An Investigation of the Impact of Social Capital on the Health-

Related Quality of Life of Urban Populations Living With

HIV/AIDS

By

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ABSTRACT OF THE DISSERTATION

An investigation of the impact of social capital on the health-related quality of life of
urban populations living with HIV/AIDS

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The objective of this research is to study the impact of social capital on health-related quality of life (HRQOL) among low-income people living with HIV/AIDS (PLWHA). It measures three proposed proxies for social capital—provider engagement, socioeconomic status (SES), and HIV/AIDS stigma—and investigates their effects on HQROL using the indicators of overall health, mental health, and HIV/AIDS care. It also measures covariates that have been tied to HQROL among low-income, underserved PLWHA, such as race, sexual orientation, gender, and substance abuse. The theoretical framework is grounded in the social capital and health-related quality of life model. The survey "Positive Connections: Connecting HIV-Infected Patients to Care, 2004–2006 [United States]" is analyzed. The study sample included 103 low-income PLWHA. Using logistic regression models, the study explores provider engagement, SES, HIV/AIDS stigma, and their impact on HQROL (measured by overall health, mental health and HIV/AIDS care) with the covariates of race, gender, sexual orientation, and substance abuse. The results show that provider engagement is a significant predictor of HIV/AIDS care, meaning that a person's likelihood of getting HIV/AIDS care, but not the person's overall or mental health, is related to provider engagement. No direct associations were

found between SES, HIV/AIDS stigma, and the indicators of HRQOL. Substance abuse

is significantly associated with both overall and mental health, indicating that histories of

substance abuse make participants more likely to have poor overall and mental health.

The findings suggest that provider engagement is a better proxy than SES or HIV/AIDS

stigma for conveying the effect of social capital on HRQOL. The findings also suggest

that this effect is mediated by substance abuse and self- identification as bisexual and

may not lead to improved overall or mental health. This suggests the importance of an

increased focus on provider–patient engagement in HIV/AIDS care from a theoretical

perspective; however, to date, little has been said about integrating this type of

engagement into health policy. Hence, provider engagement and its implications for

improved HIV/AIDS care must be included in future policy conversations at the national,

state, and community levels.

I dedicate this work to my parents, who supported my education during my formative

years and beyond. You are somewhere up there in heaven, dancing with the angels. Mom,

you died so suddenly that I did not get to say goodbye, and I miss you every single day.

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CHAPTER 1

INTRODUCTION

Social capital and health-related quality of life (HRQOL) have emerged as two
important issues for low-income, underserved HIV/AIDS-infected individuals. Although
research has shown that social capital has a positive effect on HRQOL among people
living with HIV/AIDS (PLWHA), most of these studies have been conducted in large
rural and metropolitan communities with little attention paid to low-income urban
populations (Lafoon et al., 2011; Latkin, German, &Viahov 2013). Further, most
research remains focused on the positive benefits of social capital without considering
many of the individual, community, and structural-level conditions that makes it nearly
impossible for PLWHA to improve their health statuses (Haribov, & Weaver, 2014).

Using the Social Capital and Health-Related Quality-of-Life Model presented in
detail in Chapter Two, this study measures three proxies of social capital: provider
engagement, socioeconomic status, and HIV/AIDS stigma; it also investigates their
impact on HRQOL using the indicators of overall health, mental health, and HIV/AIDS
care. Additionally, this study measures covariates that have been tied to HRQOL among
low-income, underserved HIV/AIDS-infected individuals including gender, race, sexual
orientation, and substance abuse. Social capital is a highly important concept that could
have tremendous health benefits for low-income PLWHA. In this study, the provider
engagement, socioeconomic status (SES), and HIV/AIDS stigma was utilized as proxies

for social capital. In the next several chapters, how it shapes the lives of low-income

PLWHA will be examined and discussed.

It is well-documented that there are many challenges associated with measuring

social capital, such as a lack of a uniform way to measure it, range of definitions, its

multidimensional concepts, and also the debate surrounding whether it should be

measured qualitatively or quantitatively (Portes, 1998). Critics have lamented its

methodological flaws and weaknesses, but still, many great studies have surfaced in the

past two decades to show that the holders of social capital have better health outcomes

than those with little or no access to it. For the purpose of this study, the three

aforementioned proxies of social capital will be measured. While many theorists differ in

their conceptions of social capital, there is a general consensus that low-income PLWHA

lack it, and this deficit reduces their chances of improving their HRQOL. For this reason,

I am going to argue that, in shaping the HRQOL of low-income PLWHA, social capital

can be measured using the proxies of provider engagement, SES and HIV/AIDS stigma.

The first several chapters will examine these proxies of social capital and their impact on

the HRQOL of low-income PLWHA.

Putnam (2000) argues that there are two types of social capital: bonding capital

and bridging capital. Bonding capital refers to the relationships that are found within a

social group, while bridging capital refers to interactions across or between social groups

that have tangible benefits. In this study, provider engagement is considered a type of

bridging social capital because it brings HIV/AIDS providers together with patients to

facilitate cooperation for the benefit of health. For example, the HIV/AIDS provider is

responsible for informing patients about their medications, following up with them for future visits, and giving them other information to help them stay healthy. In response, patients ideally stay in HIV/AIDS care, adhere to their medication regimen, and engage their providers in every area of their care. Putnam (2000) further notes that social capital must be studied in relation to the socioeconomic statuses of individuals and also within the context of inequalities among groups and within society. In this study, HIV/AIDS stigma is used as a proxy for inequality among groups and within society. I argue that it can be interpreted as a kind of negative social capital and that its presence can indicate reduced access to social capital-derived benefits.

As a growing body of research links social capital to improved HRQOL among PLWHA (Kim, 2013; Mohnen, Vulker, Flap, Subramanian & Groenewegen, 2015; Ransome, Kawachi, & Dean, 2016), a more complete understanding of what constitutes social capital and of its benefits and disadvantages is warranted. Social capital is commonly conceptualized as the availability of networks and connections among the family members, friends, social groups, and community associations found within a geographic location or neighborhood (Ferragina, 2012; Giordano, Ohlsson, & Lindstrom, 2011; Field, 2016; Rostila, 2013; Putnam, 2000; Kawachi, Kennedy, & Glass, 1999; Villalonga-Olives & Kawachi, 2010). When trust, norms of reciprocity, provider engagement, and the dynamics of relationships are present, social capital can be very beneficial for people with HIV/AIDS (Hyyppä, 2010; Jones, 2011; Lin & Erickson, 2010; Kawachi et al., 2013; Ransome et al. 2016). Within this context, information about HIV/AIDS care is easily made available to PLWHA. Such information can help these

individuals connect with a network of providers who will engage them in care and also help them to achieve their ideal health outcomes (Aldrich, 2012; Allan & Cotts, 2012; Kawachi, Subramanian, & Kim, 2010; Ransome et al. 2016; Southwell, 2012). Social capital can enable individuals to receive guidance on obtaining insurance, transportation assistance, medication management, and assistance in connecting with their healthcare providers. It can also help them to find housing and other benefits (Minkler, 2012). Further, it is important to understand that, for these individuals, the flow of information matters. Social capital is also important in helping people with HIV/AIDS to improve their HRQOL and remain in HIV/AIDS-related care (Kawachi et al., 2013; Mohen et al, 2015; Ransome et al. 2016).

Social capital is described as the relationships that tie individuals and their communities' together (Field, 2016; World Bank, 1999). Others have described it as those features of a social organization that facilitate trust and cooperation for the mutual benefit of its members (Eriksson, 2011; Lin & Erickson, 2010; Jones, 2011; Putnam, 2000). Additionally, social capital has been shown to be important for maintaining population health (Afzali, Shahhosseni, Hamzeghardeshi, 2015; Kawachi, Kennedy, & Glass, 2012; Kim, 2013). While there is much controversy and little agreement on how to define and measure social capital and HRQOL, researchers in most disciplines agree that people with greater social capital have better access to resources and improved complementary and alternative therapies (Afzali et al. 2015;Eriksson, 2011;Kawachi, Subramanian, & Kim, 2010; Putnam, 2000;Southwell, 2012). Furthermore, with recent advances in medication and holistic therapies to treat and care for patients with

HIV/AIDS, there has been a dramatic increase in survival time; hence, social capital and HRQOL among PLWHA have become issues of interest for researchers, providers, and policy analysts (Condon & Sinha, 2010; Kasimbazi, 2011; Marx, Zerden, Fernando, & Testa, 2011; Nazim & Weaver, 2014; Ransome et al. 2016; Williams, Mohammed, Leavell, & Collins, 2010). Many healthcare providers now focus their efforts on the long-term mental health and well-being of HIV/AIDS patients (Black & Contrell, 2012; Condon & Sinha, 2010; Najomi, Anbary, & Ranjbar, 2007; Rostila, 2013) because HIV/AIDS has been successfully transformed from a death sentence to a manageable chronic disease (Liamputtong, 2013; Parsons, Kersgaw, Sikkema, & Hensen, 2010; UNAIDS, 2012).

In just over 34 years, HIV/AIDS has affected every region of the world. According to some experts, there are approximately 13 million individuals worldwide who are infected with the HIV virus (Centers for Disease Control [CDC], 2012; UNAIDS, 2012). Fortunately, life expectancy among people with HIV/AIDS increased from six months to two years in the 1980s and has continued to increase consistently over time, such that, in 2014, people living with HIV/AIDS can expect to live up to 20 to 30 years after becoming infected (CDC, 2014). This type of increase in life expectancy has made it increasingly important for researchers to study the relationships between social capital and HRQOL for PLWHA (Haribov & Weaver, 2014; Ransome et al. 2014). The topic is of considerable importance, since there is no known cure for HIV/AIDS and the rate of infection seems to be growing in many urban communities in the United States (Condon & Sinha, 2010; Kasimbazi, 2010; Nyawasha, 2011). While it must be said that

America has made some strides in curtailing the spread of the HIV/AIDS through education and preventive measures, much more needs to be done to eradicate HIV/AIDS from society and further increase the life expectancy and quality of life for those already living with it. Furthermore, in poor urban neighborhoods, the HIV/AIDS epidemic marks a deadly convergence of concentrated poverty, low SES, and HIV-related stigma (Hoots et al. 2015; Williams et al., 2010). This deadly convergence of factors among underserved HIV/AIDS-infected individuals has positioned this very vulnerable population to suffer from reduced access to healthcare, which limits the availability of HIV testing and preventive HIV/AIDS education (Hoots, Finlayson, Wejnert, & Paz-Bailey, 2015; Eaton et al. 2015;Mugavero, Amico, Horn, & Thompson, 2013). It has also increased their exposure to risky sexual behavior and high crime rates, which often disrupt employment and social capital (CDC, 2012).

Studies have shown that there is a disproportionate burden of HIV/AIDS among under-represented urban populations within the United States (CDC, 2015; CDC, 2013; UNAIDS, 2012). According to researchers at the Centers for Disease Control, the prevalence of HIV/AIDS is significantly higher in poor urban neighborhoods than in the general population because of the high number of PLWHA in these communities who are unable to access initial or follow-up care (CDC, 2013). This situation often results in little to no engagement with HIV/AIDS providers. As a result, poor urban PLWHA often experience a high number of missed appointments, persistent problems with substance abuse, stigma, and many other barriers to treatment such as a lack of insurance, mental

health problems, and the high unemployment rates common to urban populations (Messer et al., 2013; Rowan et al., 2014).

Researchers at the CDC (2014) have found that PLWHA who engage in the care cycle with their HIV/AIDS healthcare providers and other related support services have greater access to highly effective antiretroviral medication that can extend their lives, which correlates highly with HRQOL. Yet, in spite of the availability of these medications to improve the lifespan of PLWHA, HIV/AIDS care remains significantly underutilized among low-income PLWHA (Christopoulos, Das, & Colfax, 2011; Remien et al. 2015). The above lack of engagement then poses a serious health threat to this population. Researchers at the CDC have released data showing that, within the United States, underserved HIV/AIDS-infected individuals account for almost 70% of those who are newly diagnosed with HIV/AIDS. Additionally, from 2008 to 2010, there was a 20% increase in new HIV/AIDS infection among these groups (CDC, 2012). One key factor that continues to pose serious health threats to this vulnerable population may be a lack of provider engagement. The lack of provider engagement has become a serious concern among providers of services and policy analysts, since it is linked to increased morbidity and mortality rates among urban populations (Christopoulos et al. 2011; George, Garth, & Wohl, 2009;Remien et al. 2015).

Another major concern is that underserved HIV/AIDS-infected individuals must cope with a host of stressors that can significantly impact their HRQOL. Such stressors can arise from the process of living with HIV/AIDS or the experience of having little to no social capital (Habibov & Weaver, 2014; Persons, Kershaw, Sikkema, & Hensen,

2010; Ransome et al. 2016). To address this serious public health problem, a team of

researchers led by Dr. Edward Gardner generated the HIV/AIDS care continuum, or

"Cascade." This model lists a series of successive stages of HIV/AIDS medical care,

beginning from the day of diagnosis and continuing to the day that viral-load suppression

is achieved. Dr. Edward Gardner and his colleagues note that, "for individuals with

human immunodeficiency virus (HIV) to fully benefit from potent combination

antiretroviral therapy, they need to know that they are HIV infected, be engaged in

regular HIV/AIDS care, and receive and adhere to effective antiretroviral therapy"

(AIDS.gov, 2012, p. 2). Since its inception in 2011, federal, state, and local officials have

utilized the HIV/AIDS care continuum to help them identify gaps in HIV/AIDS services

and develop strategies to improve engagement in care and subsequent health outcomes

for PLWHA (Christopoulos et al. 2011; Yehia et al. 2015).

In a major step to control the further spread of HIV/AIDS and meet the goals of

the National AIDS strategy, which include reducing the number of new infections and

improving HIV/AIDS care, President Obama issued an executive order in 2013 to

establish what he called the HIV/AIDS care Continuum Initiative (AIDS.gov, 2012, p. 2).

The purpose of this program is to further strengthen existing HIV/AIDS care initiatives

that were developed by Dr. Gardner and his team of researchers to link those with

HIV/AIDS to HIV providers as well as to develop new approaches to reduce HIV testing

disparities (AIDS.gov, 2012). In spite of the extraordinarily positive efforts made by the

president to keep PLWHA active in the HIV/AIDS care Continuum, a lack of

engagement between HIV/AIDS providers and their patients continues to pose a serious threat to the elimination of HIV/AIDS.

