n* = 43); bisexual, 7.7% (*n* = 10); lesbian, 2.3% (*n* = 3); and those who preferred not to answer, 2.3% (*n* = 3). The sample was disproportionally full of long term survivors of HIV. The majority of the sample (*n* = 89; 68.5%) reported having been diagnosed with HIV for over 10 years. The remainder of the sample was as follows: diagnosed with HIV 7-10 years ago (*n* = 14; 10.8%); diagnosed with HIV 4-6 years ago (*n* = 11, 8.5%); diagnosed with HIV 1-3 years ago (*n* = 9, 6.9%); diagnosed with HIV 7 months- 1 year ago (*n* = 3, 2.3%); and diagnosed with HIV less than 6 months prior to the study (*n* = 4; 3.1%). When looking at intimate relationship status, the sample was also primarily single (*n* = 61, 46.9%).

Many of these sample characteristics are consistent with similar research in the area, as well as characteristics of the population of those living with HIV. Currently, African American males, and gay men are most frequently diagnosed with HIV (CDC, 2013a; CDC, 2013b). In addition, nearly half (44%) of all new HIV infections are African American individuals (CDC, 2013a; CDC, 2013b). These rates are consistent with the present sample in that 42% of the sample was Black/African American, and the majority of the sample (67.7%) was men. The present sample is less consistent with other research, and statistics from the CDC, in terms of length of time since HIV diagnosis. Similar studies (e.g., Milam, 2004, 2006; Murphy & Hevey, 2013) cite participants' mean years since diagnosis as being between 6.39 and 7.89 years. In addition, 2.5 million HIV cases are newly diagnosed each year, suggesting a growing population of those newly diagnosed with HIV (CDC, 2013a). The mean age found in the current sample (*M* = 49.36) is similar, although higher, than the reported mean ages of similar studies. For example, Katz and Nevid (2005) noted the mean age as 43.48 years, while Murphy and Hevey

(2013) found their mean age to be 39.79. Similar studies were less likely to report on the intimate relationship statuses of their sample, but Murphy and Hevey (2013) also reported having a majority single sample.

Data Collection/Results

IRB-approval was obtained from the University of Central Florida prior to any data collection. In addition, some agencies and groups participating in the research had specific clearance required for their own site (e.g., going through volunteer clearance, background check). Each site was contacted and gave explicit verbal consent to partner with the researcher before individual participants were approached. Data collection was completed in the way specified as most appropriate to each collection site. Some groups requested that assessment packets be mailed to the site to ensure complete confidentiality, while others requested the researcher to attend groups personally, or be present for data collection at their agency. For sites that opted to collect data themselves, blank assessment packets were given to staff members well versed in the confidential nature of the population. In addition, staff consulted with the researcher on the nature of the data collection and was given contact information of the researcher for easy contact should questions or concerns arise.

Data collection assessment packets consisted of (a) a demographic questionnaire (e.g., gender identity, sexual orientation, education level, amount of time that had passed since HIV diagnosis, relationship status, religious affiliation, ethnicity, age, and experiences of symptoms congruent with a posttraumatic stress disorder (PTSD) diagnosis), (b) the PTGI (Tedeschi & Calhoun, 1996), (c) the HIV Stigma Scale (Berger, 1996), (d) the IES-Revised (Weiss & Marmar, 1997), (e) the MDSPSS (Zimet, Dahlem, Zimet, & Farley, 1988), and (f) a short form

Social Desirability Scale, form A (Reynolds, 1982). In addition, each assessment packet included an explanation of consent, and a list of local resources available to participants should they choose to speak with someone following data collection. Following a packets completion, each packet was labeled with a number that coordinated with the participant's participation site, and a sequential participant number.

<u>Results and Conclusions: Instrument Descriptive Statistics</u>

The following section will discuss means and findings associated with each of the data collection instruments utilized in the study. Results will also be discussed in relation to the current literature within counseling and counselor education.

Posttraumatic Growth Inventory

The *PTGI* (Tedeschi & Calhoun, 1996) was used to examine the amount of posttraumatic growth reported by participants ($n = 126$). Participant *PTGI* scores: ($M = 63.27$, $SD = 26.69$, range = 0-105), suggested that on average, participants were experiencing a moderate degree of growth following their HIV diagnosis. Further, participant scores on the PTGI did not show any significant correlation with scores on the social desirability scale, suggesting participants responded to this instrument in a fairly honest way, without notable concern for social desirability. The reported mean score is fairly consistent with similar studies that explored PTG with clients with HIV. For example, Murphy and Hevey (2013) found a mean *PTGI* score of 61.26, while Milam (2006) also reported a moderate level of growth in the sample following HIV diagnosis. Although subscale scores are not regularly used in PTG research, the current study found the following subscale means: relating to others, ($M = 20.01$, $SD = 9.75$); new possibilities, ($M = 15.04$, $SD = 7.18$); personal strength ($M = 12.5$, $SD = 5.56$); spiritual change,

($M = 5.74$, $SD = 3.51$); and appreciation for life, ($M = 10.02$, $SD = 4.59$). Each of these subscales has different potential response ranges, leading the researcher to explore the average selection response for each scale. As with the total score, a higher mean score on a subscale suggests greater growth in that area following a participants HIV diagnosis. The average item response for the subscales is as follows: relating to others, 2.86; new possibilities, 3.00; personal strength, 3.12; spiritual change, 2.87; and appreciation of life, 3.34. These findings suggest that on average, participants were more likely to report growth happening in the area of appreciation for life, and least likely to report growth in how they related to others. Murphy and Hevey (2013) also briefly reported scores on the five subscales, and also found participants most likely to experience growth in the area of appreciation of life. Participants of the current study reporting less growth in how they relate to others may have implications towards the construct of social support (i.e., participants views on their social support may be fairly consistent to the amount of social support they were receiving prior to an HIV diagnosis).

HIV Stigma Scale

The Berger HIV Stigma Scale (Berger, Ferrans, & Lashley, 2001) was used to assess for levels of stigma being felt by the participants due to their HIV status. Total stigma scores ($n = 128$) were found as: ($M = 97.55$, $SD = 26.67$, range = 45-159). Literature using this scale typically reports mean scores of 94-102. Therefore, the current study used a mean score of 98 to indicate typical HIV stigma. Scores of 80 or less on the instrument would suggest a participant disagreed, on average, with statements of stigma, and scores of 120 or higher would suggest participants mostly agreed with statements of stigma. Twenty-four participants (18.5%) reported

a great deal of stigma (i.e., scores of 120 or greater), while 35 participants (26.9%) reported low stigma, by scoring less than 80.

The mean score of the current study is noticeably higher than a similar study that also used the scale, for example Holzemer and colleagues (2009) reported an average stigma score of 86.49. In contrast, Buseh and colleagues (2008) reported a mean stigma score of 110.36 when looking specifically at African American men. Other studies (e.g., Bunn et al., 2007; Emlet, 2008; Dowshen, Binns, & Garofalo, 2009) report average stigma scores ranging from 94.32-102, suggesting that the mean stigma score found in the current research is consistent with similar research. This mean score suggests that participants are reporting a typical, or moderate, degree of stigma stemming from their HIV. This finding is particularly relevant when considering the majority of the current sample has been living with HIV for over 10 years.

Means of subscale scores for the assessment are not typically reported, but the present study found the following: personalized stigma, ($M = 42.45$, $SD = 13.73$); disclosure, ($M = 29.62$, $SD = 7.91$); negative self-image, ($M = 28.40$, $SD = 9.83$); and public attitudes, ($M = 52.02$, $SD = 14.84$). These findings are similar to the mean subscale scores found by Bunn and colleagues (2007) with their sample of 157 participants. After accounting for the differing ranges of possible scores for each subscale, these findings suggest that participants reported the most stigma concerns in the area of disclosure. More specifically, this scale refers to the feared consequences of others knowing ones HIV status, and therefore the pressure to keep ones status concealed. This finding suggests that participants, and therefore clients, may feel stigma most when choosing whether or not to disclose their status to others. This finding may also bring implications on barriers that prevent clients with HIV from approaching resources such as mental

health counseling. Further, the construct of social support seems all the more relevant since disclosing to others is a prominent fear.

Multidimensional Scale of Perceived Social Support

The *MSPSS* (Zimet, Dahlem, Zimet, & Farley, 1988) was used to assess the amount of social support participants perceived receiving from friends, family, and significant others. Total social support scores (*n* = 129) were (*M* = 63.07, *SD* = 18.42, range = 12-84). The authors of the instrument have outlined clear cutoff points for scoring, with scores of forty-eight and below representing low social support, scores of forty-nine to sixty-eight representing adequate social support, and scores of sixty-nine and above representing high levels of social support. Therefore, on average, the present sample represented an adequately supported group of individuals. Other studies examining the perceived level of social support amongst PLWHA have often reported less positive findings (e.g., Cieslak et al., 2009; Trevino et al., 2007). It should also be noted that while other studies have reported significant differences between genders in terms of access to social support (e.g., Reich et al., 2010), these differences were not supported in the present research investigation. Mean differences were found between men (*M* = 61.77, *SD* = 19.62) and women (*M* = 66.21, *SD* = 15.04) in terms of social support, but these differences did not prove to be statistically significant (p > .05). Further, no significant mean differences were found in social support scores based on ethnicity, sexual orientation, level of education, religious orientation, or amount of time since diagnosis. Despite these mean differences not being significant, lesbian participants reported the greatest amount of support (*M* = 75, *SD* = 16.52), while those who chose not to report their sexual orientation reported the lowest (*M* = 60, *SD* = 24). Greater support was also felt by those with higher education (i.e., doctorate *M* = 82, masters *M* = 71,

bachelors $M = 61.94$), while those with some vocational training reported the lowest level of support ($M = 58.67$). The greatest amount of support was reported by those who had been diagnosed for ten years or more ($M = 65.23$), while the least amount of support was reported by those who had been diagnosed for less than six months ($M = 47$, $SD = 27.92$). These findings suggest that individuals may experience stigma differently based on their demographic characteristics. Due to none of these findings being statistically significant, however, clinicians should note that the effects of HIV stigma can reach all clients, regardless of sexual orientation, ethnicity, level of education, and time since diagnosis.

The MSPSS also provides scores representing three subscales (i.e., family, friends, significant others), with each scale including four questions from the instrument. The subscale totals from the present study included: support of significant others ($M = 22.62$, $SD = 6.63$), support of family ($M = 19.28$, $SD = 8.43$), and support of friends ($M = 21.17$, $SD = 6.85$). These subscale scores suggest that participants felt most supported by their significant others, followed by their friends, and felt least supported from their family members. This finding is consistent with other HIV research, which suggests that support is more likely to come from close friends and significant others than from parents for PLWHA (Derlega et al., 2003). In addition, parents of PLWHA are more likely to show avoidant behaviors (Derlega et al., 2003).

Impact of Events Scale

The *IES-R* (Weiss & Marmar, 1996) was used to better understand if participants were rating their HIV diagnosis as traumatic or not. For the present study, ($n = 126$), total mean scores were as follows: ($M = 30.8$, $SD = 27.97$, range = 0-88). The authors of the instrument (Weiss & Marmar, 1996) cite that total scores above thirty-three are typically associated with a positive

screening for PTSD symptoms. In looking at the current study, 38.5% of the sample scored thirty-four or higher, suggesting that 38.5% of the sample would screen positive for PTSD. It should be noted that there is an inherent bias from the data collection sites, in that participants represent those already seeking resources. The researcher predicts that individuals living with HIV, who are less willing to seek resources publicly, may be feeling an even greater impact from their diagnosis. Average scores on each of the subscales included: intrusion ($M = 11.13$, $SD = 10.28$), avoidance ($M = 11.31$, $SD = 10.54$), and hyperarousal ($M = 8.37$, $SD = 8.29$). These mean scores suggest that, on average, participants were reporting between a little and moderate amount of intrusion, a little amount of avoidant behaviors, and somewhere between a little and moderate amount of feelings of hyperarousal. These findings suggest that while 38.5% of the sample reported an impact consistent with PTSD symptoms, on average participants were reporting a small to moderate impact from diagnosis. The *IES-R* instructs participants to report on how they have felt impacted by their HIV status in the last seven days. This, coupled with the long-term survivor nature of the sample, may have impacted the scores seen on this instrument. After accounting for the different possible range of scores for each subscale, participants appear most likely to report their HIV diagnosis as impactful due to the presence of avoidant type symptoms. For example, participants may avoid situations or places that remind them of their HIV status, or try to remove their knowledge of having HIV from their memory.

The presence of trauma associated with an HIV diagnosis is found in the literature, primarily in qualitative descriptions. From qualitative accounts participants have shared that hearing their diagnosis was like a death sentence (Anderson et al., 2010; Nightingale et al., 2010). Quantitative work looking at trauma from HIV diagnosis has also found PTSD regularly

present within their samples. Martin and Kagee (2011) found that more than half (54.1%) their sample ($N = 85$) met diagnostic criteria for PTSD. Similarly, Peterson and colleagues (2012) reported that 30% of those sampled ($N = 153$) met screening criteria for PTSD. These findings suggest that the present findings are consistent with the existing literature on the topic. Although these scores are consistent with the literature, the length of time since diagnosis of the current sample is not, leading the researcher to predict this sample may have been even more impacted by their diagnosis than other samples have found.

<div align="center">Results and Conclusions: Research Questions</div>

The following section will discuss each research question, including the results of each question, and conclusions that might follow. In addition, these findings will then be critiqued against findings from similar research areas, including studies previously outlined in chapter two.

<div align="center">*Research Question One*</div>

The first research question in the current investigation examined whether perceived stigma, level of social support, and the impact of diagnosis were predictive of the experience of PTG, in adults living with HIV. Based on a thorough review of the literature, the researcher hypothesized that, (a) adults who score higher on perceived social support will be more likely to experience PTG, (b) adults who score lower on perceived HIV stigma will be more likely to develop PTG, and (c) adults who score higher on impact of diagnosis will be more likely to develop PTG. Therefore, from these hypotheses, all three independent variables were hypothesized to be predictive of the experience of PTG.

Multiple regressions were run on the data to determine the predictive nature of the independent variables (i.e., stigma, social support, impact of diagnosis) on the dependent

variable (i.e., PTG). The results reject the null hypotheses by finding a statistically significant predictive relationship between the three predictor variables and the dependent variable of PTG. Together, stigma, social support, and impact of diagnosis contributed to 12% of the variance in PTG scores, $F_{(3,119)} = 5.504$, p < .005. Furthermore, the regression equation produced from this process was: PTG = 66.776 - .299(stigma) + .299(social support) + .223(impact of event), with every predictor contributing at a significant (p<.05) level. Looking at the beta scores for the predictor variables suggests that stigma ($b = -.299$, p < .05), and social support ($b = .299$, p < .05) contributed slightly more to the experience of PTG than the impact of one's HIV diagnosis ($b = .223$, p < .05). This significant finding answers the research question by supporting the notion that HIV stigma, social support, and the impact of an HIV diagnosis can all serve as significant predictors of the experience of PTG.

In addition to confirming the predictive nature of each of these variables, correlations were then used to help identify the direction of these identified relationships. A correlation matrix revealed that PTG and stigma held a statistically significant, negatively correlated relationship (r = -.238, p< .01). This finding supports the aforementioned hypothesis that adults who score lower on perceived HIV stigma will also be more likely to develop PTG. Therefore, we reject the null hypothesis that there is no statistically significant difference between levels of PTG and reported levels of HIV stigma. This finding, as well as stigma's significant role in the regression formula, also supports the idea that HIV related stigma serves as a barrier in PLWHA experiencing PTG. Correlations also suggested that PTG and social support had a statistically significant, positive relationship (r= .265, p<.01). Again, this supports the previous hypothesis that adults who score higher on perceived social support will also be more likely to experience

PTG. This correlation, along with the significant role of social support in the regression equation, leads to rejecting the null hypothesis that there is no statistically significant difference in participants' reported levels of PTG based on social support scores. Lastly, although the impact of a diagnosis was included in the regression equation, and predicted a statistically significant amount of the variance in PTG, the two variables (i.e., PTG and impact of event) did not show a significant relationship when looking at the correlation matrix ($r = -.017$, $p>.05$). This correlation led the researcher to fail to reject the null hypothesis that there is no statistically significant difference in levels of PTG based on the impact of an HIV diagnosis.

Each of these findings unveils a clearer picture of the experience of PTG for adults living with HIV. For example, the results indicate that the presence of HIV related stigma serves as a statistically significant barrier for those with HIV getting to a place of growth following their diagnosis. The regression model also shows that stigma serves as the greatest predictor of PTG, out of the included constructs, further supporting the impact HIV stigma can play in the lives of adults living with HIV. In contrast, the presence of adequate social support has the potential to bring about personal growth following an HIV diagnosis. Out of each of the constructs, the impact of one's diagnosis is least likely to predict the experience of PTG within the current sample. In fact, the lack of a significant relationship between PTG and the impact of diagnosis suggests that PTG may be possible in spite of how traumatic one views their diagnosis.