As mentioned earlier, in order for this initiative to work, healthcare providers must engage PLWHA at every stage of the HIV/AIDS care Continuum. The first stage of the continuum begins with HIV/AIDS diagnosis and infection. Once an individual is diagnosed, the healthcare provider must make sure that the individual is connected to an HIV/AIDS provider who can care for them. Providers must be willing to offer HIV/AIDS treatment and counseling to help these patients stay healthy and to educate them so that they do not pass the virus on to others. Thirdly, the providers must offer patients antiretroviral therapy so that the virus can reach a point in which it is undetectable. Once individual patients are consistently engaged in HIV/AIDS care and adhere to their course of therapy, they can enjoy a greater probability of living long, healthy lives, and their chances of passing the virus on to others are drastically reduced (AIDS.gov, 2012; Paz-Bailey et al., 2013).

The following is the HIV/AIDS care Continuum Model.

Source: www.aids.gov/federal-resources/policies/care-continuum.

Background of the Study

HIV/AIDS has challenged people of all racial and ethnic backgrounds by raising fears about disease transmission and treatments and demanding cost-effective ways to provide medicine to the infected in a time of economic uncertainty (Brown, McIntyre, & Trujillo, 2003; Earnshaw et al., 2013; Gilbert & Wright, 2003; Pellowski, Kalichman, Matthews, & Adler, 2013). Despite evidence that HIV/AIDS-prevention efforts have been moderately successful in the United States, the persistence of high transmission rates within urban communities among low-income PLWHA suggests that HIV/AIDS interventions may be missing critical factors that contribute to ongoing transmission among these groups (CDC, 2012; Yehia et al. 2015). Many PLWHA are living longer while successfully managing this chronic disease because of new and improved medical treatments. As noted previously, as life expectancy increases (CDC, 2012), social capital becomes increasingly important.

There are key sources of social capital that can benefit individuals both socially and economically (World Bank, 2010). Social capital is important for low income PLWHA because members of this group are often marginalized and oppressed, and their need to access the kinds of benefits derived from social capital is greater. Benefits and resources that spring from social capital can be especially important in helping PLWHA cope with the stressors they must confront on a daily basis (Earnshaw et al. 2013). Social capital among underserved HIV/AIDS-infected individuals may take the form of trust and reciprocity between individuals and within their social networks, which can result in the sharing of important goods and resources. Information-sharing, emotional support and

the reinforcement of shared values among community members can help create critically important social support systems that emerge from strong social networks (Chase, 2011).

However, social capital is often scarce in urban neighborhoods because of the presence of stressors such as racism, concentrated poverty, classism, discrimination, and other health-related factors (Haines, Beggs & Hurlbert, 2011; Hobson-Prater& Leech, 2012). Further, an individual's socioeconomic status is among the many factors that have been found to impact HRQOL. Researchers have long been able to establish a relationship between SES and HRQOL among PLWHA in urban communities (Williams & Mohamed, 2010). Individuals with high incomes often report better HRQOL than those with lower incomes. This outcome is often attributed to adequate insurance, different and better healthcare options, and higher levels of employment in high-income communities. By contrast, individuals with low SES, who often reside in poor urban communities, are likely to experience common urban stressors such as high unemployment and crime rates. These stressors typically have an adverse impact on their HRQOL. Low-income PLWHA living in these communities also experience additional stress factors that have been found to contribute to negative overall and mental health outcomes. For example, urban neighborhoods with high crime rates are associated with greater mortality and lower HRQOL (Sidibe, 2011). Additionally, there is the issue of HIV/AIDS stigma.

Stigma remains one of the most poorly understood aspects of HIV/AIDS despite the strong negative influence it has had on patterns of infection among urban populations. Although the reduction of HIV/AIDS stigma is critical to the management and

elimination of the disease, minimal research funding is available to address it (Chaudior & Quinn, 2011; Liamputtong, 2013; Quinn & Earnshaw, 2011). Stigma is endemic to this disease because of the sexual way it is often transmitted. Thus, if sufferers reveal that they have it, they join a marginalized group that non-HIV/AIDS sufferers may regard critically and treat unfairly (Anderson et al., 2011; Liamputtong & Kitisriworapan, 2012; Sidibe, 2011). Historically, stigma has been associated with HIV/AIDS in the United States since its discovery. From the onset of the HIV/AIDS epidemic, it has been seen not only as a health condition, but also as a stigma-conferring illness (Liamputtong, 2013). Some uninfected people even wrongly believed that it could be caught simply by standing near individuals who had it (Capitanio & Herek, 1999; Chaudior & Quinn, 2011; Liamputtong, 2013). As a result, HIV/AIDS stigma has a great impact on those who have the illness, particularly if they belong to already marginalized and stigmatized groups such as injection drug users (Liamputtong, 2013; Liamputtong & Kitisriworapan, 2012; Quinn et al. 2014). Clearly, stigma has a deleterious impact on the health and well-being of low-income PLWHA since it is responsible for inducing stress among these individuals (Lekas et al., 2011; Naughton & Vanable, 2011; Quinn et al. 2014).

In sum, among PLWHA in urban communities, social capital plays an important role in shaping health outcomes. One consistent finding is that poorer HRQOL is associated with lower social capital (Kawachi et al., 2013), while increased social capital is correlated with increased HRQOL (Williams et al., 2010).

Statement of the Problem

As research links social capital to improved HQROL among PLWHA, a more complete understanding of what constitutes and creates social capital becomes increasingly important. Communities characterized by lack of social capital (lack of enragement with healthcare providers, low socioeconomic status, and high HIV/AIDS stigma) can create environments that restrict access to consistently quality health care and thus exacerbate the problems that PLWHA experience in their life. Such factors have been linked to increase rates of HIV/AIDS; however, little research has examined this relationship in the context of social capital using the indicators of provider engagement SES, and HIV/AIDS stigma.

While social capital is difficult to measure among PLWHA (Sabatinni, 2005; Villalonga-Olives & Kawachi, 2010) because it is a fairly new concept that still has methodological issues (Field, 2008), high social capital has been postulated to offer important health benefits to PLWHA (Chase, 2011;Erickson, 2011; Kawachi, 2010). Additionally, from the moment that the HIV/AIDS epidemic was first discovered, HIV/AIDS stigma has fueled the transmission of the disease among urban populations and has greatly increased the negative impact associated with it. HIV/AIDS stigma remains an issue that is constantly impacting the HRQOL of PLWHA. PLWHA living in urban communities also tend to have lower socioeconomic status, and lower SES can be a barrier to HIV/AIDS testing and treatment, affecting this population disproportionately because of their already limited social status and lack of resources (Liamputtong, 2013; Nyanasha, 2011). Income, educational level, and having health insurance play key roles in influencing overall health and mental health and particularly impact the quality of

HIV/AIDS care that one receives (Harling, Takao, & Subramanian, 2013; McFarland &

Smith, 2014); thus, many studies have shown a powerful connection between SES and

health (Earnshaw et al., 2013; Halkitis, Wolitiski, & Millet, 2013; Prado, Lightfoot, &

Brown, 2013).

Not surprisingly, as the lifespan of PLWHA has increased, HRQOL has emerged

as an important issue, particularly for PLWHA living in urban communities. However,

research on HRQOL focusing on these groups remains limited. As HIV/AIDS continues

to rise among low-income PLWHA, there is increasing concern that that HRQOL is

declining among this sector of the population (Minkler, 2012; Paz-Bailey et al. 2015;

Remien et al. 2015). A better understanding of the relationship between social capital and

overall health and mental health (including access to high-quality HIV/AIDS care) could

potentially lead to the development of better strategies for assisting marginalized groups

that are at risk for experiencing health problems without sufficient access to appropriate

services. Ultimately, such understanding may improve HIV testing and care while

helping connect PLWHA to appropriate social networks.

This research will bring to bear the need for formative research, intervention, and

policy development within low-income communities where HIV/AIDS infection is still

growing at an alarming rate. As research in the urban systems studies expands, existing

social science research on HIV/AIDS in urban communities should serve as a starting

point for theory-building. An urban system is defined as "processes by which life in the

metropolitan areas is organized and operated. These processes may be grouped into four

major categories of infrastructure, built environments planning, administration and

human services" (www.systems.virginia.edu). The goal of future studies should thus be to develop multilevel HIV/AIDS prevention strategies that target specific communities and individual factors, strategies that have the greatest likelihood of reducing the heightened vulnerability of HIV/AIDS transmission in urban communities. This investigator believes that delaying these types of research initiatives may result in a reduction of strategies that could inform potential interventions to reduce the spread of HIV/AIDS and, ultimately, the eradication of the HIV/AIDS stigma. Furthermore, much work is needed to fully elucidate the mechanisms by which social capital predicts the HRQOL of PLWHA in urban communities. In order to demonstrate that social capital influences HRQOL, studies like these are required.

The purpose of this study is to explore the impact of social capital on the HRQOL of under-represented populations with HIV/AIDS. Social capital is here defined based on the work of Bourdieu and Wacquant (1992), who define social capital in this way: "Social capital is the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance or relationships" (p. 119). As healthcare for PLWHA expands in urban communities and individuals begin to trust their healthcare providers to help them navigate the care cycle/continuum, they may develop a relationship that is solidified by trust, thus making it easier for them to navigate the care cycle and, ultimately, reduce the number of people dropping out of care.

Research Questions

In order to further explore the relative impact of social capital on the HRQOL of underserved HIV/AIDS-infected individuals, this study will examine how social capital or the lack thereof enhances or undermines the ability of these individuals to improve their HRQOL. It will do so by using provider engagement, socioeconomic status, and HIV/AIDS stigma, and as proxies for individual social capital. In essence, this study asks: What is the relative impact of provider engagement, socioeconomic status, and HIV/AIDS stigma on overall health, mental health, and HIV/AIDS care among low-income PLWHA? The goal of this research is to generate a better understanding of individual social capital and its impact on HRQOL in order to better inform the practice and policies of urban healthcare systems, ultimately improving the HRQOL of PLWHA.

Specifically, this study asks the following research questions:

1. How does provider engagement impact HRQOL for low-income PLWHA residing in urban communities?

2. How does SES (represented by educational attainment and insurance) impact HRQOL for low-income PLWHA in urban communities?

3. How does HIV/AIDS stigma impact HRQOL for low-income PLWHA in urban communities?

CHAPTER 2

CONCEPTUAL FRAMEWORK

The Stigma and HIV Disparities Model

The Stigma and HIV Disparities Model formulated by Earnshaw, Bogert,

Davidio, and Williams (2013) will serve as the theoretical framework for this study.

Earnshaw et al. (2013) argued that any negative relationship between individuals and

their environments or resources can be detrimental to their health. Similarly, the

environmental conditions in which an individual resides can have an adverse effect on

his/her health status.

To explore the connection between the different structural-level manifestations

(residential segregation, medical mistrust, and poverty), individual-level manifestations

(stigma, stereotypes, and prejudices), social capital, and HRQOL, it is important to

examine the connection between the social capital and HRQOL of low-income PLWHA.

In the Stigma and HIV Disparities model, structural-level manifestations are defined as

those systemic ways through which social structures, fueled by residential segregation,

assaults, trauma, and medical mistrust, and lack of access to high-quality health services,

harm or otherwise disadvantage a community or residential neighborhood. The key

manifestations at the structural level are inequalities in treatment, high crime rates,

residential instability, high unemployment, and a lack of neighborhood opportunities,

whether they are intentional or not (Earnshaw et al., 2013). These structural-level

manifestations are more difficult to locate in given institutions because they involve the

reinforcing policies of many different types of institutions (both past and current)

responsible for producing and reproducing forms of racism, stigma, and residential isolation (Lawrence & Kelleher, 2004; Massey & Denton, 1993).

Individual-level manifestations, on the other hand, encompass the systemic ways in which the social structure can harm or cause an individual to become disadvantaged through socially constructed stigma, prejudices, and racism. These include internalized stigma, fear, and negative beliefs within the affected individuals (Earnshaw et al., 2013; Lawrence & Kelcher, 2004; Massey & Denton, 1995; Quinn & Chaudior, 2009). Cohen, Phillips, Mendez, and Ordonez (2004) found that supportive social programs aimed at reducing HIV/AIDS stigma and finding stable housing for affected individuals were effective in helping PLWHA engage and stay engaged in HIV/AIDS care. Also, a clear understanding of the causes of structural- and individual-level manifestations is particularly important if they have negative social, economic, or health consequences, either for the who are infected or for the other individuals living in the impacted communities (Earnshaw et al., 2013).

Earnshaw et al. (2013) also introduced this model to show how stigma related to race and ethnicity disproportionately impacts the lives of the most vulnerable people in our society and those Americans who are disproportionately affected by HIV/AIDS. These authors posit that stigma devalues PLWHA both socially and morally and is sustained through its manifestations at the structural and individual levels. In part, the HIV/AIDS epidemic is fueled by stigma: "Through its structural and individual level manifestations, social stigma contributes to racial and ethnic disparities in who acquires HIV, is aware of their sero-status, receives treatment, and dies early" (Earnshaw et al.,

2013, p. 223). This model also identifies the fundamental processes in the relationship between HIV/AIDS stigma and racial and ethnic disparities, including risk factors such as substance abuse, unprotected sex, a lack of HIV/AIDS screening and treatment, and low access to healthcare among low-income PLWHA (Earnshaw et al., 2013).

At the structural level, stigma is often manifested through residential segregation, past traumatic assaults, institutional racism, violence against PLWHA, and HIV disparities (Earnshaw et al., 2013; Williams & Mohamed, 2013; Williams & Sternthal, 2011). Also at the structural level, there are numerous barriers to receiving HIV/AIDS medical care because of the low socioeconomic status of low-income PLWHA, barriers like residential segregation in isolated communities and communities of color, discrimination, and racial and ethnic HIV/AIDS disparities (Meyer, Springer, & Frederick, 2011). Another structural manifestation is the high level of unemployment and disruption in employment among low-income PLWHA that forces them into concentrated poverty, thus limiting their housing choices and access to quality healthcare services (Baumgartner & Niemi, 2013; Meyer, Springer, & Alice, 2011).