Findings from the present study are mostly consistent with the limited research surrounding these constructs. The researcher was only able to identify one other study looking specifically at the impact of stigma on PTG in PLWHA (i.e., Murphy & Hevey, 2013). Murphy and Hevey (2013) looked at stigma solely from the perspective of internalized stigma, while the

present study conceptualized stigma as personalized stigma, disclosure concerns, negative self-image, and public attitudes. Despite this difference, both studies were able to find small, negative correlations between HIV stigma and PTG. Unlike the present study, however, Murphy and Hevey's study ($N = 74$) did not find this correlation to be significant ($p>.05$). Murphy and Hevey (2013) also relied on multiple regressions to examine the influence stigma and resilience on the five subscales of PTG. It should be noted that the current research used the total score of the *PTGI* after concerns of multicollinearity when looking at the subscales. Through looking at the subscales, Murphy and Hevey (2013) find the role of stigma alone predictive of the experience of PTG in terms of the following subscales: new possibilities (16.8%), relating to others (17%), and personal strength (26.7%). Internalized HIV stigma was not found to be significantly predictive of PTG in the areas of spiritual change or appreciation for life. This study and the present study both support a negative relationship between stigma and PTG. In addition, the present study suggests that the presence of stigma on PTG may be even more significant when conceptualizing stigma as more than internalized. Further, both studies support the hypothesis that stigma can serve as a significant predictor on experiences of PTG in PLWHA. Although future researcher should be continued in this area, this study and the current study show agreement over the strong impact stigma plays in one's ability to get to a place of growth following an HIV diagnosis. The predictive strength of stigma in the current study further suggests that stigma is even greater barrier to PTG than social support is an asset.

Unlike stigma, the construct of social support is widely recognized as a positive predictor of PTG. Few of these studies however; look specifically at social support and PTG in reference to adults with HIV. Reich and colleagues (2010) used the construct of social support to predict

mental health outcome scores. Unlike the present study, Reich and colleagues (2010) did not utilize a formal assessment. Instead, the researchers relied on individual items regarding support levels (i.e., "are there important people in your life?"). Through the use of these questions, and multiple regression analysis, the study revealed that having an important person in one's life was significantly ($p < .05$) associated with greater overall mental health in PLWHA. In addition, Pratti and Pietrantoni (2009) conducted a meta-analysis of 103 studies examining social support and PTG. Although the study failed to mention what challenging life events participants experienced within the studies included, the analysis still found social support consistently positively, moderately correlated with PTG. The present study is consistent with these findings that social support has a significant positive relationship with PTG.

The findings from the last variable, impact of diagnosis, show discrepancies with the PTG literature. Although this predictor was found to be significant in the regression model, a correlation revealed a weak negative relationship between impact of event and PTG. This finding implies that the greater the trauma associated with diagnosis, the less likely PTG is going to occur. This correlation proved not to be statistically significant, but remains inconsistent with what one might expect based on the literature. As previously stated, PTG research primarily focuses on cancer survivors, but within those studies, meeting PTSD criteria is often a significant predictor of PTG (e.g., Cordova et al., 2001, 2007). While the current research supports the idea of trauma as a significant predictor of PTG, the researcher would have expected to find a stronger, significant relationship between the impact of event and PTG. Furthermore, to be consistent with previous research, the researcher would have predicted a positive correlation between these two variables. Possible explanations for this inconsistency might be the skewed

sample of the present study (i.e., the sample being primarily long term survivors). In addition, the instrument used to assess the impact of diagnosis asks participants to report the impact they are feeling from their diagnosis within the last seven days. For these long term survivors, this instrument might not most accurately capture feelings of trauma they may have initially felt following their diagnosis, and therefore may impact results. In addition, these discrepancies suggest the need for further research surrounding PTG research for those with HIV, since research in this area remains insufficient to draw finite conclusions.

Research Question Two

The second research question considers whether the level of social support reported by PLWHA serves as a moderator between perceived HIV stigma and the experience of PTG. A multiple regression analysis was again used to answer this research question, and an interaction variable (i.e., social support x stigma) was now included. The researcher hypothesized that social support would serve as a statistically significant moderator towards HIV stigma, due to research supporting the positive relationship between social support and PTG. Furthermore, the researcher predicted that the negative correlation between social support and stigma would cause high levels of social support to decrease feelings of stigma, therefore increasing experiences of PTG. Prior to running the interaction analysis, variables were centered to control for issues of multicollinearity. Interestingly, the present study did not find an interaction effect among the two predictor variables (i.e., social support and stigma). Although each of these predictor variables provided a significant contribution to PTG individually, the interaction of social support and stigma was unable to yield a significant interaction effect. In order words, the effect of stigma scores on PTG is not tied to, or dependent on, scores of social support on the MSPSS. This

finding suggests that while the presence of social support may play a statistically significant role in allowing PLWHA to experience PTG, it is not necessarily enough to buffer the statistically significant presence of HIV stigma on PTG. We had hypothesized that stigma would affect one's ability to reach PTG, but also be impacted by the social support one receives. In contrast, the relationship between stigma and PTG did not necessarily change depending on a participant's level of social support. This finding suggests that the constructs of social support and stigma may not be as closely tied as previously expected, in relation to their influence on PTG. By rejecting this hypothesis, the results actually indicated that while stigma impacts PTG, the amount of social support one receives does not play a role in this process. Therefore, regardless of the amount of social support the sample indicated, their reported stigma continued to impact PTG. The researcher hypothesizes that this finding may be true because of the aforementioned impact stigma plays on PTG. The presence of HIV-related stigma may be so strong that social support, no matter how great, is unable to sufficiently combat this stigma and lead to greater PTG.

The unique sample, which was comprised mostly of long term survivors of HIV, perhaps also contributed to the influence stigma played on PTG within the sample. Participants who were diagnosed at a time when HIV was more terminal and less understood may carry stronger stigmatized views of their illness. Such long withheld experiences of stigma may have been less open to change, regardless of any additional social support. Although the amount of stigma in the present sample is comparable to rates of stigma reported in similar studies, the nature of the present samples stigma may be different due to the length of time the sample has experienced this stigma. This could explain why social support scores had no influence on the way stigma interacted with PTG in the given population.

These findings beg the need for more research surrounding the impact of HIV stigma on PTG, considering this study is the first of its kind. The need for future research in this area is further warranted when noting the established relationship between social support and PTG. Social support is consistently shown to be a positive predictor for PTG (e.g., Paul et al., 2010; Schroevers et al., 2010), which further highlights the impact of stigma on adults with HIV. Due to the unique nature of this sample, and the resulting implications this might have played in their feelings of stigma, further research with more diverse samples is also warranted.

Research Question Three

The third research question looked at demographic variables (e.g., age, gender, highest completed education, intimate relationship status, age, ethnicity, identified religion, sexual orientation, and length of time since diagnosis) in relation to participants' experience of PTG. Pearson correlations were used to identify statistically significant relationships, including their strength and direction, between demographic variables and PTG scores. Correlations revealed statistically significant relationships between PTG and highest level of completed education ($r = -.197$, $p < .05$). No other significant relationships were found in relation to PTG, when looking at: gender identity, sexual orientation, time that had passed since HIV diagnosis, intimate relationship status, religious affiliation, ethnicity, and age. Further, the negative correlation between education and PTG suggests an inverse relationship between the two variables (i.e., the higher the education the lower the PTG score). This finding contradicts other findings (e.g., Barskova and Oesterreich, 2009) who, after completing a systematic review of the PTG literature, found no significant difference in level of PTG based on level of education. These findings may in part be due to the nature of the sample, since within the current sample; those

with less education were more likely to report being of Christian faith, as opposed to non-religious. Since one of the subscales on the *PTGI* refers to spiritual change, Christian participants may have brought greater growth to those groups without higher education. These results fail to reject the previously stated null hypothesis that no statistically significant differences exist in levels of PTG based on sex, age, ethnicity, time since diagnosis, religious identification, sexual orientation, and intimate relationship status.