More than three decades into the HIV/AIDS epidemic, the need for prevention strategies still persists for low-income PLWHA. Current HIV/AIDS researchers insist that attention be directed toward eradicating the epidemic in urban communities through preventing substance abuse, limiting racial disparities in HIV/AIDS prevention, and stopping individuals from dropping out of the HIV/AIDS care continuum (Bakken et al., 2000; Coleman et al., 2007; Paz-Bailer et al., 2014). At the individual level, there needs to be more access to quality HIV/AIDS care and also a greater engagement of HIV/AIDS

patients with HIV/AIDS providers. In this research, individual-level manifestation is defined as the range of discrimination, stigma, and health disparities and patterns of disadvantages that is experienced among low-income PLWHA (Earnshaw et al., 2013; Williams et al., 2010). At the individual level, HIV/AIDS is manifested through stigma, prejudices, injection drug use, and discrimination. Although stigma and discrimination against those infected with HIV/AIDS have decreased in the United States in recent years (Earnshaw et al., 2013), there are subtle forms of discrimination that still persist in various communities. These types of discrimination are responsible for the increasing HIV/AIDS rate in low-income communities and within communities that lack social and housing stability. Therefore, understanding the patterns through which these types of discriminations are experienced may have implications for public health policies. Currently, it is difficult to evaluate all of the individual-level factors that are associated with the spread of HIV/AIDS among low-income PLWHA, as these factors are multidimensional and vary extensively between communities. However, understanding how these factors influence social capital and impact the HRQOL of low-income PLWHA is one possible avenue for HIV prevention and intervention programs.

Prior research suggests that stigma plays a role in racial/ethnic health disparities among underrepresented PLWHA (Chaudior et al., 2012; Earnshaw et al., 2013; Phillips, Moneyham, & Tavakoli, 2011). However, there is limited understanding of the mechanisms by which stigma contributes to HIV/AIDS-related disparities in terms of risk, incidence, screening, treatment, and survival. It is also unclear what can be done to

reduce the impact of stigma on these disparities (Phillips, Moneyham, & Tavakoli, 2011).

In this next section, the Stigma and HIV Disparities Model was examined in some detail.

Earnshaw et al. (2013) introduced the Stigma and HIV Disparity Model to

describe the significant differences between the health statuses of low-income,

underserved HIV/AIDS-infected individuals and those with strong social networks who

are not exposed to the negative effects of HIV/AIDS stigma. These researchers used the

model to describe how societal stigma related to race and ethnicity is associated with

racial/ethnic HIV/AIDS disparities that manifest at the structural level (e.g., residential

segregation) as well as at the individual level (e.g., discrimination and internalized

stigma). These researchers identified residential segregation as a major contributing

factor to the emergence of multiple stigmatized identities among PLWHA. In terms of

offering possible solutions, Earnshaw et al. (2013) study found the following:

> Strengthening economic and community empowerment and trust at the
> structural level, creating common in-group identities and promoting contact
> with people living with HIV among perceivers at the individual level, and
> enhancing social support and adaptive coping among targets at the individual
> level can improve resilience to societal stigma and ultimately reduce racial/
> ethnic HIV disparities. (p. 4).

These researchers used what they labeled as strength-based moderators to describe how a

positive social structure, including material resources, societal order, social networks,

trust, and collective efficacy, is associated with better HRQOL. Strength-based

moderators are defined as a resiliency process used for successfully adapting and

developing positive well-being in the face of chronic stress, adversity, residential and

social devaluation, and spatial instability (Earnshaw et al. 2013). Resilience is defined as

"individuals' capacity, combined with family resources, to overcome serious threats to
development and health" (Earnshaw et al., 2013, p. 230).

Earnshaw and colleagues (2013) also introduced the Stigma and HIV Disparities
Model to illustrate how the structural and individual manifestations of stigma are
responsible for the transformation of HIV/AIDS at the structural level within
communities that are targeted for isolation and at the individual level among those who
possess devalued social identities. Quinn and Chaudior (2009) posit that it is common for
low-income PLWHA to possess multiple stigmatized identities, and HIV/AIDS among
city dwellers is often spread more widely because of that stigma. Stigma, which is
generally manifested at both the structural and individual levels, impacts HIV
transmission rates by causing PLWHA to conceal their identities or HIV statuses and, in
so doing, contribute to the spread of HIV/AIDS by sharing needles or having unprotected
sex. Many PLWHA are living with concealable stigmatized identities and are afraid to
get tested for HIV because they fear being discriminated against by family members,
friends, neighbors, and others within their communities if they are revealed as HIV
positive (Quinn & Chaudior, 2009). Many of these individuals often have other
concealable stigmatized identities that cause them to be ashamed, and so they choose not
to disclose their HIV status to others. These other identities can include a history of
substance abuse, injection drug use, or mental illness and being bisexual or homosexual.
To clarify, a concealable stigmatized identity is defined as an identity that carries with it
some perceived level of shame, failure, and social devaluation in the eyes of others
(Quinn & Chaudior, 2009). These identities are also often linked to increased

psychological distress, mental history, HIV/AIDS, and a history of violence and sexual abuse (Quinn & Chaudior, 2009).

At the structural level, HIV/AIDS stigma is partly responsible for fueling the residential segregation of racial and ethnic groups, and this in turn creates HIV/AIDS disparities between low-income PLWHA and more affluent white PLWHA as well as PLWHA from other ethnic groups with higher incomes (CDC, 2012; Quinn & Chaudior, 2009; Williams & Mohammed, 2009). Thus, Earnshaw and colleagues (2013) use higher income as one of their strength-based moderators. They argue that people in the highest income brackets tend to enjoy a better quality of life than those below the national poverty line, so these individuals are not impacted by stigma. Although Earnshaw et al. (2013) did not use the term social capital, their "strength-based moderators" are actually dimensions of high or expanded social capital. They refer to trust, social networks, the structural conditions of a community or neighborhood, and economic opportunities. In terms of social capital theory (see below), Coleman (1998) and Putnam (2000) identify trust as an integral component of social capital. Additionally, Rostila (2013) listed trust, reciprocity, and neighborhood engagements as integral components of social capital, and Field (2008) posited that social networks are a key indicator of social capital.

In summary, the Stigma and HIV Disparities Model recognizes that understanding how stigma is manifested at the structural and individual levels requires not only an understanding of the characteristics of the social and structural environment in which PLWHA live, but also an understanding of how stigma is manifested at the individual level. This model posits that social determinants are important structural and individual

factors that affect individual HRQOL. Based on the Stigma and HIV Disparities Model, a

Social Capital and Health Model has been developed for this study (see Figure 2). In this

model, the factors at the structural level (residential segregation, medical mistrust, and

concentrated poverty) and individual level (substance abuse, discrimination, and poverty)

can influence social capital and predict HRQOL. The conceptual model for this study is

an expansion of the Stigma and HIV Disparities Model, and it will be discussed in detail

in the next section of this research.
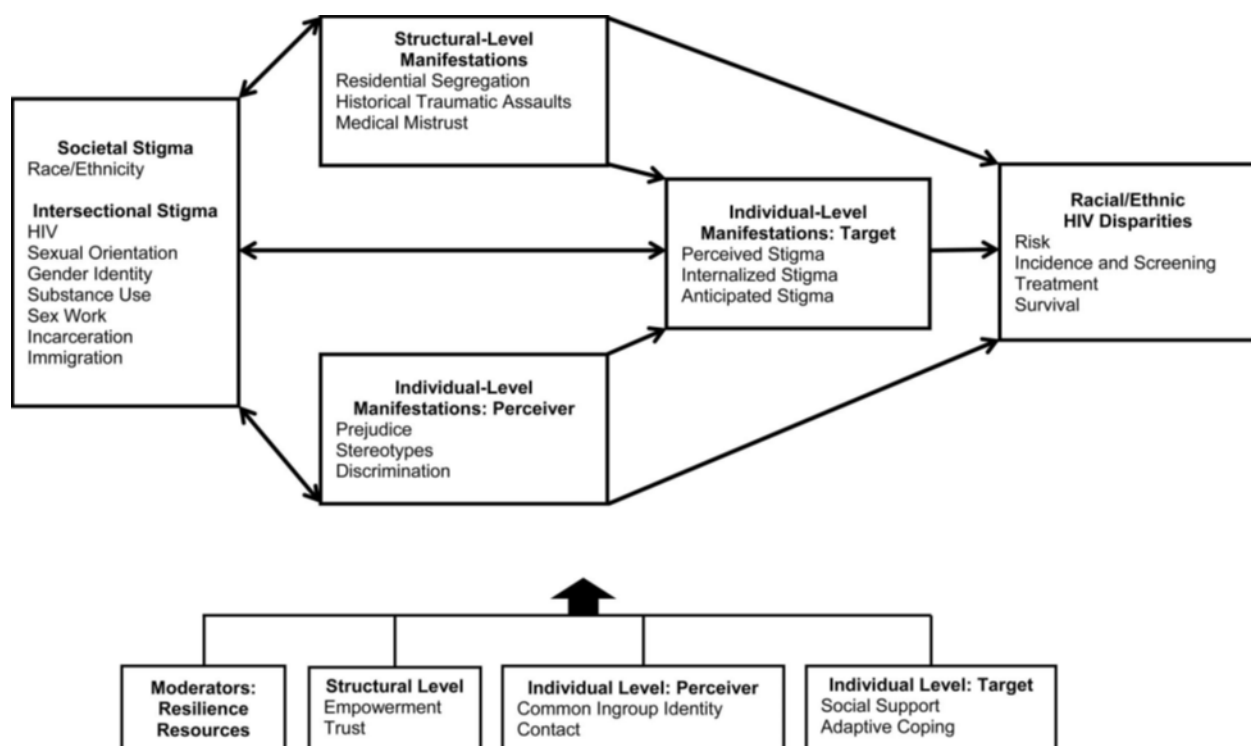
Figure 1. The original Earnshaw, Bogert, Davidio, and Williams (2013) Stigma and HIV

Disparities Model.
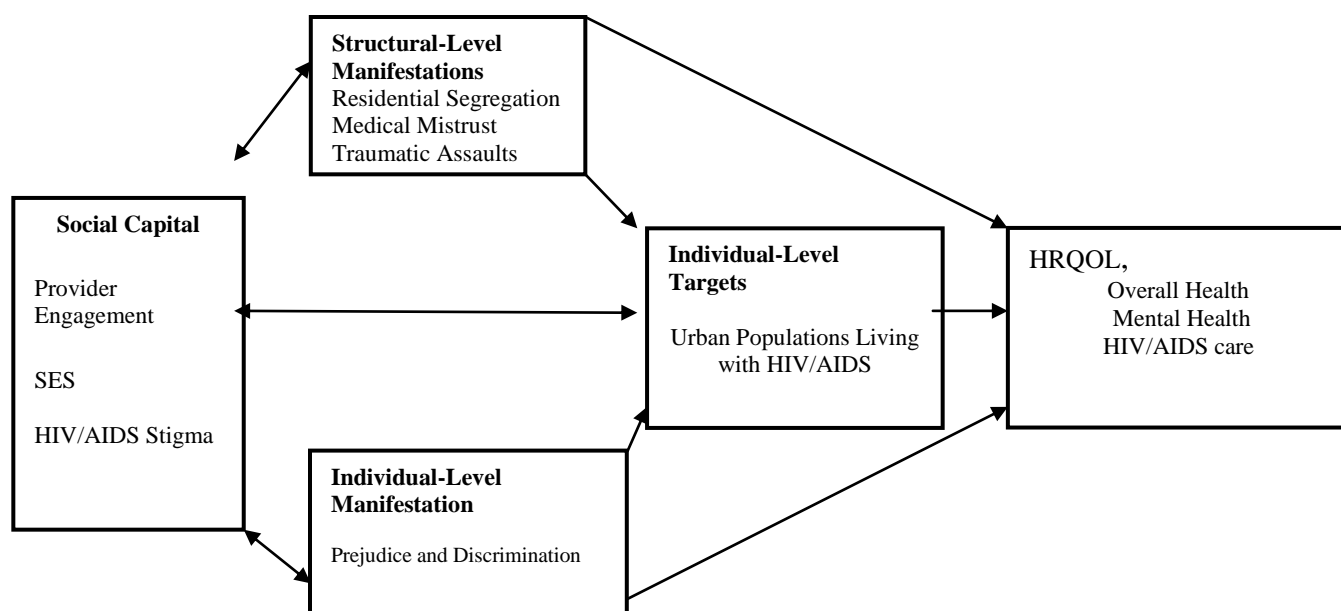
Figure 2. The Social Capital and Health-Related Quality of Life Model.

The Social Capital and Health-Related Quality of Life Model

The Social Capital and Health-Related Quality of Life Model used in this study is

a theoretical model designed by this researcher by modifying Earnshaw et al.'s (2013)

Stigma and HIV Disparities Model to integrate two additional proxies of social capital:

provider engagement and SES. The resulting Social Capital and Health-Related Quality

of Life Model provides a conceptual framework with structural- and individual-level

factors associated with conditions that largely impact overall health, mental health, and

HIV/AIDS care. In this model, both structural- and individual-level factors are posited to

influence social capital and to predict the HRQOL of low-income PLWHA. If the

individual-level factors of prejudices and discrimination and the structural-level factors of

residential segregation, medical mistrust, and traumatic assault among low-income

PLWHA can be reduced, then their overall health, mental health, and HIV/AIDS care can

be improved. Although this study did not consider residential segregation, it did bring

this structural-level manifestation and its influence on social capital and HRQOL into

examination. Not only were these structural-level factors examined as main effects of

HRQOL for PLWHA, their interaction with individual-level factors was also studied. The

structural and individual factors are also referred to as social determinants of health in the

literature review. Braven, Egerter, and Williams (2011) describe social determinants of

health as any non-medical factors, including behaviors (such as drug use) and the

conditions and areas in which one lives (such as urban communities). In this model,

provider engagement and SES were introduced as indicators of social capital and as

strength-based moderators that could help reduce HIV/AIDS stigma and improve

HRQOL. This model is based on the premise that strengthening durable social networks

through economic and community empowerment and trust at the structural level and also

creating common in-group identities and promoting contact with PLWHA at the

individual level would strengthen SES, reduce HIV/AIDS stigma, and improve HRQOL

(Earnshaw et al., 2013). Kawachi (2013), however, emphasized that the existence of

social networks would not automatically create social capital; individuals have to bond to

create economic opportunities that lead to positive results. This conceptual framework

identifies two levels at which social capital can be activated: the individual and the

neighborhood. These are the two areas where stigma is typically manifested (Quinn &

Chaudior, 2009). At the individual level, people may help each other when problems

arise, sharing information about available opportunities and forming support groups to aid each other in overcoming any obstacles. At the neighborhood level, people can participate in civic action. Individuals and groups can become active in managing their communities and forge positive changes within those communities.