Following correlations, an independent samples t-test was completed to examine mean differences between PTG scores between men and women, in order to more fully explore the impact of demographic characteristics on PTG scores. Mean scores reflected that women ($n = 38$, $M = 68.42$, $SD = 24.68$) reported greater levels of PTG than male participants ($n = 85$, $M = 60.36$, $SD = 27.09$); however, this difference was not statistically significant ($p > .05$). The finding that women reported more growth on average is consistent with the PTG literature (e.g., Bellizzi, 2004; Milam, 2004; Sawyer, 2011). In looking more closely at where these gender differences were, t-tests were then performed on the various PTG subscales. Results revealed that women scored higher than men on the *PTGI* for every subscale, including: relating to others [women ($M = 20.66$), men ($M = 19.53$)], new possibilities [women ($M = 16.34$), men ($M = 14.31$)], personal strength [women ($M = 13.18$), men ($M = 12.04$)], spiritual change [women ($M = 7.08$), men ($M = 5.06$)], and appreciation of life [women ($M = 11.16$), men ($M = 9.44$)]. In addition to the higher scores from women, these mean differences were found to be statistically significant for the *spiritual change* scale ($p < .05$). Bellizzi (2004) found similar results when looking at cancer survivors, with exception to the *relating to others* scale, where men were found to score higher than women. This finding suggests that women may be better equipped to make

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meaning from their diagnosis, and therefore grow from the experience, personally, in their appreciation for life, in relationships, in viewing new possibilities, and particularly spiritually. This finding from the current study contributes greatly to the literature, since the baseline article from which PTG demographic differences are established (e.g., Tedeschi & Calhoun, 1996) does not include participants living with HIV.

In order to further explore significant demographic differences that may exist amongst PTG scores, one-way analysis of variance (ANOVA) analyses were used between the remaining demographic characteristics (i.e., sexual orientation, highest completed education level, intimate relationship status, time that had passed since participants HIV diagnosis, religious orientation, ethnicity, and age). Results revealed a lack of significance ($p>.05$) in mean PTG scores between groups based on sexual orientation, highest completed education, intimate relationship status, amount of time since HIV diagnosis, and age. Significant differences in mean PTG scores were found, however, between groups based on religious affiliation, and ethnicity ($p>.05$). Scheffe post hoc tests were then used to determine where these significant mean differences existed. When examining mean differences in relation to religious affiliation, participants who identified as Christian ($M = 66.90$) showed significantly higher PTG scores than those who identified as non-religious ($M = 46.10$). These results are consistent with PTG literature, which has routinely recognized the positive relationship between PTG and religion (e.g., Calhoun et al., 2000; Denney, Aten, & Leavell, 2010). A meta-analysis of the two constructs (e.g., PTG and religious coping) allowed Shaw and colleagues (2005) to draw three conclusions: (a) religion and spirituality are typically found to be helpful for those who have experienced trauma, (b) the trauma can serve as a catalyst for a deepening in spiritual connection, and (c) religiosity has the

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potential to lead to PTG. This finding is further expected when considering one of the subscales

of the *PTGI* accounts for growth through spiritual changes.

A Scheffe post hoc analysis was done to identify where significant mean differences were

in PTG scores amongst participants of differing ethnicities. There was a statistically significant

difference ($F_{5, 119} = 4.102$, p = .01) in mean scores between participants who identified as African

American or Black, group 1, ($M = 70.98$), and participants who identified as White (non-

Hispanic), group 4, ($M = 51.40$). Again, these findings are consistent with the PTG literature,

which has typically reported greater levels of PTG amongst ethnic minorities (e.g., Helgeson et

al., 2006; Sawyer et al., 2011). When considering the subscales of the *PTGI*, these same

differences appeared, with African American participants reporting larger mean scores than

White participants on each of the five *PTGI* subscales. Although these findings are consistent

with other studies, the literature fails to reflect on what may be accounting for such differences.

The researcher predicts that ethnic minorities may (a) have stronger spiritual convictions, (b)

have greater familial support systems culturally, or (c) have experience with adversity due to

issues such as racism, which may all contribute to their greater likelihood of experiencing PTG.

Lastly, a regression analysis with dummy coded variables representing each of the

nominal demographic variables was done to determine which variables held the most predictive

power on PTG scores. Although many of the demographic characteristics had a relationship with

PTG through correlations, only three held a statistically significant place in the regression model.

These variables included participants being White, holding a Bachelor's degree, and having a

Master's degree. Further, each of these variables was negatively associated with the dependent

variable. This finding suggests that being White or having higher education may serve as a

deterrent to experiencing PTG. This finding is partly consistent with other studies which report White individuals are less likely to reach PTG. The researcher again speculates that this may be true for a number of reasons. First, minority cultures often found with greater levels of PTG (i.e., African American and Hispanic participants) are also often associated with a greater commitment to spirituality; which is captured by one of the scales on the PTGI. In addition, these ethnic groups have historically valued family and collectivism, which could influence the way their relationships grew following trauma. The finding surrounding level of education is less seen in the literature, but may be intertwined with other demographic variables, such as ethnicity, and spirituality. For the current sample, level of education was significantly correlated with both ethnicity and religious orientation. Therefore, previously found ties between spirituality, ethnicity, and PTG may be interacting with participant' education level. The finding that no other demographic variables significantly contributed to the regression models, however, may suggest that PTG research with HIV is distinct from PTG cancer research when it comes to demographic characteristics. PTG cancer research regularly cites certain demographic features (e.g., gender, ethnicity, and religion) as predictive of PTG. The lack of such a clear finding in the current research suggests PTG research with HIV cannot rely on findings from similar research and cancer survivors.

Research Question Four

The fourth and final research question looked to quantify the experience of receiving an HIV diagnosis by exploring whether participants met diagnostic criteria for PTSD. In order to measure the potentially traumatic impact of diagnosis, clients completed the *Impact of Events Scale- Revised,* [IES-R, Weiss & Marmar, 1996]) in reference to receiving an HIV diagnosis.

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The authors of the instrument suggested that a total score of thirty-four or more on the instrument is typically associated with a positive screening for PTSD. These findings contribute greatly to the current literature on clients with HIV by supporting a continued need for mental health interventions for clients living with HIV, as they continue to be greatly impacted by an HIV diagnosis. This finding is all the more relevant in updating the literature to better account for the changing face of HIV. In the current sample, ($N = 126$), the mean score was 30.80 ($SD = 27.97$, range = 0-88). Further, 38.5% of the sample ($n = 50$) scored thirty-four or higher on the assessment, suggesting they would also screen positively for PTSD. In addition, statistically significant differences in mean scores on the *IES-R* were found based on education level and religious affiliation. The rate of PTSD found in the sample is consistent with levels of PTSD found in similar research. When looking at men with HIV, primarily men who have sex with men, Kamen and colleagues (2011) found an average score of 35.30 on the *IES-R* ($N = 164$). Similarly, Olley and colleagues (2006) reported a PTSD rate of 26% when looking South Africans recently diagnosed, while Safren and colleagues (2003) and Martinez and colleagues (2012) found rates of 64% and 42% respectively when looking at HIV positive men and women.

The present study went on to explore significant demographic differences that might exist in relation to *IES*-R scores. The investigation found statistically significant mean differences in scores between participants who reported having some college ($M = 20.90$), and those who reported their highest level of education as HS or GED equivalent ($M = 43.88$). This finding suggests those with some amount of higher education are able to report less traumatic impact stemming from their HIV diagnosis. Such a finding may be present due to those with higher education being better equipped to make meaning from such a diagnosis, perhaps due to problem

solving skills and meaning making skills used or refined in a higher education setting. Similarly, significant mean differences in *IES*-R scores were found when comparing those who identified as Buddhist ($n = 3$, $M = 88$) from each of the other religious orientation groups, including: Christian ($M = 32.35$), Catholic ($M = 22.06$), non-religious ($M = 20.86$), and those who identified as something other than the options provided ($M = 33.92$). This difference may be due in part to the nontheistic nature of Buddhism which separates it from the Western religions listed, and potentially affects routes of religious coping. Although differences in religious orientation revealed significance, the researcher takes this finding with caution due to the sample size differences between groups as well as limited representation in the Buddhist sample size. The demographic differences found in the current study, however, appear inconsistent with other research, which reports no significant differences between rates of HIV related PTSD and demographic variables (Kamen et al., 2011; Martin et al., 2011).