The Social Capital and Health-Related Quality of Life Model is a conceptual model based on the theories developed from the Earnshaw et al. (2013) Stigma and HIV Disparities Model. The focus of this conceptual model is to assess the impact of social capital on the HRQOL of low-income underserved HIV/AIDS-infected individuals. Beyond the structural-level conditions that influence social capital and impact HRQOL, the Social Capital and Health-Related Quality of Life Model recognizes that individual-level factors also influence social capital and impact HRQOL, both on their own and in interaction with structural-level conditions. Structural factors can have an effect on individual social capital and HRQOL that is either independent of or intertwined with individual-level factors (Earnshaw et al., 2013). For low-income PLWHA, structural factors (such as residential segregation) and individual ones (such as substance abuse) have both been associated with increased HIV infection. This model recognizes this relationship between the structural- and individual-level factors and posits that intervention at the structural level, such as increased access to quality healthcare, increased housing assistance, reduced residential segregation, and the availability of community-level social capital that promotes trust and civic engagement, can moderate or mediate the individual-level factors that affect the HRQOL of low-income PLWHA. Although examining the impact of structural-level manifestations such as residential

segregation is not within the scope of this research, providing stable housing in more integrated communities where PLWHA can live permanently can positively influence their HRQOL and give them access to higher-quality social network systems.

The model adds to that of Earnshaw et al. (2013) in that it posits that social capital must be activated both at the structural and individual levels so that low-income PLWHA can have improved HRQOL. It is similar to Earnshaw et al.'s (2013) model in recognizing that there are structural-level factors manifested through residential segregation, community violence, medical mistrust, and the lack of available quality healthcare within urban communities that have an adverse impact on HRQOL. However, this model goes further by proposing that social capital must be activated at both the structural and individual levels in order to mitigate or moderate the types of negative outcomes that PLWHA in poor urban neighborhoods are forced to cope with. Coleman (1998) posits that social capital consists of two elements: It is an aspect of the social structure, and it requires the actions of individuals within the structure to become activated and to work positively for them.

Putnam (2000) argues that social capital, when activated, can become effective and work to better the community and the lives of individuals. A better understanding of the structural and individual factors that are related to the spread of HIV among low-income PLWHA will enable policy analysts and local governments not only to develop new programs and strategies to address the issues of stigma, prejudice, residential segregation, violence, and crime, but also to intervene through community-based efforts to mobilize asset-building strategies (Liamputtong, 2013). Therefore, finding ways to

improve the structural- and individual-level conditions of PLWHA is a great strategy because it will directly influence social capital, reduce HIV/AIDS stigma, and improve trust between the individual and the community as well as the care for PLWHA (Earnshaw et al., 2013). With this in mind, I am proposing a number of ways in which this can happen both at the structural and individual levels: (1) Actions must be taken to activate social capital and to change the factors that are responsible for creating individual-level manifestations through policies and preventative measures (to reduce drug use and HIV/AIDS disparities) and structural manifestations (e.g. moving people into more integrated communities, instituting programs to combat violence and crime, and providing gainful employment for people living with stigmatized identities); (2) HIV testing and prevention education must be provided and encouraged; (3) social networks must be activated through churches, community centers, relationships with families and police officers, and civic engagement; (4) treatment centers must be provided for HIV/AIDS and mental health issues; and (5) incentives must be provided for HIV providers and providers so that they can develop a relationship with PLWHA. These are some of the innovative ways in which stigma can be eradicated, the relationship between providers and patients can be strengthened, and trust can be built between providers and their patients.

This model assumes that interventions that empower and build trust among stigmatized individuals and their communities can disrupt the negative impact of residential segregation, medical mistrust, and HIV/AIDS disparities within urban communities. At the structural level, PLWHA must be empowered through increased

community involvement, such as registering to vote and becoming actively involved in the day-to-day activities of the community (Field, 2008; Putnam, 2000). In this way, they can vote elected officials out of office if they are not developing the communities by fixing and building roads, providing stable and affordable housing, providing quality healthcare systems, improving the school systems, and creating good policing to eradicate violence and crime. The local government must also enact policies to eradicate stigma, to provide affordable housing, and to provide resources that will help improve the neighborhoods' condition.

Earnshaw et al. (2013) also posit that community intervention may be effective in improving community conditions; they state that "improved neighborhood conditions are associated with lower levels of substance abuse, fewer health problems, and greater satisfaction with medical care" (p. 231). Through these efforts, the issues that cause PLWHA to drop out of HIV/AIDS care can be addressed. Improving their SES is a great strategy, as it directly affects the healthcare engagement that is needed to keep these individuals healthy. This view of social capital relies on the notion that bridging relationships through providers' engagement with their patients will cause PLWHA to remain in HIV/AIDS care, to have improved SES, and to suffer from less HIV/AIDS stigma. Furthermore, there is increasing evidence that both social capital and SES have a positive impact on HRQOL (Kawachi, 2010). This component of the model is very important to my research because PLWHA often reside in low-end communities within urban neighborhoods and are less likely to benefit from the availability of durable social networks that can be found in these or neighboring communities. Low-income

communities must strive to give out information about the available support systems within their communities to their constituents, because without this information, PLWHA are less likely to be aware of the social capital within their communities (Campbell, 2013).

The social capital components of this model are adopted from Bourdieu's 1986 concept and represented by the following indicators: social networks, SES, and HIV/AIDS stigma. Bourdieu contends that social capital is made up of resources tied to social networks that are available to network members seeking information and support. These networks enable members to receive benefits and services in the absence of economic capital (Bourdieu, 1972; 1986). For Bourdieu, social capital is most effective when social networks are able to help their members increase their economic capital. For example, networks should be able to help people find good jobs and further their education as well as providing them with the resources to improve their quality of life. Furthermore, social capital should offer a pathway that guides the recipient to obtain more privileges and greater power.

Additionally, Bourdieu's theory of social capital recognizes the downside of social capital and the negative impact that its absence can have on groups of people who are excluded from the benefits of having access to durable social networks. He argues that, when groups of people lack the ability to build social networks, they are often excluded from the resources and economic opportunities that are tied to durable social networks. Most importantly, these groups often find themselves living in areas of concentrated poverty and tend to occupy the lowest socioeconomic positions (Bourdieu,

1986). They find themselves living in neighborhoods where everyday activities reinforce the downside of social capital. Examples of these types of structural manifestations would include gang activity, high crime rates, promiscuity, and drug use. Such individuals are typically marginalized, oppressed, and excluded from the opportunities available through durable, healthy social networks (Capriano, 2006; Field, 2008).

One of the overarching questions that guides this research is this: If low-income, underserved HIV/AIDS-infected individuals engage fully in the social capital process occurring through clinician engagement with PLWHA, can their HRQOL be improved through a reduction of individual-level manifestations such as substance use, gang activity, and crime and an enhancement in structural-level factors such as community network resources? The goals of this research, therefore, are: (1) to examine the impact of provider engagement, SES, and HIV/AIDS stigma manifest at both the individual and structural levels, and (2) to determine how provider engagement, SES, and HIV/AIDS stigma impact the health-related quality of life of PLWHA.

Research clearly indicates that there has been an improvement in the health statuses of PLWHA in the United States over the past decade, as evidenced by an increase in life expectancy among this group (CDC, 2012; UNAIDS, 2012; George, Garth, & Wohl, 2009; Paz-Bailey et al., 2013). This improved longevity may be attributed to advancements in medication and a decrease in HIV/AIDS stigma or to an increase in access to quality health services where people are fully engaged in their care. Despite advances in promoting HIV/AIDS prevention and the increase in access to quality HIV/AIDS-related care, urban populations remain vulnerable to contracting

HIV/AIDS (George, Garth, & Wohl, 2009; Paz-Bailey et al., 2013). These populations

are therefore at a higher risk of lacking social capital owing to their HIV/AIDS diagnosis

(CDC, 2012). As demonstrated in the Stigma and HIV Disparities Model, not all HIV-

infected Americans experience optimal treatment outcomes. Importantly, the positive

trends noted here have not been demonstrated among urban populations living with

HIV/AIDS. These discrepancies are often explained through various theoretical

frameworks and scientific findings. Conflicting information can also hinder the

development of a clear understanding of the situation (Earnshaw et al., 2013; Quinn &

Chaudior, 2009; Zhan et al., 2012; Zeffi, 2013).

To summarize, it is important that we gain a deeper understanding of the factors

that influence the HRQOL of underserved HIV/AIDS-infected individuals in urban

communities. Consequently, there should be a sense of urgency about conducting such

research. Furthermore, understanding the role that social capital plays in influencing or

impacting the HRQOL of PLWHA in urban populations has the potential to serve as a

foundation for the development of effective neighborhood-specific interventions. Such an

approach could help address the HIV/AIDS disparity seen in urban neighborhoods while

providing information to decrease HIV/AIDS among the populations concerned. These

interventions could also be designed to prevent the widening disparity of the incidence of

HIV/AIDS between urban and other populations.

To conclude, this researcher agrees with the Earnshaw et al.'s (2013) conclusion

that solidarity among urban populations and the opportunity to help PLWHA in urban

communities engage in their HIV/AIDS care will automatically help bind them together

to solve or overcome problems both at the individual and structural levels. The outcome will be improved HRQOL, including better coping skills and better overall and mental health.

In the next chapter, a large volume of important literature will be explored that supports the theory that social capital is beneficial to health. To fully understand the benefits of social capital on HRQOL, it is necessary to discuss relevant theoretical and empirical literature on social capital, methodological issues, the impact that different indicators of social capital have on HRQOL, the target population, the social determinants of health within this population, the individual and structural factors addressed in the theoretical framework, and the variable of HRQOL.

CHAPTER 3

LITERATURE REVIEW

Social capital has been credited with the ability to improve HRQOL among PLWHA.

According to researchers such as Kawachi, Takao, and Subramanian (2013), Kim, Ganz,

and Subramanian (2011), and Swartz (2013), social capital helps people to cope with

chronic diseases and improve their health. All of these coping skills can be achieved

"through the appropriate mobilization or inculcation of social capital" (Robbins &

Pettinicchio, 2012, p. 409). This makes social capital theory important to researchers and

policy analysts alike (Robbins & Pettinicchio, 2012). Furthermore, the fact that, in the

last decades, the concept of social capital has come to include so many additional

sociological concepts (such as SES, stigma, social networks, trust, neighborhood effects,

and sense of community belonging) adds to its appeal and popularity (Field, 2016; Lin &

Erickson, 2010; Kawachi et al., 2009; Putnam, 2000; Rostila, 2013; Swartz, 2013).

Although the concept is loosely defined and difficult to measure, there is a growing

consensus among researchers that social capital is the glue that holds communities

together (Field, 2016, 2016; Kawachi et al., 2013; Kim, 2013; Kim et al., 2011; Portes,

1998; Putnam, 2000; Sum & Mohsen, 2013; Swartz, 2013).

　　　This section discusses the researched impact of social capital (as expressed in

terms of provider engagement, SES, and HIV/AIDS stigma) on the HRQOL (here

referring to as overall health, mental health, and HIV/AIDS care) of PLWHA as shown in

the HIV/AIDS literature. First, the concept and theories of social capital are discussed.

Second, arguments devaluing social capital as an important factor and literature discussing the current methodological issues in measuring social capital will be considered. Thirdly, indicators of social capital such as provider engagement, SES and HIV/AIDS stigma will be explored in relation to underserved HIV/AIDS-infected individuals. Finally, relevant literature related to the HRQOL of PLWHA will be examined. This review will conclude with a discussion of the individual-level factors (substance abuse, prejudices, and discrimination) and structural-level factors (residential segregation, and gang violence) that are responsible for the wide incidence of HIV/AIDS in urban populations. This is important because, when substance abuse, prejudices, discrimination, gang violence, and residential segregation are manifested at the structural and individual levels, they are considered to be social determinants of health and can be held responsible for the health disparities experienced by urban PLWHA.

<div style="text-align:center">Concept of Social Capital</div>

The concept of social capital has a long history dating back to the late twentieth century (Chase, 2011; Robbins & Pettinicchio, 2012). Robbins and Pettinicchio (2012) argue that "at the core of this concept is the notion that social relations and organizations, in addition to human and physical capital, are critical in the production of material and nonmaterial goods, which, in their absence, would be difficult if not impossible to produce…" (p. 521). For instance, individuals with strong social ties and network memberships are better able to gain access to durable social networks, have better health outcomes, and have higher-paying jobs than individuals with little or no social capital

(Aldrich, 2012; Field, 2016; Kawachi et al., 2013; Kim et al., 2011; Lin, 2001; Robbins & Pettinicchio, 2012).

The concept of social capital also yields several insights that are useful for understanding the relationship of social class and social inequalities to public health (Allan & Catts, 2012; Campbell & Miller, 2002; Aldrich, 2012; Chen & Kaljee, 2011; Field, 2016; Lin, 2007; Rostila, 2013; Sum & Mohsen, 2013). The concept of social capital has developed into a major research paradigm guiding numerous studies within the United States, Italy, Africa, and other countries (Field, 2016; Lin, 2007; Putnam, 2000; Sabatini, 2005). There seems to be a consensus among researchers that social capital is a multidimensional concept that yields numerous benefits to those who have access to the benefits derived from it (Aldrich, 2012; Field, 2008; Jones, 2011; Grootaert et al., 2002; Lin, 2007; Sum & Mohsen, 2013; Putnam, 2000).