Each of these research questions help to better define the concept of PTG, particularly since the concept lacked clarification with individuals living with HIV. These findings indicate that stigma continues to be an impactful aspect of living with HIV, and further, that such stigma has the potential to detract from the experience of PTG. Like stigma, the very moment of diagnosis continues to be a potentially traumatizing moment in the lives of PLWHA, even with the changing face of HIV. In addition, social support significantly contributes to the experience of PTG in adults with HIV, although this level of support does not appear to interact with reported stigma. Lastly, demographic variables play a role in PTG for PLWHA, particularly the variables or religion and ethnicity.

As with all studies, this research contains several limitations. Furthermore, a single study lacks the ability to provide empirical explanations. With this in mind, it is relevant to address the limitations of the study at hand, in order to accurately interpret results and conclusions. Although efforts have been made to control for such limitations, they may still be present in areas of (a) research design, (b) sampling, and (c) instrumentation.

Research Design

The present study relied on the use of a cross-sectional, correlational research design, which brings inherent limitations to the investigation. Cross-sectional research designs fail to manipulate independent variables in a way that can allow for causal relationships to be made (Fraenkel et al., 2011; Pallant, 2007). Therefore, while the present study can report on relationships of variables, causality cannot be inferred. For this reason, the present study is best conceptualized as a preliminary exploration of the major constructs discussed (i.e., PTG, impact of diagnosis, stigma, social support) in reference to participants living with HIV. Another concern of survey research exists in social desirability or the tendency of some participants to answer assessments in a way they assume will be more socially desirable (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In order to minimize the effects of this limitation, the present study utilized the short form version of the Marlowe-Crown social desirability scale in order to attempt capturing participants' true feelings. It should be noted, however, that the scale presents with less than desirable reliability, and therefore should be interpreted with caution.

The study boasts a 41% response rate, which is greater than the expected rate of 38% for surveys being mailed back (Dillman et al., 2008). Despite this acceptable response rate, non-

response still serves as a limitation in survey research. Most notably, non-response causes concern because those who choose not to respond are innately different from those participants who choose to respond (Fox, Robinson, & Broardley, 1998). Therefore, results more closely represent those living with HIV who also felt comfortable engaging in research. In order to account for non-response limitations, several of Dillman's (2007) guiding principles from the tailored design method were implemented. Assessments were presented in a way that allowed easy readability, and were taken by numerous external reviewers prior to data collection to assess clarity. Other tailored method design suggestions, such as: appropriate spacing, contrasting colors in printing, labeling instructions on questionnaires, and consistency were all incorporated. Lastly, per the tailored method design, mailed surveys all included self-address, stamped return envelopes to make returning the surveys as simple as possible for participants. In addition, considering the nature of stigma, shame, and secrecy within the targeted population, the researcher assumes a 41% response rate may serve as a greater victory than similar response rates in other research.

Sampling

The study utilized convenience sampling which inherently brings limitations to the research. Survey research brings challenges of generalizability due to issues with self-report (e.g., social desirability) and non-response (Fraenkel & Wallen, 2006). Issues of non-response bring potential for sample bias, since those who are able and willing to participate may naturally differ from those who choose not to participate. For example, the present study explored the construct of social support. In recruiting from HIV agencies and support groups, those who were asked to participate already showed presence of some level of support through their membership

to the participating HIV agency. Likewise, those too paralyzed by stigma to seek outside

community resources would not have been available to be approached for the present study. The

researcher was able to address such concerns by working with data collection sites to keep the

data as confidential as possible. If sites requested assessment packets be delivered by mail, so

that an outside researcher was never a part of the direct collection process, such a request was

honored. This effort, paired with the anonymous nature of the research, helped to minimize

potential discrepancies between those who were comfortable participating and those who were

not.

Convenience sampling also brings the risk of a sample lacking diversity, and therefore

not representing the greater population. The present sample lacked diversity in length of time

since clients had been diagnosed with HIV, which has the potential to have impacted certain

results, but remained consistent with other similar research when looking at other research. In

addition, the demographics of the sample were fairly consistent with demographic statistics

reported by the CDC, suggesting this sampling approach may not have greatly hindered the

present research in terms of representing the greater population. The diversity of the sample may

be in part due to the researchers attempt to reach out to diverse settings and agencies treating

those with HIV. The researcher encountered additional challenges in language barriers between

clients whose first language was something other than English. The researcher's lack of fluency

in other languages, primarily Spanish, left the researcher unable to draw on certain participants

for the study. Lastly, sampling for the current study brought unique challenges, such the

population at hand can be considered hard to reach for research purposes (Magnani, Sabin,

Saidel, & Heckathorn, 2005). Such a population is often hesitant to disclose their status, and

participate in research related to their HIV status, which often leaves researchers with few other sampling options (Magnani et al., 2005).

<div align="center">*Instrumentation*</div>

Aside from challenges with research design and sampling, limitations were lastly present in terms of instrumentation. Although each of the instruments utilized (i.e., *Berger HIV Stigma Scale, Impact of Events Scale-Revised, Multidimensional Scale of Perceived Social Support, Posttraumatic Growth Inventory*) boasted sound psychometric properties, all data collection instruments inevitably carry some measurement of error. Additionally, many of the instruments have limited use with HIV positive samples, and therefore noted validity and reliability of the instruments may not be accurate. Finally, although each of the individual instruments used report distinct scales through the use of exploratory factor analysis, the present data found issues of collinearity when utilizing the subscales of the instruments. The researcher relied on total scores as opposed to the subscales in answering the main research questions, in order to account for potential concerns of multicollinearity within the scales. In addition, although instrumentation concerns are inevitable, the research utilized instruments that have been commonly used in counseling and psychology research, and consistently report strong psychometric properties. Each of the main scales are backed by strong reliability (e.g., *PTGI* = .70, *MSPSS* = .85-.91, *Berger HIV Stigma Scale* = .91-.93, *IES-R* = .96), and have been validated through either exploratory or confirmatory factor analysis.

Each of these limitations serves to inform the reader of what cautions should be taken in interpreting the results of the study. These limitations should not, however, undermine the importance of the aforementioned results. Despite limitations of the study, the contributions of

the study outweigh the limitations. At this time, only one other study has questioned the role of stigma on the experience of PTG for PLWHA, therefore, these results bring unique and important considerations for counselors and counselor educators. The following section will address such implications.

Implications

The present research study brought about a number of counseling implications which could impact the counseling profession. Such implications have been categorized below in terms of: (a) implications for the counseling practice, and (b) implications for counselor education and counselor training.

Implications for Counseling Practice

The current study yields several important implications that evolve from each of the four research questions. Each of these questions was designed to identify variables and predictors that would lead to the experience of PTG in clients living with HIV. Recent research has consistently supported the notion that clients experiencing PTG, or growth following trauma, experience increased health benefits (Cadell, 2007). Expanding on these benefits, clients who have been able to experience PTG have shown decreased depression, less substance use, less hospitalizations, increased medication adherence, and stronger immune systems (Milam, 2004; Murphy & Hevey, 2013; Sawyer et al., 2011). These studies suggest the importance of clients experiencing such growth following the presence of trauma or highly challenging life events. Therefore, exploring ways in which more clients can get to a place of PTG, and inevitably experience these addressed benefits, could also mean significant financial savings in medical expenses for the state, longer lives for PLWHA, more fulfilling lives for PLWHA, and potentially reduced rates of HIV

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transmission. Given the results of the current study, counseling professionals will be better equipped to play a significant role in helping clients come to this place of growth.

The first finding revealed that stigma, social support, and impact of diagnosis, each fit into a regression model for PTG in a statistically significant way. In addition, the negative correlation between stigma and PTG suggests that stigma serves an inverse role in this model. This finding reveals to counselors that each of these areas (e.g., stigma, social support, and the impact of receiving an HIV diagnosis) are worth exploring in a counseling setting, since each have the potential to impact a client's growth following trauma. Further, of these predictor variables, stigma held the strongest relationship in leading to PTG. Therefore, it may behoove clinicians to integrate client issues of stigma into the counseling relationship in an attempt to unveil areas of concern. More specifically, considering that disclosure issues were most prominent in the present sample, concerns surrounding disclosure should be explored. Additionally, support groups or group counseling settings may serve as an important piece of working with clients with HIV, since adequate support is important in their growth.