Since the early twenty-first century, scholars have examined how different forms of social relationships pose important implications for health and wellbeing (Karachi & Takoa, 2013; Kim et al., 2011; Hinkler, 2012; Swartz, 2013; Villalongo-Olives & Kawachi, 2010). The concept of social capital has existed in one form or another for most of the history of the field of sociology, even if the term itself came into vogue more recently (Swartz, 2013; Rostila, 2013). In fact, the concept of sociology was developed from the link between individual identity and membership in social groups, although the empirical link to health was not made until later in the twenty-first century (Field, 2008; Lin & Erickson, 2010; Lin, 2011; Putnam, 2000; Rostila, 2013). However, it was sociologist Pierre Bourdieu (1985) who is credited with shaping the current discussion of

social capital, although definitions of the term appeared as early as 1916 (Brown &
Szeman, 2013; Catts & Allan, 2012; Chase, 2011; Hannifan, 1916; Portes, 1998). Despite
its usage throughout history, Bourdieu (1985) was credited as the first researcher to
develop a theoretical framework of social capital that is accepted by most social scientists
(Grenfell, 2014; Field, 2016; Putnam, 2000; Portes, 1998; Swartz, 2013). Portes (1998)
also notes that Bourdieu was the first theorist to be credited with building a conceptual
framework for social capital that addresses its multidimensional concepts to the
satisfaction of sociologists. His description of social capital is now accepted as the
standard (Bourdieu & Sapiro, 2010; Field, 2008; Grenfell, 2012). Many researchers
consider Bourdieu to be the father of social capital, and his work has attracted a number
of investigators to study the process by which differences in access to social capital lead
to social inequities (Grenfell, 2014; Field, 2008; Swartz, 2013). Grenfell (2014) summed
up Bourdieu's work by stating that "Pierre Bourdieu is now recognized as one of the
major thinkers of the twentieth century. In a career of over fifty years, Bourdieu studied a
wide range of topics: education, culture, arts, politics, economics, literature, law and
philosophy. Through all these studies, Bourdieu developed a highly specialized series of
concepts that he referred to as his 'thinking tools'" (p. 1).

Theories of Social Capital

Pierre Bourdieu (1986) defined social capital as "the sum of resources, actual or
virtual, that accrue to an individual or group by virtue of possessing a durable network of
more or less institutionalized relationships of mutual acquaintance and recognition" (p.

248). Before Bourdieu coined the term "social capital," he identified three dimensions of

capital, which he referred to as "human," "economic," and "cultural" (Bourdieu &

Sapiro, 2010; Bourdieu & Wacquant, 1996; Chase, 2011). He argued that all cultural

capital is inherently equal in value, but that the cultural capital of the ruling classes can

exert more influence because the dominant class holds more power. He further asserted

that the most powerful principle of cultural capital lies in the logic of how it is

transmitted, maintaining that the ability to appropriate cultural capital and the time

necessary for this process to take place is dependent on the family that one is from, and

that this process continues over the whole period of socialization from birth to adulthood

(Bourdieu, 1986; Szeman & Kapsy, 2011). For Bourdieu, social capital is most effective

when social networks are able to convert their resources into economic capital (Bourdieu,

2005; Grenfell, 2014). For example, these networks should be able to help individuals

find good jobs, further their education, and gain the resources to improve their quality of

life. Furthermore, social capital should provide a pathway that guides the recipient toward

the assumption of greater privilege and power (Bourdieu & Sapiro, 2010; Bourdieu,

2005; Grenfell, 2014). Bourdieu described how "the dynamic development of a

structured set of values and ways of thinking" forms an individual's *habitus*, stating that

"*Habitus* can be defined as the individual's personality structure—the composite of an

individual's lifestyle, values, dispositions, and expectations associated with particular

social groups that are acquired through the activities and experiences of everyday life"

(1986, p. 170). In developing his view of the habitus, Bourdieu explained that groups are

able to use their cultural symbols as marks of distinction to constitute their position in the

social structure (Bourdieu & Sapiro, 2010; Grenfell, 2014; Southwell, 2013). More educated people, by virtue of being more esteemed by society, are able to exclude groups that are poorer, weaker, and/or seemingly less desirable from the social networks, and capitals that are available within the networks, that are occupied and owned by groups that are more privileged and endowed with cultural, economic, and social capital.

Even though Bourdieu was a sociologist, he developed his work through the lens of the cultural anthropologist (Brown & Szeman, 2013; Field, 2008; Grenfell, 2014). He did so because he was primarily interested in relationships between cultural groups and social class—an anthropological concern (Grenfell, 2012; Jones, 2011; Milner & Ersson, 2000; Murayama, Fujiwara, & Kawachi, 2010). In essence, Bourdieu became one of the leading sociologists of his day because he used his models of cultural capital and the habitus to account for how relations of hierarchy and class domination can be reproduced within the various disciplines and fields that make up society (Brown & Szeman, 2013; Grenfell, 2012; Wacquant, 2002; Wacquant, 2005). Bourdieu's emphasis on inequality in society set the tone for how present-day theorists approach the study of social capital. In fact, Bourdieu has provided some of the most important insights into the ways in which social capital processes affect different cultural groups (Brown & Szeman, 2013; Grenfell, 2014; Field, 2008; Rostila, 2013).

The argument that social capital will significantly improve the health status of low-income PLWHA would have been questioned by Bourdieu, who posited that social capital is derived from social obligations and connections. Many researchers posit that people with multiple stigmatized identities may find it difficult to obtain the three types

of capital that Bourdieu writes about—economic, cultural, and social capital—because

they have little or no social obligations, and the connections that are required for these

capitals to materialize are somewhat elusive to them. Bourdieu later clarified that social

capital is only useful if it can be converted into economic capital, which can help people

to invest in durable social networks (Bourdieu & Sapiro, 2010; Grenfell, 2014). Hence,

through the lens of Bourdieu's work, although social capital is used by the rich to

preserve power and wealth, it is also accessible to all, but those with less wealth and

power need to work hard to access and preserve it (Grenfell, 2013). He argued that

people need to be able to understand the structure and functioning of their networks in

order to turn their human capital into economic capital and thus gain an advantage within

their social world (Brown & Szeman, 2013; Bourdieu & Sapiro, 2010; Grenfell, 2012;

Grenfell, 2014; Vermaak, 2009). In fact, he was so strongly convinced that social capital

can help individuals build social relationships that he wrote,

> The network of relationships is the product of investment strategies,
> individual or collective, consciously or unconsciously aimed at
> establishing or reproducing social relationships that are directly usable in
> the short or long term, i.e., at transforming contingent relations, such as
> those of the neighborhood, the workplace, or even kinship, into
> relationships that are at once necessary and elective, implying durable
> obligations subjectively felt (feelings of gratitude, respect, friendship,
> etc.). (1986, p. 249)

Two points are of particular significance here: First, individuals must have access

to social relationships that are potentially productive in some way, and second,

they have to use these relationships instrumentally to gain an advantage from

them. The general argument is that some networks are better than others and some

individuals are more able to use available networks than others.

In fact, when Bourdieu uses the term "social capital," it seems to

encompass both the relations in the institution where one works and the group to

which one chooses to belong or which chooses to accept that individual, such as a

neighborhood network. In fact, what is unique about Bourdieu is his emphasis on

the explicit character of this resource, the rich nature of these social relationships,

and his practice of separating out the resources acquired through group

memberships from other elements of those relationships. In other words, he holds

that social relations *per se* are a resource. It should be noted, though, that this is

sometimes confusing, because he also emphasizes specific advantages accrued

through networks, such as job contracts, that do not always result from the

"social" dimensions of the relationships but from the specific substance of who is

in the network, such as a parent whose job a child inherits. For instance, when

shifting focus from the general value of social contacts to the specific resources

that particular individuals can impart, the theory looks much weaker.

Thus, Bourdieu's theories suggest that PLWHA could benefit from social capital

derived through a myriad of strong relationships. The main shortcoming of this position

is that many of the individuals living in urban communities are not members of social

networks that can provide them with the necessary information to better cope with

HIV/AIDS and to form meaningful relationships that could enable them to enjoy a better

quality of life. According to Bourdieu (1986), such relationships require work and must be activated at three levels—the individual, the community, and the neighborhood.

Since Bourdieu's groundbreaking work on social capital, other social scientists such as Coleman (1988) and Putnam (2000) have built on his theory and on the concept of social capital, making it one of the most widely used theories in the last decade within a number of disciplines. Along with its widespread popularity, social capital theory has drawn detractors, and in some ways, it has become highly disputed. Nevertheless, most theorists seem to agree that social capital is an important factor in promoting social change and that those with access to it will be armed with a powerful tool to help them improve their HRQOL (Calvert, Emery, & Kinsey, 2013; Cotes & Healy, 2001; Halonen et al., 2013; Swartz, 2013).

James Coleman (1988) was also inspired by the notion that social capital is increasingly influential in the lives of all people, in both a positive and negative sense (Nauberer, 2013; Hyypp*ä*, 2010; Iwase et al., 2012; Kim, 2013). His work is an extension of Bourdieu's theory on social capital in several ways (Field, 2016; Grenfell, 2012). Coleman (1988) posited that social capital greatly impacts the individual formation of human capital because it "hinges on the structure of relations between actors and among actors" (p. 98). This statement is a clear indication that when he coined his theory of social capital, he was studying Bourdieu's theory of social capital. Coleman (1988) went on to state that "social capital is defined by its function. It is not a single entity, but a variety of different entities, with two elements in common: they all consist of some aspects of social structures, and they facilitate certain actions of actors within the

structure" (p. 98). Coleman extended Bourdieu's concept of social capital by linking the field of economics with sociology in his attempt to define social capital. In 1998, he proposed a new definition of social capital (Field, 2016; Hauberer, 2010; Lin, 2011), asserting that it is "the norms, the social networks, and the relationships between adults and children that are of value to the child's growing up. Thus, social capital also exists within the family, outside the family and in the community as well" (p. 334). Coleman (1998) further contended that "the person who invests the time and resources in building up social capital reaps the benefits in the form of a higher-paying job, more satisfying or higher-status work, and even the pleasure of greater understanding of the surrounding world" (p. 116). Thus, Coleman's concept of social capital is also reflected in the relationship between human, cultural, and economic capital.

According to Field (2016), Coleman's aim was to evaluate the relative merits of social capital and human capital as concepts rather than distinguishing between them or exploring their interconnections. Coleman posed the same argument as Bourdieu: that one should invest time and resources to build social capital. Like Bourdieu, he argued that human capital and social capital are not competing concepts; rather, the two are interrelated but separate, and they are often complementary to each other (Coleman, 1990; Field, 2016). Furthermore, Bourdieu and Coleman viewed social capital as activated by the formation of durable relationships that are rich in information that can help people to produce wealth. They both subscribed to the view that the relationships formed between and among individuals and their networks could help individuals to build strong, healthy lives and long-lasting relationships.

This study supports the views of Bourdieu and Coleman, arguing that social capital must be activated in order to work for individuals or groups, and that social capital is an ongoing resource that must be tapped in order for people to prosper. To summarize, Coleman's argument maintains that when people interact with each other, they build trust, and when they trust each other, they will share information that will ultimately help them build wealth, promote healthy living, and create a durable social network.

In 2000, Dr. Robert Putnam, a Harvard professor of public policy, published his landmark study *Bowling Alone*, a classic work that made him one of the most recognized proponents of social capital since Bourdieu (1930–2002) and Coleman (1919–1985) (Field, 2008). Putnam (2000) defined social capital as the connections between individuals and their social networks and the norms of reciprocity and trustworthiness derived from them. His contribution to social capital bridged the boundaries between his professional field of political science and the other social sciences, as well as education. In this way, his work reached a far broader public audience than Coleman's (Field, 2016; Lin, 2007; Lin, 2011; Jones, 2011; Kim, 2013). Putnam believed that one of the paradigms for measuring and promoting social capital is civic action, and his first major study dealt with the role of civic engagement in generating political stability and economic prosperity (Field, 2016; Lin, 2007; Putnam, 2000; Son & Lin, 2008). In fact, Putnam argued that in order for citizens to build social capital, they must be engaged in the electoral processes within their community because once individuals are engaged in these processes, they can decide who governs them and how the local government will be run within their community (Putnam, 2000).

Many theorists argue that Putnam's theory of social capital has marked

similarities to Emile Durkheim's and that it is an extension of the work of Bourdieu

(Field, 2016; Lin, 2011; Sabatini, 2005; Son & Lin, 2008). Putnam's theory of social

capital is also similar to Bourdieu's notion of the habitus (Grenfell, 2014). According to

Field (2008), Putnam's use of the word "productivity" indicates that he sees social capital

as functional and active. Putnam (2000) argued that social connections encourage strong

social networks, with involvement in such networks serving as a strong predictor of

engagement in volunteering and philanthropy. He argued that "altruism of all sorts is

encouraged by social and community involvement" (p. 121). Putnam also noted that

strong social networks such as civic organizations promote health and happiness in their

members. These types of organizations, according to Putnam, serve to help people find

meaning and purpose in life. Like Bourdieu, Putnam realized early in his career that

people's relationships matter to them as individuals and that the bonds between people

serve as the central building blocks of the larger social order (Bourdieu & Sapiro, 2010;

Lin & Erickson, 2010; Murayama, Fujiwara, & Kawachi, 2010; Swartz, 2013).

Putnam (2000) strengthened his notion of social capital by explaining that it has

two major characteristics: bridging and bonding. According to Putnam (2000), bridging

social capital refers to the formation of the social networks created between individuals

and their communities to generate broader identities and reciprocity. Bridging social

capital allows people to come together to exchange information and build consensus

among themselves that represents their diverse interests (Field, 2008; Putnam, 2000).

Bonding social capital, on the other hand, enables individuals to bolster what Putnam

terms their "narrower selves" (p. 23). What Putnam means by bolstering the "narrower

selves" is that groups of people will come together based on their financial and social

standing and they will share information, and exchange goods and services that will

bolster their net worth. Because of these types of exchange, they will improve their own

intellectual, human, economic and financial capital and they will continue to build

durable social networks. Many researchers (Putnam, 2000; Jones, 2011; Lin, 2007; Lin &

Erickson, 2010; Sambrook, 2013; Szreter & Woolcock, 2004) have established a

distinction between bridging and bonding social capital (Lin & Erickson, 2010). Lin and

Erickson (2010) have pointed out that bridging social capital varies systematically,

although it essentially resides in the culture of social institutions. Bridging capital is

considered to be composed of one's network of social relationships and the culture and

normative values of social institutions. Through this type of social capital, actors regulate

both intra- and inter-institutional relationships, leading to mutual trust and commitment

among members of institutions and communities and enabling people and their

organizations to function effectively (Aldrich, 2012; Allan & Catts, 2012; Jones, 2011;

Lin, 2011;Putnam, 2000; Rostila, 2013; Southwell, 2013).

According to Putnam (2000), bonding social capital is similar to bridging social

capital in that it creates strong intra-group loyalty among members; however, it may also

create inter-group antagonism. He asserts that trust has been found to be the most

important value of bonding social capital. When people lose trust in each other or in

government, bonding social capital can no longer operate. Many people who are

connected to their social networks benefit from bonding social capital because bonding

allows them to engage effectively in civic actions (Gerrido-Rodriguez, 2012; Krikken, 2013). Putnam (2000) states that "bonding and bridging are not 'either-or' categories into which social networks can be neatly divided, but 'more or less' dimensions along which we can compare different social capitals" (p. 23).

It is clear that social capital acts as a conduit to access to valuable resources through information sharing and the formation of durable relationships. One possible way in which social capital could positively influence the health status of underserved HIV/AIDS-infected individuals is by influencing their health behavior at the individual and neighborhood levels. Nevertheless, social capital must be activated for individuals to benefit from it. Lin (2011) points out that "capital is captured in social relations and that its capture evokes structured constraints and opportunities as well as action and choices on the part of the actors" (p. 3). Furthermore, Lin (2011) posits, social capital is built through a conglomerate of networks that creates trusting relationships and goal-oriented behaviors that catalyze successful accomplishments. It could be argued that Bourdieu, Coleman, and Putnam agree that all forms of social capital must be accessed and activated. One drawback to achieving this objective is that many potentially valuable network ties are latent until people outside the network begin to access them. Smith (2005) argues that social capital activation must include both the individual choice to seek the resources from a social network and the willingness of the network's agents to assist the seeker. In sum, as Lin (2007) argues, there are three critical components to analyze: the resources, the social structure, and the action within the social structure. She found that the theory of social capital thus has three different tasks. First, it should

determine how valuable the resources are, as well as how they are distributed within the society. Second, it should explain how actors become able to access such resources through their interactions with social networks. Third, it should indicate how access to social networks can be achieved to maximize new engagements with providers.

<div align="center">Arguments against Social Capital</div>

Despite the popularity of the concept of social capital in the fields of education, social sciences, and public health, some important caveats remain (Calvert, Emery, & Kinsey, 2013; Kawachi et al., 2013; Kawachi, Berkman, & Glass, 2009). One of the major problems with social capital theory is the diversity of its definition (Field, 2016; Portes, 1998). Durlauf (1999) points out that "the problem with a functional definition of social capital is that it renders analysis impossible" (p. 2). Durlauf (1999) also contends that social capital is not always beneficial, arguing that "social capital was important in perpetuating racial inequality" (p. 2). Rostila (2013) also explains that the dominant groups in society have used their powers to perpetuate bias, gender inequality, stigma, and racism utilizing what they called "social capital." Many critics have likewise argued that social capital builds what could be called a "status syndrome," which excludes the poor from the many benefits that are attributed to it (Aldrich, 2012; Cockerham, 2012; Lin & Erickson, 2010; Portes, 1998; Southwell, 2013).

According to Marmot (2004), "what these studies show clearly is that health-related social mobility does exist: healthier people are more likely to be upwardly mobile; unhealthy people are more likely to be downwardly mobile. The effects of this are to

reduce the social gradient in health, not to increase it" (p. 39). In his work, Marmot

(2004) demonstrates that differences in health within countries and between countries can

be attributed to inequality in social class and also correlate with the income gap between

the rich and the poor. This, he argues, is responsible for the continued disparity in health

between rich and poor members of society; low-income people do not have much control

over decisions impacting their healthcare, he asserts. According to Marmot (2004),

"Autonomy—how much control you have over your own life—and the opportunity you

have for social engagement and participation are crucial for your health, well-being and

longevity. It is inequality in these that plays a big part in producing the social gradient in

health" (p. 212).

Many would argue that people with more than one stigmatized identity, such as

low-income PLWHA, would not benefit from social capital because the dominant group

would not allow them to become part of the social hierarchy that can manipulate social

capital (Aldrich, 2012). Others believe that social capital at multiple levels can benefit

others through information networks and social relationships. Still others have argued

that social capital can be found among criminals, gang members, and people who

consistently break the law (Field, 2008; Putnam, 2000). Hence, one is left with the

question: In reality, what is social capital?

There are some researchers who argue that social capital is also disruptive

because it interferes with the lives of people with chronic diseases such as AIDS

(Durlauf, 2000; Homan, 2010; Hyyppä, 2010; Takahashi & Magalong, 2008). Swartz

(2013) cites several downsides to the social capital theory—among them, exclusion, lack

of individuality and independence, oppression, social inequality, and ongoing resistance to the acceptance of certain classes of individuals into mainstream society.

There are many arguments against social capital in the literature that can be applied to the present study. Rostila (2011), in considering the different concepts of social capital that exist, has summarized some of the major arguments against it in the literature. He contends that much of this criticism stems from conceptual disagreements, as some researchers have claimed that social capital is a collective good and a feature of social structure rather than of individual actors within the social structure. However, social capital is considered an individual-level resource within the field of sociology. These differences in opinion have resulted in the emergence of two facets of social capital: the individual and the collective. Although the latter has held a predominant position in health research (Eriksson, 2011; Kawachi et al., 2008; Rocco & Suhreke, 2012; Rostia, 2011), there has recently been a revival of network-based definitions of social capital. This discrepancy between the two facets of social capital in the healthcare field has led to "persistent conceptual confusion" (Rostila, 2011, p. 109). Nevertheless, social capital can be inherently good for underserved populations, especially PLWHA. For instance, whenever PLWHA are positively engaged with their HIV/AIDS healthcare providers, it is inherently beneficial. PLWHA must be engaged with their individual healthcare agencies and providers to make good use of the social capital emerging from this connection, for the benefit of their health and in order to receive additional useful information that can benefit them.

A second major argument against social capital involves the idea that "social capital is becoming all things to all people" (Woolcock, 2000, p. 7). Rostila (2011) argues that scholars should avoid this type of confusion by not using social capital as a measure for every variable in their research. He notes that the major aspects of social capital, including relationships with families and friends, durable social networks, trust and reciprocity, participation in civic networks, and trust in the state and its institutions have all been treated as the core concept of social capital in numerous studies, which in turn has given critics ammunition to pierce holes in the concept. Thus, he argues, to lend validity to the concept, proponents of social capital should come together to establish its core meaning. "This is particularly very important because the health consequences of different dimensions of social capital may vary," he states (p. 110). In future studies, if researchers have to subscribe to an agreed-upon meaning of social capital and conduct their research based on a standard set of tools used to measure it, the research will be more empirically sound.

Much of the controversy about social capital theory also stems from the theoretical groundings on which it is based. For example, Coleman (1998) states that "the person who invests the time and resources in building up social capital reaps its benefits in the form of a higher-paying job, more satisfying or higher-status work, and even the pleasure of a greater understanding of the surrounding world" (p. 116). Confusion abounds in this argument as to what mechanism can be used to build up resources that result in higher-paying jobs and more satisfying or higher-status work. At first glance, Coleman (1998) seems to be saying that social capital is closely aligned with wealth and

high income; hence, those people who are not rich, like the subjects of this study, will not

be able to improve their HRQOL because they are not wealthy or highly educated.

However, the connections between high income and social capital are more complex than

this argument implies. Coleman (1998) did not consider health-related factors that could

cause one not to work, or stigmatizing factors such as drug abuse, illicit sexual practices,

or unemployment that might decrease one's social capital. Additionally, one of the areas

of confusion with social capital involves the causal mechanism used to measure it. One

should consider that high income is not always highly aligned with social capital because

there are groups of people with high incomes who are stigmatized because of their race,

sexual orientation, and/or the fact that they are HIV-positive. Hence, conventional

wisdom would advocate the generation of a universal method to measure social capital

that can factor in such indicators as residential location, socioeconomic status, and

stigma. To conclude, the arguments against social capital hold that the concept has been

exploited, modified, and manipulated. However, these are only shortcomings that can be

addressed if theorists can settle on a uniform way to define and measure social capital.

Methodological Issues in Measuring Social Capital

Many researchers describe the complexity of measuring social capital (Field,

2016; Hyypp*ä*, 2010; Kawachi et al., 2013; Lin, 2007; Putnam, 2000; Sabatini; 2005).

According to Dudwick et al. (2006), "social capital is one such complex issue that

benefits from the coherent integration of qualitative and quantitative approaches" (p. 2).

Dudwick et al. (2006) also argue that "researchers are thus encouraged to adopt the

combination of qualitative and quantitative methods that best correspond to the specific issue under investigation" (p. 2).

According to Sabatini (2005), there is no uniform way to measure social capital because of the multiplicity of meanings attached to it. The first means of measuring social capital is a mixed-method approach. The advantage of using a mixed-method approach is that it helps the researcher and the audience to gain an in-depth understanding of the problem that is been investigated, while offsetting the weaknesses that are inherent to using a qualitative or quantitative method by itself (Ostlund, Kidd, Wengstrom, & Rowa-Dewar, 2010). The second means of measuring social capital is called aggregation, which is based on measures of trust, social support, bonding, and binding social capital (Folland & Rocco, 2013; Sabatini, 2005). Aggregation is more personal, since it considers the micro aspect of social capital and identifies the benefits that subjects receive from their social networks (Folland & Rocco, 2011). This concept involves individuals' perceptions of their social networks, families, friends, and relationships, and it is related to the particular position that the subjects occupy within their social networks (Cockerham, 2013; Folland & Rocco, 2013; Kawachi, 2010; Sabatini, 2005). Hyypp*ä* (2010) states that a plethora of associational investigations have been published without establishing causality—after all, it was not even theoretically possible to draw any causal links from associational studies. In the literature reviews on social capital and population health, the problems of associational designs and operationalism have not always been listed among the limitations of studies, although they are actually the greatest challenges that must be solved (Kawachi et al., 2008; Tzanakis, 2013).

According to Southwell (2013), some measures of social capital should be contextually based, and the measurements should take into consideration the cultural context in which the research is being conducted. Another methodological issue is that social capital is often measured in terms of individual context, with the researcher not taking into consideration the fact that social capital is generally perceived to be a community characteristic (Cockerham, 2013). However, researchers have often asked individual questions and then aggregated the responses, which makes it difficult to test the hypothesis or research question at hand (Cockerham, 2013; Hyypp*ä*, 2010; Kawachi, 2010; Southwell, 2012). Many researchers studying social capital have thus moved away from measuring social capital at the individual level, in terms of one's family and friends, to measure it in contextual settings instead. At the structural level, indicators of social capital such as social networks, trust, SES, stigma, and civic engagement are useful in providing information about the conditions of neighborhoods, cities, and even countries. This way of measuring social capital has been the focus of many researchers who study urban populations in order to find ways to strengthen social ties, cohesion, and networks among urban populations (Abbott, 2011; Long & Perkins, 2007).

Allan and Catts et al. (2012) and others have noted that social capital is a broad concept with definitions that are numerous and inconsistent, as are the methods used to measure it, particularly when measuring health status (Allan & Catts, 2012; Kawachi et al., 2010; Kawachi et al., 2013; Prell, 2012). It is no wonder that some researchers lament the confusing nature of the term (Ostron & Ahn, 2010; Prell, 2013; Rostilia, 2013). However, these broad and multiple conceptual definitions of social capital may help to

ensure that an examination of the concept will include as many potential aspects of it as possible (Jones, 2010; Rostilia, 2013), including the following: social connection, social networks, informal neighborhood control, economic exchange, and neighborhood and community-level participation (Aldrich, 2012; Cockerham, 2013; Lin & Erickson, 2010; Minkler, 2012).

To summarize, although the definitions of social capital are multidimensional and differ across disciplines, there is enough overlap among its various attributed meanings to draw some conclusions about the concept (Kawachi et al., 2012). Social capital can thus be understood as a collective good that exists among individuals within the community, in neighborhoods, and at the societal level. This kind of broad definition is what makes the concept so useful to so many people. However, scholars should work together to determine how social capital should be measured, and to find a way to bring structure to research involving this useful but widely defined concept. It is acceptable that the term is multidimensional; however, each discipline must have a rule for how it is measured. Much effort and money has been spent by the World Bank to sharpen the meaning of the concept while trying to find a uniform way to measure it; scholars should work together to do the same (Richards, Bah, & Vincent, 2004). When this objective is achieved, everyone, regardless of educational disciple, will be required to follow the same guidelines for measuring social capital. Regardless of criticisms of the concept, this development will be relevant to contemporary society in part because considerable data from numerous studies in different regions of the world show that people with higher social capital have better HRQOL and lower rates of HIV/AIDS infection.

Provider Engagement

Provider engagement is the active involvement of a clinician in the care of her or his patients. In this study, it refers to the active involvement of a clinician or healthcare provider in her or his patients' HIV/AIDS treatment (Gardiner, Mcleese, Steiner, Del Rio, & Burman, 2015). Provider engagement involves connecting with patients in a supportive role in order to foster trust, show feelings of concern, and provide hope for the affected individuals (Campbell & Davis, 2011). Also, when caring for patients, the clinician should do more than just provide information and direct the conversation. Instead, the clinician should work to let patients know that he or she is not just there to practice medicine, but that he or she is truly concerned about the patients' wellbeing. If the clinician does not demonstrate this genuine concern for patients' wellbeing, the clinician-patient interaction undermines trust and causes the healing process to slow down (Bedell, Grayboys, Bedell, & Lown, 2004; Campbell & Davis, 2011). Campbell and Davis (2011) state that "neglecting to offer real presence for a patient is an abandonment that can lead to further distress and to a relationship which is tainted by distrust" (p. 8). They posit that provider engagement with the patient must be relationship-centered, so that even if a patient is dying or there is no cure for the disease, as in the case of someone living with HIV/AIDS, the patient will feel a sense of peace from knowing that someone cares about him or her (Campbell & Davis, 2011). Additionally, a clinician who is fully engaged in patient care will be more attuned to patient wellbeing, safety, and overall health, performing other services in giving care to the patient that are not within the scope of the treatment. Such behavior toward the patient will cause the patient to develop trust and

respect for the provider, which will most likely lead the patient to continue receiving HIV/AIDS care.