Clinicians should further be mindful of the influence stigma holds in the lives of PLWHA, and recognize that their clients with HIV may be internalizing these unhealthy messages. Through the Berger HIV Stigma Scale, participants reported feelings of shame and guilt, in addition to feeling dirty, all stemming from their diagnosis. Counselors have the opportunity to assist clients in externalizing some of these stigmatized messages, in an attempt to alleviate feelings of dirtiness or unworthiness. Counselors and helping professionals can also be sensitive with the language they use with these clients (e.g., referring to clients as "a client living with HIV", rather than "an HIV positive client") so that clients can begin to see themselves as

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something more than their HIV status. In addition, such high levels of stigma have the power to isolate clients with HIV as they attempt to hide their status from others. Counseling professionals should be aware of clients' access to support and potential isolation. Further, this finding is particularly relevant considering the average length of time this sample had been living with HIV. Counselors may be inclined to expect long term survivors to be more adaptive to issues of stigma; while this study suggests the potential impact of stigma is present for all clients living with HIV.

The second research question explored the interaction between stigma and social support on the presence of PTG. Contrary to the researcher's hypothesis; the two variables did not produce a significant interaction effect. This finding informs clinicians that the presence of stigma is not dependent on social support in getting to a place of growth after trauma. Therefore, counseling professionals should not expect clients with adequate social support to be free from the burden of HIV stigma. The findings of this research question suggest that the effects of stigma on PTG are equal, regardless of the level of social support a client perceives. This finding further supports the need for clients to address issues of stigma within the counseling relationship. Clients with HIV are likely struggling with stigma in a number of ways (e.g., disclosure, personalized feelings of stigma, concern with public attitudes, negative self-image) which risk impeding on their personal growth. Counseling approaches which directly address stigma and shame may be beneficial with these clients. Further, the results of this study suggest that stigma is regularly affecting PLWHA, regardless of age, ethnicity, sexual orientation, education level, or gender. Therefore, counselors should check their own biases, and remember to address issues of stigma with all clients with HIV.

The research also included two secondary research questions exploring the influence of demographic variables on PTG, and measuring the overall impact of receiving an HIV diagnosis. When looking at the results of how demographic characteristics impact ones experience of PTG, counselors could benefit from the knowledge that clients with HIV have the potential to experience PTG. Throughout the data collection process, the researcher regularly received positive feedback from clients on how refreshing it was to consider and share positive outcomes and growth associated with their diagnosis. Counselors should recognize that some level of growth is not only possible, but likely, for clients with HIV, and therefore strengths based approaches which highlight such growth can be utilized. Further, this experience is possible regardless of ethnicity, sexual orientation, education, intimate relationship status, gender, and time since HIV diagnosis. In addition, the results suggest that spiritual or religious components lead to greater mean scores of PTG in the current sample. This finding is consistent with other PTG research that points to religious coping as a predictor of PTG (e.g., Cotton et al., 2006; Dalmida et al., 2012; Kremer et al., 2009). These findings serve to highlight the importance of clinical professionals exploring the spiritual needs of their clients who have experienced trauma, including those living with HIV. This implication seems particularly salient to address considering the current literature suggests counselors often neglect the topic of spirituality in the counseling relationship, often out of their own discomfort with the topic (Richards et al., 2009). Again, counselors should be aware of their own biases with spiritual issues, and feel comfortable addressing such a topic if it appears relevant to the client.

Lastly, the final research question which explores the traumatic impact of receiving an HIV diagnosis, serves to validate the need for counselors within this population. The found level

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of PTSD estimated within the present sample (38.5%) confirms that clients with HIV could continue to benefit from mental health interventions. In addition, techniques and approaches that are empirically supported to use with clients suffering from PTSD symptoms (e.g., CBT, EMDR, and exposure therapy) could be appropriate with clients with HIV. This finding also serves great importance in addressing the needs of PLWHA even during a time of increased medical resources and longer life expectancies. Progress surrounding HIV has led to common misconceptions of the virus as well (e.g., HIV can be cured, it is no longer impactful to receive a diagnosis). This finding confirms that regardless of the changing face of HIV, an HIV diagnosis continues to be potentially traumatizing, and can impact the overall mental health of clients with HIV. Aside from implications geared towards those in helping professions, the study also brought several implications for those involved in the scholarship of teaching and learning.

Implications for Counselor Training

The Council for Accreditation of Counseling and Related Educational Programs (CACREP. 2009) repeatedly reports the need for counselors to be well versed in trauma response, as well as the impact trauma has on clients. CACREP further implied a need for a greater knowledge base of trauma work in counselors following its 2006 review process (Webber & Mascari, 2009). The importance of counselors having a strong foundation in trauma work supports the need for counselors to be trained in all areas of trauma, including medical trauma. Knowing the benefits of PTG as an ideal client outcome for traumatized clients, findings such as those presented hold a place in the counseling curriculum as well. Counselors-in-training should be made aware that clients of trauma, including medical trauma, have the potential to get to a place of growth following their traumatic event. Crisis themed courses, which cover issues of

trauma, often focus on the negative outcomes associated with experiencing a traumatic event. It continues to be relevant for counselors in training to learn about such issues, including PTSD, but can also be relevant to learn of the positive outcomes possible following a traumatic event. Potential areas of growth (i.e., how clients relate to others/relationships, the ability to see new possibilities in life, recognizing personal strengths clients were previously unaware of, enhanced spiritual connections, and a greater appreciation for life) should be discussed with counselors-in-training so that they can more accurately understand how such growth occurs. The rate of PTSD revealed in this study also supports the need for counselor educators to include issues such as medical trauma into their lessons on trauma. This need is even further supported by the growing number of individuals living with HIV, the high rates of mental health concerns found within the population, and therefore, the high likelihood that mental health counselors will have such clients in their caseloads.

Lessons like this have a place as early as introductory courses, and can aide students in expanding their preconceived notions of what a client in crisis, or a client who has experienced trauma looks like. Theories courses also have the opportunity to address strengths based approaches, such as constructivist approaches to counseling (e.g., solutions focused counseling and narrative therapy). While some courses dictate the need to focus on client deficits (e.g., a diagnosis course), theories courses have the space to highlight client strengths, and address ways to explore how clients have grown or risen above obstacles. Theories of PTG have a place in these conversations and courses, and research such as the present study affirms the power of clients experiencing growth following trauma.

Recommendations for Future Research

The present sample is one of the first of its kind, particularly in looking at the influence of stigma on PTG in PLWHA. Because this topic is new, within the realm of HIV, initial steps should be to replicate the study. Due to the lack of diversity in terms of length of time since diagnosed with HIV, replication of the study should include a more diverse sample. In addition, recruiting a larger sample size in future attempts at this study could lead to greater effect sizes and therefore stronger findings. Given the challenges the researcher had in recruitment for the present study, providing participant incentives may be helpful in replicating the study. Additionally, since the present research focused on those living within Florida, future research could benefit from expanding the sample geographically, and possibly comparing results based on region. Expanding the current research to other geographical regions could also assist in expanding the number of participants.

With PTG research on the rise, exploratory research in the area remains necessary. Future research should continue to explore the relationship of predictor variables on the experience of PTG in order to getting a more clearly defined picture of the PTG experience. With the dearth of literature surrounding stigma and PTG within the HIV community, the predictor of stigma should continue to be included in this PTG research. This type of research will continue to be necessary as the face of HIV changes and research in the field demands updating.

Given the noted limitations of the research design, additional empirical research is warranted. Experiential designs utilizing these constructs would be helpful in eliminating some of the challenges brought about by the correlational research approach of the current study. In addition, using random sampling in such approaches would further strengthen the design. The

current studies results make a clear statement about the impact of stigma on PTG for PLWHA, as well as the level of traumatic impact still happening within the sample. Based on these results, interventions targeted at eliminating stigmatized beliefs could be effective in bringing about greater growth following diagnosis. Assuming future research is able to recruit a greater sample size, more sophisticated data analysis procedures, such as structural equation modeling, can be used in similar research. In collecting data the researcher witnessed countless stories internalized stigma amongst the sample. The researcher predicts that collecting qualitative data throughout future studies will assist in gathering richer data regarding the experiences of those sampled.

Lastly, the researcher believes constructivist approaches, such as narrative therapy, may have a place in future PTG research, perhaps as a way to combat stigma in clients living with HIV. Narrative therapy joins the counselor and client in identifying messages that have influenced their way of thinking. The current research supports that messages carrying stigma are still abound for clients with HIV, and are further inhibiting clients from getting to a place of growth. The researcher recommends future research interventions, based on constructivist tenets that aim to externalize clients' diagnoses, and therefore eliminate some feelings of stigma clients have internalized.

<u>Conclusion</u>

The objective of this final chapter was to interpret the aforementioned results, provide clinical and counselor education implications from those results, and highlight directions for future research. Additionally, this chapter attempted to synthesize these results and implications with previous literature existing in the field. Limitations of the research design, sampling, and

instrumentation were also discussed. Further, this chapter serves as the culmination of the present research study.

The study contributed to the existing literature in the field by adding to the limited research surrounding PTG and PLWHA. In addition, the study contributes the first study of its kind exploring the construct of stigma in relation to HIV and PTG. The study reveals the statistically significant relationship between stigma, social support, and PTG, and highlights how each of these predictor variables contributes to a model of PTG. Additionally, the study begins the conversation around the role of stigma in experiencing PTG, and reports that no significant interaction between stigma and social support were found. Finally, although the reality of HIV has continued to change (i.e., HIV now being viewed as more chronic than terminal), the present study suggests a great deal of trauma is still found in the sample following diagnosis. With each of these findings in mind, counselors may way to consider the role of stigma in the lives of clients with HIV. Moreover, counselor educators should recognize the impact of an HIV diagnosis, and include medical trauma in trauma related conversations. The study provides an important start to the investigation of PTG in PLWHA, but continues research in the area is still needed; particularly when including the impact of stigma on this experience.

APPENDIX A:
UNIVERSITY OF CENTRAL FLORIDA IRB APPROVAL

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
         FWA00000351, IRB00001138

To: **Melissa Rae Zeligman** and

Date: **October 15, 2013**

Dear Researcher:

On 10/15/2013, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	Exploring the Impact of Stigma and Social Support on the Experience of Posttraumatic Growth in Adults Living with HIV
Investigator:	Melissa Rae Zeligman
IRB Number:	SBE-13-09627
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Patria Davis on 10/15/2013 03:14:28 PM EDT

IRB Coordinator

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APPENDIX B:
INFORMED CONSENT FOR PARTICIPANTS

Exploring the Impact of Stigma and Social Support on the Experience of Posttraumatic Growth in Adults Living with HIV

Explanation of Research

Principal Investigator(s):   Melissa Zeligman, M.A.

Faculty Supervisor(s):   W. Bryce Hagedorn, PhD & Sejal M. Barden, PhD

Investigational Site(s):   *The Center, Project Response, Centaur*

You are being invited to take part in an anonymous research study. Whether you take part is completely up to you. The purpose of this research study is to gain a better understanding of clinical approaches to working with adults living with HIV/AIDS. Living with HIV brings a number of emotional challenges, which if left untreated have the potential to affect ones physical health and quality of life. As researchers, we believe that by better understanding the clinical needs of clients living with HIV, we may gain insights on how counselors and other helping professional can be more supportive and effective with clients. You have been asked to take part in this research study because you are living with HIV/AIDS in the state of Florida. You must be 18 years of age or older to be included in the research study.

What you will be asked to do in the study: The study we are conducting will take minimal involvement. You will be asked to fill out a series of assessments on topics such as: stigma surrounding HIV, religious coping, social support, and personal changes since your diagnosis. These assessments give us a better understanding of your experiences. We expect that completing all of these assessments will take 15-30 minutes. By agreeing to participate, you are only agreeing to complete these assessments once.

Risks: While we do not anticipate risk with this study, we understand that talking about your experience with HIV can be sensitive. For this reason, a list of additional resources has been provided. You do not have to answer every question or complete every task. You will not be penalized if you skip questions or tasks and you do not have to answer any questions that make you feel uncomfortable.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints, or think the research has hurt you, feel free to contact:

Melissa Zeligman, M.A., Principal Investigator, College of Education, University of Central Florida at 321-543-4787 or through email at mzeligman@knights.ucf.edu

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

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APPENDIX C:
PARTICIPANT DEMOGRAPHIC FORM

DEMOGRAPHIC INFORMATION QUESTIONNAIRE

Instructions: Please check one answer that applies for the questions below. Please provide the answer that describes you most accurately.

1. **Please select your Gender Identity. Do you consider yourself to be:**
□ Female
□ Male
□ Transgender
  [ ] FTM
  [ ] MTF
□ Something else- please specify _____
□ I prefer not to answer

2. **Please select your sexual orientation. Do you consider yourself to be:**
□ Bisexual
□ Gay (male)
□ Heterosexual/Straight
□ Lesbian
□ Something else- please specify_____.
□ Prefer not to answer

3. **Please select your highest completed education:**
□ less than HS diploma
□ HS or GED equivalent
□ Vocational/Technical
□ Some college
□ Bachelor's
□ Master's
□ Doctorate
□ Professional (MD, JD, etc.)

4. **Please select the amount of time that has passed since your HIV diagnosis:**
□ less than 6 months
□ 7 months-1 year
□ 1-3 years
□ 4-6 years
□ 7-10 years
□ More than 10 years

5. **Please indicate your intimate relationship status:**
□ Single
□ In a relationship
□ Cohabitating
□ Married
□ Separated/Divorced
□ Widowed

6. **Please select your current religious affiliation:**
□ Buddhist
□ Christian
□ Catholic
□ Hindu
□ Muslim
□ Non-religious
□ Jewish
□ Other: _____

7. **Please select your number of social supports (e.g., friends, family, support groups):**
□ None
□ 1-2
□ 3-4
□ 5 or more

8. **Please select your ethnicity:**
□ African American or Black
□ American Indian or Alaska Native
□ Asian
□ White (non-Hispanic)
□ Hispanic or Latino
□ Native Hawaiian or Pacific Islander
□ Two or more Races
□ Other:_____

9. **Please fill in your current *age*:** _____

Instructions: For the questions below please choose responses that best describe your reaction to receiving an HIV diagnosis.

10. **Since your diagnosis you have had persistently re-experienced your diagnosis? Yes   No**

    If yes, which of the following ways have you re-experienced your diagnosis (check all that apply)

    [ ] recurrent, involuntary, and intrusive memories

    [ ] traumatic nightmares

    [ ] flashbacks or lack of consciousness

    [ ] Intense or prolonged distress after exposure to traumatic reminders

    [ ] Unpleasant reaction to activities that remind you of your diagnosis

11. **Since your diagnosis you have avoided situations that remind you of your diagnosis? Yes   No**

    If yes, which of the following ways have you avoided your diagnosis (check all that apply)

    [ ] Avoided HIV-related thoughts or feelings

    [ ] Avoided HIV-related reminders (ex. People, places, conversations, activities, objects, or situations)

11. **Since your diagnosis you have noticed the following reactions have begun or worsened? (check all that apply)**

    [ ] Irritable or aggressive behavior

    [ ] Self-destructive or reckless behavior

    [ ] Feeling constantly tense or on guard

    [ ] Easily startled

    [ ] Problems concentrating

    [ ] Problems sleeping

APPENDIX D:
POSTTRAUMATIC GROWTH INVENTORY

Posttraumatic Growth Inventory

Listed Below are 21 areas that are sometimes reported to have changed after traumatic events. Please mark the appropriate box beside each description indicating how much you feel you have experienced change in the area described since your HIV diagnosis. The 0 to 5 scale is as follows:

0 = I did not experience this change as a result of my crisis
1 = I experienced this change to a very small degree
2 = a small degree
3 = a moderate degree
4 = a great degree
5 = a very great degree as a result of my crisis

	Possible areas of growth and change	0	1	2	3	4	5
a.	My priorities about what is important in life						
b.	An appreciation for the value of my own life						
c.	I developed new interests						
d.	A feeling of self-reliance						
e.	A better understanding of spiritual matters						
f.	Knowing that I can count on people in times of trouble						
g.	I established a new path for my life						
h.	A sense of closeness with others						
i.	A willingness to express my emotions						
j.	Knowing I can handle difficulties						
k.	I'm able to do better things with my life						
l.	Being able to accept the way things work out						
m.	Appreciating each day						
n.	New opportunities are available which wouldn't have been otherwise						
o.	Having compassion for others						
p.	Putting effort into my relationships						
q.	I'm more likely to try to change things which need changing						
r.	I have a stronger religious faith						
s.	I discovered that I am stronger than I thought I was						
t.	I learned a great deal about how wonderful people are						
u.	I accept needing others						

Tedeschi, R.G. & Calhoun, L.G. (1996). The posttraumtic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*, 455-471.

APPENDIX E:
BERGER HIV STIGMA SCALE

Berger HIV Stigma Scale ©1999

This study asks about some of the social and emotional aspects of having HIV. For most of the questions, just circle the letters or numbers that go with your answer. There are no right or wrong answers. Feel free to write in comments as you go through the questions.

This first set of questions asks about some of your experiences, feelings, and opinions as to how people with HIV feel and how they are treated. Please do your best to answer each question.