In the past decade, provider engagement in patient care has emerged as a key criterion that causes PLWHA to remain engaged in HIV/AIDS care. Mallison, Rajabium, and Coleman (2007) assert that provider behaviors that are characterized as engaging, caring, and partnering often facilitate engagement and retention in care among PLWHA. Meanwhile, those providers whose behaviors are described as disengaging and uncaring serve as a barrier to patient retention in HIV/AIDS care. Uncaring attitudes of providers have been directly linked to high rates of treatment drop-out, underutilization of medical services, poor health outcomes, and high morbidity and mortality among PLWHA (Coleman et al., 2007; Malison et al., 2007). Furthermore, it must be noted that while provider engagement is conceptualized as the active engagement of the clinician in the lives of PLWHA in the continuum of care, the active role of the patient in his or her own care cannot really be separated from the role of the provider. The provider-patient relationship requires the effort of both the clinician and the patient to play an integral role in administering and managing the care and adhering to the treatment regimen.

Provider engagement generates openings in which patients can talk about how they are coping with their medications, reducing viral loads, and putting what they are learning into practice. Examples of strong provider engagement include active physician-patient relationships, as well as mentoring of a patient by a physician or provider of care. A similar example of provider-patient engagement would be a learning community in which a group of patients come together to discuss their HIV/AIDS care and make

connections with other providers of HIV/AIDS care. Patient interactions with providers and staff can be crucial in enhancing the educational experience of PLWHA, especially when there is a genuine interest on the part of the provider in the patients' experience and wellbeing. Healthcare institutions that work to develop these kinds of active provider-patient relationships are likely to reap a variety of tangible benefits from such initiatives. George et al.'s (2009) definition of provider engagement indicates that engagement is a two-way street in which both the patient and the provider of services are active participants in their shared decision-making. A meaningful conversation with a provider about a topic of interest, or simple encouragement or praise about improvement in their health status, can motivate and encourage patients to place more value on what they are doing to improve their quality of life.

In shedding light on the importance of the patient's role in HIV/AIDS care, George et al. (2009) note that "engagement in care refers to an overall holistic care of self to manage disease, which includes access to, and active involvement and retention in, both health care and general subsistence care" (p. 1013). Engagement in HIV/AIDS care and adherence to HIV medication such as antiretroviral therapy (ART) have the potential to reduce the number of new HIV/AIDS cases within the United States (Paz-Bailey et al., 2015). Numerous accounts demonstrate that engagement in HIV/AIDS care contributes to improved health and that those with access to HIV-related services will have better HRQOL than those with little or no access to a social network system (Hattery & Smith, 2010; Ferragina, 2012; Kim et al., 2011; Kawachi, Kim, & Subramanian, 2008; Kawachi, Kim, Courts, & Subramanian, 2004; Sampson, 2003; Putnam, 2000; Rostila, 2013). This

assumption is the basis for a number of initiatives (Denny, 2008; Hyyppa, 2010; Kawachi, 2010; Sambrook, 2013) to improve the health or the HRQOL of those who are already ill by helping them to better utilize the healthcare system (Kawachi, 2010; Kawachi et al., 2013;Paz-Bailey et al., 2013; Sambrook, 2013). A number of questions about this relationship have yet to be fully answered, however.

Researchers have found that low-income PLWHA are less likely to be engaged with their provider even when they have access to high-quality, state-of-the-art treatments (Breitnauer et al., 2015; Holtzman, Brady, & Yehia, 2015). Studies have also shown that among such disadvantaged groups as blacks and Hispanics, disparities persist in access to and continued engagement in care (George, Garth, & Wohl, 2009; Paz-Bailey et al., 2013). Persons with low SES who reside in poor urban neighborhoods are predisposed not to engage in healthcare support systems (Coleman et al., 2007). Among this group, disparities persist in terms of access to and engagement in such services. These individuals are more likely to miss their scheduled appointments, to attend fewer visits, and to be more inconsistent in their adherence to healthcare regimens (George et al., 2009). This problem persists because of the lack of social support for PLWHA, which causes a lack of support for their consistent engagement in care. The literature has shown that individuals who are not engaged in healthcare, and especially not with their providers, are more likely to exhibit poor utilization of medical and support services and an increased incidence of HIV/AIDS. Inadequate engagement with providers leads to low HRQOL and subsequently high mortality rates. High drop-out rates and missed appointments have been documented among substance abusers, poor blacks and

Hispanics, and people with mental and physical problems (Robbins & Pettinicchio, 2012; Tsuyuki & Surratt, 2015).

Since the discovery of HIV/AIDS, models of provider engagement in the HIV continuum have focused on engaging and retaining PLWHA in care (Coleman et al., 2007; Earnshaw et al., 2013; Paz-Bailey et al., 2013). Three decades ago, HIV continuum models were focused on end-of-life care or on providing support for families and other caregivers of individuals dying from AIDS. Much has changed since then due to advances in medication helping those with HIV/AIDS to live longer and healthier lives. HIV/AIDS models have now shifted to HIV/AIDS care over the lifespan, retention in consistent follow-up care, and the provider-patient engagement concept. Such models have shifted to focus on the needs of longer-living PLWHA, addressing how to cope with having the HIV virus, how to improve their SES, how to provide information to help these individuals find long-term support, and the elimination of HIV/AIDS stigma. What has not changed is the high number of underserved HIV/AIDS-infected individuals who are lacking in these support systems and drop out of care.

Recent HIV/AIDS research has focused on the connection between provider engagement and wellness-related outcomes (George, Garth, & Wohl, 2009; Paz-Bailey et al., 2013) and on bridging the gap that exists between providers and PLWHA within the care continuum (in other words, bridging social capital). This gap may be responsible for the reasons why so many urban PLWHA have grappled with low SES, a lack of access to quality healthcare, and, in many cases, HIV-related stigma. This literature review seeks to gain a better understanding of how these social determinants of health influence the

health status of underserved HIV/AIDS-infected individuals. To this author's knowledge, none of these studies have used provider engagement, SES, and HIV/AIDS stigma together as indicators of social capital. There is a need to further explore the provider engagement needs of PLWHA, especially as they relate to the individual and structural factors that may contribute to this need.

Social networks are another predictor of provider engagement. Studies have shown that PLWHA who receive support from their social networks are more engaged in their HIV/AIDS care (Ferguson et al., 2012; Layer et al., 2014; Paz-Bailey et al., 2013). Social networks have been linked to a variety of health-status indicators, including reducing and buffering stress, providing information to PLWHA to expand their knowledge base about HIV/AIDS care and managing HIV/AIDS, and ultimately encouraging them to stay in care (Cockerham, 2013; Sun, Zhang, & Fu, 2007; UNAIDS, 2012). Hence, the many benefits of having a strong social network cannot be ignored in the social capital literature (Jacobs-Kronenfield, 2013). As evidenced in the research, individuals who are connected or involved with a social network tend to have improved health in comparison to those who are not connected or involved with a social network (Calvert, Emery, & Kinsey, 2013; Jacobs-Kronenfield, 2013; Kawachi, 2010; Kawachi et al., 2012). Furthermore, social networks often help individuals find the necessary means to improve their health status and become fully engaged in their HIV/AIDS care; for underserved HIV/AIDS-infected individuals learning how to manage HIV/AIDS, belonging to at least one knowledgeable social network is almost essential (Chase, 2011). In order for them to improve their quality of life and cope successfully with the stresses

of having HIV/AIDS, it is important that they understand the stress they face and

examine the benefits of having a social network (Grynkiv, 2010; Southwell, 2013).

Studies have shown that for PLWHA to benefit from antiretroviral therapy, they need to

receive and consistently take their medication (Anglemeyer, Horvath, & Rutherford,

2013; Croda, Gracia-Croda, Neves, & De Sousa dos Santos, 2009; Paz-Bailey et al.,

2013). However, poor engagement of providers with PLWHA will substantially limit the

effectiveness of any care received (Gardner, McLeese, Steiner, Del Rio, & Berman,

2011; Flickinger, Saha, Moore, & Beach, 2013; Paz-Bailey et al., 2013). Flickinger et al.

(2013) examine the effectiveness of high-quality communications and relationships that

are associated with engagement in HIV/AIDS care. They present several hypotheses: a)

patient retention in HIV/AIDS care may be influenced by patient-provider relations, b)

early retention in HIV/AIDS care is essential to receiving ART, which dramatically

reduces morbidity and mortality for PLWHA while decreasing transmission of the

disease, and c) poor adherence to clinic visits is an independent predictor of virologic

failure and mortality. Study participants consisted of 1,363 patients treated at an urban

academic clinic in Baltimore, Maryland. Participants were asked to rate the quality of

communication and relationships with their providers in five domains, which included

appointment adherence, providers' treatment of patients, patient relationships with HIV

providers, providers' listening skills, and retention in care. The researchers used linear

regression to investigate these five domains. They found that patients kept more

appointments if the HIV provider treated them with dignity and respect, listened carefully

to them, explained their illness in ways they could understand, and knew them as

individual persons. Enhancing providers' communication skills and relationship quality with patients would in all likelihood improve patient retention in HIV/AIDS care, the researchers found (Flickinger et al., 2013).

In a similar study, Coleman et al. (2007) examined the prevalence of PLWHA who left follow-up care at the Fenway Center in Boston, MA. Their study gathered cross-sectional data from 179 persons who had received HIV/AIDS treatment at the health center and then dropped out of care for more than one year. The researchers extracted and analyzed insurance, income, and service-utilization data; unmet needs; and unavailable transportation. Variables of interest included income and provider engagement, mental health status, and case management. Coleman et al. (2007) found that provider engagement is significantly associated with follow-up visits and retention in HIV/AIDS care. They posit that it is important for patients who are HIV/AIDS-positive to engage in follow-up care to experience improved quality of life. Unmet social needs cause PLWHA to drop out of HIV/AIDS care, the researchers contend. They attribute this deficit to the length of illness, lack of engagement with providers, and difficulties in finding social networks, as well as inadequate or unavailable transportation, housing, and income. They also assert that the greater the unmet needs of a PLWHA, the higher the probability that he or she will drop out of care. Thus, encouraging patients' engagement with their providers, ensuring continuity of care, enhancing wellness, and providing HIV/AIDS therapy should be the goal in primary care, the researchers argue. Their work supports the notion that the factors that influence PLWHA to disengage from care frequently result in the underutilization of healthcare services, which compromise a patient's health status

and increase episodes of psychosocial vulnerability. To allow for adequate care, Coleman et al. (2007) suggest that HIV-infected patients should return for medical follow-up primary care visits at least four times per year.

Lauby and colleagues (2011) find that having a positive social relationship is associated with reduced risk of unrecognized HIV infection among black and Latino men who have sex with other men (MSM). The researchers interviewed 1,286 black and Latino MSM without known HIV infection in three metropolitan areas. These men were recruited using snow ball sampling. The subjects completed a computer-administered questionnaire and were tested for HIV/AIDS. Unrecognized HIV infections were found in 118 men. MSM who scored higher on the supportive relationship scale had a significantly lower risk of testing HIV-positive in the study. The researchers concluded that MSM who have strong social support are more likely to be tested for HIV/AIDS and less likely to engage in high-risk sexual behaviors. The findings of this study support the hypothesis that a strong social support network is positively associated with improved HRQOL.

In a quantitative study of the effects of social support, stress, and social network characteristics among HIV-positive Latino (a) and African American women and MSM, Wohl et al. (2010) found that African American and Latina women reported that they receive most of their social support from friends and family members, while Latino and African American MSM reported that they receive their support primarily from friends and healthcare providers. The study concluded that African American and Latina women are likely to disclose their HIV status to more network members and receive more HIV-

specific support compared to MSM. Thus, the researchers argue, interventions are needed to help Latino and black MSM to enhance their social networks in order to better manage their stigmatizing illness. The studies discussed in this section support the general hypothesis that social networks can help to improve the HRQOL among PLWHA, but they do not differentiate among the dimensions of social networks or explain exactly how social networks help these individuals.

As this literature review demonstrates, there is credible evidence that provider engagement can benefit PLWHA by helping them gain information that will lead to improved health status. The rest of this literature review will therefore focus on exploring how socioeconomic status and stigma intersect with provider engagement to predict the HRQOL of the subjects in this study. This review will now explore these indicators of social capital and how they impact the HRQOL of underrepresented minority city-dwellers.

Socioeconomic Status

Conceptualizing socioeconomic status as it relates to social class yields several insights that are useful for understanding the variation between the HRQOL of the more privileged groups in society and that of other groups that are less privileged (Bruce et al., 2010; Kawachi & Berkman, 2003). The construct of socioeconomic status also helps to explain why and how members of one social class can advance their economic and social wellbeing and how other social classes are deprived of wealth and social status because of their own (Kawachi et al., 2013; Lin, 2007). Many researchers argue that inequality in

social status is the result of the varying socioeconomic positions of different racial and

ethnic groups (Holtgrove & Crosby, 2003; Iwase et al., 2012; Rice & Arnett, 2001).

Further, many researchers have noted that while there is no single indicator that links

socioeconomic status with health, people with low income tend to have lower HRQOL

(Hofrichter, 2003; Myers, 2009; Sternal, Slupen, & Williams, 2011; Williams,

Mohammed, Leavell, & Collins, 2010). Researchers have highlighted many different

interconnected pathways whereby people's health and social status are harmed or helped

by their socioeconomic status (Kawachi et al., 2008; Krieger, Williams, & Moss, 1997).

Some sociologists measure socioeconomic status using educational level and income,

arguing that level of educational attainment mediates the relationship between

socioeconomic status and level of social capital (Hofrichter, 2003; Iwase et al., 2012; Lin,

2007). Inequality in socioeconomic status is causally related to inequality in social capital

and neighborhood health (Krieger, Williams, & Moss, 1997).

Socioeconomic status variables are often used to predict differences in mortality

rate and life expectancy among PLWHA (Rice & Arnett, 2001). According to Kreiger et

al. (1997), "black men in the highest income group live 7.4 years longer than those in the

lowest income group" (p. 173). Thus, the relationship between social capital and

socioeconomic status is especially important to explore because socioeconomic status

seems to predict health status and could lead to better population health outcomes in the

presence of racial inequality. In the literature on health status and social capital, however,

the relationship of social capital to socioeconomic status has received relatively little

attention. This is true for low-income PLWHA. From the research that has been carried

out thus far, it can be concluded that social capital is highly related to health status when socioeconomic status is used as an indicator (Field, 2003; Lin, 2007). Additionally, socioeconomic position is often equated with the structural component of people's social environment. It may include a measure of individual personal income, wealth, and educational attainment. In recent studies of people living with HIV, lower income was associated with poorer health status and quality of life (Lyons, Pitts, Grierson, Thorpe, & Power, 2010). In most studies, higher levels of income are related to better HRQOL and higher social status (Pereira & Canavarro, 2011).