For each item, circle your answer: Strongly disagree (SD), disagree (D), agree (A), or strongly agree (SA).

		Strongly Disagree (SD)	Disagree (D)	Agree (A)	Strongly Agree (SA)
1.	In many areas of my life, no one knows that I have HIV	SD	D	A	SA
2.	I feel guilty because I have HIV	SD	D	A	SA
3.	People's attitudes about HIV make me feel worse about myself	SD	D	A	SA
4.	Telling someone I have HIV is risky	SD	D	A	SA
5.	People with HIV lose their jobs when their employers find out	SD	D	A	SA
6.	I work hard to keep my HIV a secret	SD	D	A	SA
7.	I feel I am not as good a person as others because I have HIV	SD	D	A	SA
8.	I never feel ashamed of having HIV	SD	D	A	SA
9.	People with HIV are treated like outcasts	SD	D	A	SA
10.	Most people believe that a person who has HIV is dirty	SD	D	A	SA
11.	It is easier to avoid new friendships than worry about telling someone that I have HIV	SD	D	A	SA
12.	Having HIV makes me feel unclean	SD	D	A	SA

13.	Since learning I have HIV, I feel set apart and isolated from the rest of the world...................	SD	D	A	SA
14.	Most people think that a person with HIV is disgusting..	SD	D	A	SA
15.	Having HIV makes me feel that I'm a bad person..........	SD	D	A	SA
16.	Most people with HIV are rejected when others find out..	SD	D	A	SA
17.	I am very careful who I tell that I have HIV....................	SD	D	A	SA
18.	Some people who know I have HIV have grown more distant...	SD	D	A	SA
19.	Since learning I have HIV, I worry about people discriminating against me	SD	D	A	SA
20.	Most people are uncomfortable around someone with HIV...	SD	D	A	SA
21.	I never feel the need to hide the fact that I have HIV...	SD	D	A	SA
22.	I worry that people may judge me when they learn I have HIV...	SD	D	A	SA
23.	Having HIV in my body is disgusting to me	SD	D	A	SA

Many of the items in this next section assume that you have told other people that you have HIV, or that others know. This may not be true for you. If the item refers to something that has not actually happened to you, please imagine yourself in that situation. Then give your answer ("strongly disagree," "disagree," "agree," "strongly agree") based on how you think you would feel or how you think others would react to you.

		Strongly Disagree (SD)	Disagree (D)	Agree (A)	Strongly Agree (SA)
24.	I have been hurt by how people reacted to learning I have HIV..	SD	D	A	SA
25.	I worry that people who know I have HIV will tell others..	SD	D	A	SA
26.	I regret having told some people that I have HIV..........	SD	D	A	SA

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27.	As a rule, telling others that I have HIV has been a mistake	SD	D	A	SA
28.	Some people avoid touching me once they know I have HIV...	SD	D	A	SA
29.	People I care about stopped calling after learning I have HIV...	SD	D	A	SA
30.	People have told me that getting HIV is what I deserve for how I lived my life	SD	D	A	SA
31.	Some people close to me are afraid others will reject them if it becomes known that I have HIV	SD	D	A	SA
32.	People don't want me around their children once they know I have HIV	SD	D	A	SA
33.	People have physically backed away from me when they learn I have HIV	SD	D	A	SA
34.	Some people act as though it's my fault I have HIV.......	SD	D	A	SA
35.	I have stopped socializing with some people because of their reactions to my having HIV	SD	D	A	SA
36.	I have lost friends by telling them I have HIV.................	SD	D	A	SA
37.	I have told people close to me to keep the fact that I have HIV a secret..	SD	D	A	SA
38.	People who know I have HIV tend to ignore my good points...	SD	D	A	SA
39.	People seem afraid of me once they learn I have HIV...	SD	D	A	SA
40.	When people learn you have HIV, they look for flaws in your character....................................	SD	D	A	SA

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APPENDIX F:
MULTIDIMENSIONAL SCALE OF PERCIEVED SOCIAL SUPPORT

Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

		Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very Strongly Agree
1.	There is a special person who is around when I am in need.	1	2	3	4	5	6	7
2.	There is a special person with whom I can share joys and sorrows.	1	2	3	4	5	6	7
3.	My family really tries to help me.	1	2	3	4	5	6	7
4.	I get the emotional help & support I need from my family.	1	2	3	4	5	6	7
5.	I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7
6.	My friends really try to help me.	1	2	3	4	5	6	7
7.	I can count on my friends when things go wrong.	1	2	3	4	5	6	7
8.	I can talk about my problems with my family.	1	2	3	4	5	6	7
9.	I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
10.	There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
11.	My family is willing to help me make decisions.	1	2	3	4	5	6	7
12.	I can talk about my problems with my friends.	1	2	3	4	5	6	7

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APPENDIX G:
IMPACT OF EVENT SCALE-REVISED

Impact of Events Scale- Revised

Instructions: Below is a list of difficulties people sometime have after stressful life events. Please read each item, and then indicate how distressing each difficulty has been for you DURING THE PAST SEVEN DAYS with respect to living with HIV. How much were you distressed or bothered by these difficulties?

0 = Not at all   1= A little bit   2 = Moderately   3= Quite a bit   4= Extremely

		0	1	2	3	4
1	Any reminder brought back feelings about it.					
2	I had trouble staying asleep.					
3	Other things kept making me think about it.					
4	I felt irritable and angry.					
5	I avoided letting myself get upset when I thought about it or was reminded of it.					
6	I thought about it when I didn't mean to.					
7	I felt as if it hadn't happened or wasn't real.					
8	I stayed away from reminders about it.					
9	Pictures about it popped into my mind.					
10	I jumped and easily startled.					
11	I tried not to think about it.					
12	I was aware that I still had a lot of feelings about it, but I didn't deal with them.					
13	My feelings about it were kind of numb.					
14	I found myself acting or feeling like I was back at that time.					
15	I had trouble falling asleep.					
16	I had waves of strong feelings about it.					
17	I tried to remove it from my memory.					
18	I had trouble concentrating.					
19	Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart.					
20	I had dreams about it.					
21	I felt watchful and on guard.					
22	I tried not to talk about it.					

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APPENDIX H:
REYNOLDS SHORT FORM SOCIAL DESIRABILITY SCALE

Reynolds Short Form (A) of the Marlowe-Crowne Social Desirability Scale

Instructions: Read each of the following statements carefully and indicate whether the statement if true (T) or false (F) for you.

	Question	TRUE (T) or FALSE (F)	
1	It is sometimes hard for me to go on with my work if I am not encouraged.	T	F
2	I sometimes feel resentful when I don't get my way.	T	F
3	No matter who I'm talking to, I'm always a good listener.	T	F
4	There have been occasions when I took advantage of someone.	T	F
5	I'm always willing to admit it when I make a mistake.	T	F
6	I sometimes try to get even rather than forgive and forget.	T	F
7	I am always courteous, even to people who are disagreeable.	T	F
8	I have never been irked when people expressed ideas very different from my own.	T	F
9	There have been times when I was quite jealous of the good fortune of others.	T	F
10	I am sometimes irritated by people who ask favors of me.	T	F
11	I have never deliberately said something that hurt someone's feelings.	T	F

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APPENDIX I:
LOCAL RESOURCES SHEET (CENTRAL FLORIDA)

Counseling Resources

Orange County Health Dept

HIV/AIDS Programs

407-836-2689

832 W. Central Blvd, Orlando 32805

Center for Drug Free Living

5029 N. Lane, Orlando 32808

407-245-0010

Other Locations:

- 1111 N. Rock Springs Rd., Apopka 32712
- 475 W. Story Rd, Ocoee 34761
- 5151 Raleigh St., Orlando 32811
- 12050 E. Colonial Dr., Orlando 32826
- 2346 W. Oak Ridge Rd., Orlando 32809
- 604 Courtland St., Orlando 32804
- 947 W. Morse Blvd, Winter Park 32789

Farmworker Association of Florida

815 S. Park Ave., Apopka 32703

407-886-8960

Orange County Health Services

101 Westmoreland, Orlando 32805

407-836-7170

Florida Hospital

601 E. Rollins St., Orlando 32803

407-303-1531

Apopka Family Health Center

225 E. 7 th St., Apopka 32703

407-886-6201

Hope & Help Center of Central Florida

935 Woodcrest Drive

Winter Park 32792

407-645-2577

Reach Out Program, Inc

632 S. Dilard St., Winter Garden 34787

407-654-0883

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