Meanwhile, lower-SES minorities often have limited access to the resources that can help to improve HRQOL (Earnshaw, Bogart, Davidio, & Williams, 2013; Minkler, 2012; Williams et al., 2009). Also, they often experience economic and political exclusion, which leads them to remain powerless within their communities (Williams et al., 2010). Consequently, it is these complex patterns that emerge among urban populations when socioeconomic status and health are considered simultaneously in research focusing on underserved HIV/AIDS-infected individuals (Williams et al., 2010).

Cunningham et al. (2005) write that PLWHA with low socioeconomic status (SES) tend to have reduced access to high-quality HIV/AIDS care, as well as fewer services than those with higher incomes. In a national probability sample of PLWHA (n = 2864) with low SES, these researchers examined whether the groups in question had shorter survival times than people with higher SES. The independent variables were wealth, annual income, educational attainment, employment status, race and ethnicity, insurance status, use of services, and use of medications at baseline. The dependent

variable was death between January 1996 and December 2000. In this study, the

researchers used a descriptive and multivariate adjusted Cox proportional hazards

regression model. They found that within one year, 20% of the sample had died because

they had been unable to afford HIV/AIDS medication. More specifically, researchers

found that those with no accumulated financial assets had an 89% greater risk of death

than their counterparts who were more affluent. They also found that those with the

lowest SES had the highest death rates. Thus, Cunningham and colleagues (2005)

concluded that effective interventions are needed to improve the health outcomes for low-

SES groups who are HIV/AIDS-positive.

In a similar study, researchers from the Centers for Disease Control (CDC)

collected data for the National HIV Behavioral Surveillance System (NHBS). They

surveyed heterosexuals who lived in urban areas with a high prevalence of HIV/AIDS

and found that for this group, there is an overall HIV prevalence of 2.0%, with a

prevalence of 2.3% among persons with annual household incomes at or below the

poverty level. This report also summarized HIV testing results from a second cycle of

NHBS that was conducted in 2010. This updated study also focused on heterosexual

persons with low SES living in areas with high AIDS case rates. The researchers

concluded that "HIV prevalence was 2.3% overall and 1.1% among participants who did

not report a previous positive HIV test result" (p. 1). Additionally, they found that

approximately 26% of participants had never been tested for HIV until the NHBS survey.

Based on the high HIV prevalence in this sample, the researchers determined that

additional research should be conducted to identify culturally appropriate interventions to

overcome barriers to HIV testing among heterosexuals with low SES in urban areas with a high prevalence of AIDS (CDC, 2013).

Other researchers have corroborated these findings. Brennan, Wells, Miner, Ross, and Rosser (2010) examined the impact of HIV treatment optimism on sexual risk among 346 HIV-positive men who have sex with men (MSM). They defined HIV treatment optimism as the belief that PLWHA might perceive HIV infection as not very serious because there are treatments that are available to mitigate the impact caused by the HIV virus (Brennan et al., 2010). They found that those with lower SES (based on income and educational attainment) are more unwilling to use condoms. The researchers concluded that low SES PLWHA are less likely to wear condoms and that these men incorrectly believe there is less risk of transmitting HIV/AIDS to others without using condoms than there actually is. Despite the methodological weaknesses of this research, it demonstrates that people living in poor urban areas are more likely to practice risky, unprotected sex, which results in the high rates of HIV/AIDS in urban communities (Brennan et al., 2010; Pellowski, Kalichman, Matthews, & Adler, 2013; Tsuyuki & Surran, 2015). These individuals are also less likely to be tested early for HIV/AIDS and tend to have a higher mortality rate than individuals with higher incomes (Pellock & Perry, 2009; Wohl, Galvan, Myers, & George et al., 2010; Wohl, Carlos, Tajero, & Dierst-Davis et al., 2011). In summary, income plays a key role in influencing physical and mental health, especially in terms of shaping the quality and types of healthcare that one receives. Individuals who are highly educated and have incomes above the national poverty guidelines tend to be more knowledgeable about HIV prevention and are more likely to

know their HIV status early. In addition, there is a higher overall likelihood that affluent individuals who are infected will find the best-quality healthcare to help treat the virus. Thus, they tend to live much longer than those with little income. Greater income also increases access to social capital, improved quality of life, and social support systems that can help them cope with and adapt to their illness. Many studies have shown a powerful connection between SES and health (Earnshaw et al., 2013; Halkitis, Wolitiski, & Millet, 2013; Prado, Lightfoot, & Brown, 2013). Because people in urban communities tend to have lower SES and have to rely on public insurance like Medicaid, they may be at a greater risk of physical and mental illness as well as poorer medical care (Williams et al., 2012). It must be noted, however, that it is risky to use income to measure social capital, as income often changes, meaning it is not the best predictor of socioeconomic status.

Among PLWHA in urban areas, socioeconomic and cultural norms play an important role in health outcomes (Kawachi, 2010; Kawachi et al., 2013). Racial disparities in health have a long history in urban communities (Williams et al., 2010). For example, black men living with HIV/AIDS lag behind other social and ethnic groups on most social indicators (CDC, 2010; UNAIDS, 2012). There is an elevated rate of chronic diseases among minorities in comparison with inner-city white men (UNAIDS, 2012). The earlier onset of HIV/AIDS, the greater severity of chronic diseases, and poorer survival rates for minorities have been the subject of much research (UNAIDS, 2012; Williams et al., 2010). There are significant racial differences in the experience and survival times of blacks living with HIV from those of whites. These differences seem to

be based on the ever-growing disparities between the socioeconomic status of the rich and the poor (CDC, 2010; UNAIDS, 2012).

HIV/AIDS Stigma

Stigma is the disapproval of or discontentment with individuals because they embody characteristics that are different from those of other members of society—characteristics considered negative by mainstream society. This definition of stigma can be traced back to Goffman's (1963) landmark book, *Stigma, Notes on the Management of Spoiled Identity*. Goffman (1963) was one of the first theorists to explore the concept of stigma across race, culture, and chronic diseases. He suggested that all people could be tainted by stigma regardless of culture and sexual orientation, and he posited that in most cultures, stigma is a mark of disgrace and people can be killed because of it. Since 1963, many theorists have built on Goffman's work on stigma (Quinn & Chaudior, 2009; Quinn & Earnshaw, 2011;Phillips, Moneyham, & Tavakoli, 2011).

Stigma is endemic. It occurs when individuals are treated unfairly and unjustly because they belong to a marginalized group (Liamputtong, 2013; Quinn et al. 2014). From the onset of the HIV/AIDS epidemic, the illness has not only been seen as a health condition but as a stigmatized and stigmatizing illness (Liamputtong, 2013). As a result, stigma has great impact on those from marginalized groups, such as gay men, injection drug users, and poor urban residents. In addition to their already stigmatized status, these groups of people bear a heavy burden of stigma when living with HIV/AIDS (Liamputtong, 2013). Clearly, stigma has a deleterious impact on the health and

wellbeing of PLWHA, particularly since it is responsible for causing stress among those infected with HIV/AIDS (Lekas et al., 2011; Naughton & Vanable, 2011; UNAIDS, 2012). HIV-related stigma has been extensively studied among PLWHA in recent years (Earnshaw & Chaudior, 2009; Feyissa, 2012; Liamputtong, 2013; Naughton & Vanable, 2011; Zhao et al., 2011). A search of PubMed reveals over two hundred articles on the subject of HIV/AIDS-related stigma. Many studies have found a negative relationship between stigma and HRQOL(Quinn et al. 2014; Quinn & Earnshaw, 2011). Studies have also reported that antiretroviral therapy has made it very difficult to identify people who are HIV-positive; hence, there has been a reduction of HIV-related stigma within the United States dating back as far as the early 1990s (Fair & Ginsburg, 2010; Feyissa, 2012; UNAIDS, 2012).

Recent reviews in social science literature have concluded that stigma has a multiplicity of effects on people's life outcomes, especially on the lives of persons carrying certain infectious diseases (Liamputtong, 2013; Liu, Canada, Shi, & Corrigan, 2012; Williams et al., 2010; Zhao et al., 2011). In summary, stigma has hampered the progress that society has made in trying to eradicate HIV/AIDS (Liamputtong & Kitisriworapan, 2012; Williams et al., 2010; Zhao et al., 2011). PLWHA must make many readjustments because of the psychological stress that stigma has placed on their lives. According to Downshen, Binns, and Garofalo (2009), "HIV-related stigma has been described across a variety of separate domains, including disclosure concerns, negative self-image, public attitude, and personalized stigma" (p. 371). Many of these domains are used by practitioners and researchers to describe how stigma is

operationalized, or for intervention and treatment purposes (Downshen, Binns, & Garofalo, 2009; Earnshaw et al. 2011; Quinn et al. 2015).

The phenomenon of stigmatizing others was expanded upon by Falk (2001) in his separation of stigma into "existential stigma" and "achieved stigma" (p. 1). Falk (2001) argues that existential stigma is derived from a condition that the victim either did not cause or had very little control over. Falk (2001) explains that achieved stigma is "earned" because the individual has conducted himself in a way that contributed "heavily to attaining the stigma in question" (p. 1). Falk advanced the view that stigma is present in every society and that most people will discriminate against other people because doing so provides them with power and solidarity by separating the outsiders from the insiders (Phillips, Moneyhan, & Tavakoli, 2011).

An extensive review of the literature related to stigma and stigmatized identities reveals that people living with HIV/AIDS suffer from multiple stressors because of society's negative attitude toward them (Earnshaw, 2009; Earnshaw, Quinn, & Park, 2011; Quinn & Chaudior, 2009; Quinn et al, 2014; Phillips, Moneyham, & Tavakoli, 2011). Crocker, Major, and Steele (1998) note that "stigmatized individuals possess (or are believed to possess) some attribute, or characteristic, that conveys a social identity that is devalued in a particular social context" (p. 505). Liamputtong (2013) asserts that everyone has a desire to feel a sense of belonging or be involved with others, so even though people have a desire to be well, stigma can cause severe psychological stress that can prevent them from getting well. People living with HIV/AIDS suffer from stigmatized identities that cause them not to make use of the opportunities that exist today

as a result of the many breakthroughs from HIV research. Several studies have identified

a link between HRQOL, social capital, and the concept of stigma among HIV patients

(CDC, 2012; Earnshaw et al. 2015;Liamputtong, 2013; Williams et al., 2010; Wohl et al.,

2011). There is an abundance of research and conceptual frameworks linking stigmatized

identities to social capital.

Quinn and Chaudior (2009) argue that to evaluate how stigma affects individuals

who are stigmatized, one must distinguish between benign and dangerous forms of

stigma. They define four types of stigma: anticipated, central, salient, and cultural. The

distinctions among these types of stigma are often subtle, complex, and abstract. The first

three can be grouped together under the umbrella term of internalized stigma (Quinn &

Chaudior, 2009; Quinn & Earnshaw, 2011; Quinn et al. 2014) . Quinn and Chaudior

(2009) define anticipated stigma as the degree to which individuals expect others to

stigmatize them if they know about their concealable stigmatized identity. Central stigma

is based on an individual's perception of his or her self-image or identity, and it affects

disclosure of minority HIV status. If the individual self-image will be affected, a person

will not disclose his or her HIV status. Salient stigma is important to individual identity

as well—but identity may seldom cross some people's minds, and only a few situations

will make concealing their identity important to them. Thus, salient stigma is temporary

and situational. Fourth, cultural stigma varies by the level of social devaluation that is

perceived by an individual to be likely to occur. This type of stigma originates within the

culture of the individual being stigmatized, and it can have a devastating effect on his or

her identity or self-worth (Quinn & Chaudior, 2009: Quinn et al. 2014). All types of

stigma are considered a mark of disgrace that sets people apart from their society. When an individual is labeled because of his or her race, illness, or sexual orientation, he or she is labeled as belonging to a stigmatized group (Bryant, 2012; Quinn & Chaudior, 2009; Quinn et al. 2014).

Internalized stigma severely impacts the lives of people living with a chronic disease and those who are suffering from mental illness (West et al., 2011). As a consequence, people living with internalized stigma will experience severe psychological distress (Quinn & Chaudior, 2009; Williams et al., 2010). To help these individuals gain access to social capital and high-quality healthcare, it is necessary to first learn how much damage the stigma has caused. Internalized stigma is often untreatable because the individuals affected often conceal the stigma until they suffer from severe distress. As noted above, internalized stigma can be broken down into the categories of salience, anticipated stigma, and centrality (Earnshaw et al. 2015; Quinn & Chaudior, 2009). These types of stigma are categorized as concealable stigmatized identities. Quinn and Chaudior (2009) predict that the greater the anticipated stigma, salience, and centrality are, the greater the distress that the person with the concealable stigmatized identity will suffer. Moreover, the greater the suffering, the less such people will be able to access resources that could benefit their quality of life (Liamputtong, 2013; Zeffi, 2013).

According to Quinn and Chaudior (2009), "a concealable stigma is an identity that can be hidden from others but carries with it social devaluation" (p. 635). They further note that concealable identities cover a range of illnesses and issues like HIV/AIDS, substance abuse, employment discrimination, racial discrimination, rape,

molestation, and domestic violence. People react to stigma in many different ways.

Individual reactions may depend on where the stigma is coming from, and the impact on

the wellbeing of the stigmatized person can vary. For example, if a total stranger uses

homophobic slang against a gay person, it will probably have a negative but short-lived

effect on that person, exerting little or no impact on the greater wellbeing and lifestyle of

the individual. However, if the same slang is used by a family member or someone within

a culture with which the person identifies, it may exert a stronger negative psychological

effect. Further, some stigmas are anticipated, so the mental status of the individual (or

how the stigma is used) will determine whether they create any type of psychological

distress. In summary, concealable stigmatized identities often trigger a high degree of

mental health issues and the social problems associated with them (Quinn & Chaudior,

2009; Valles-Ramirez et al., 2010; Valles-Ramirez, 2011; Zefi, 2013).

Although most studies use different measures for stigma, all of them show a

significant negative relationship between HIV-related stigma and HRQOL (Eaton et al.

2015). In other words, higher levels of HIV/AIDS stigma are related to lower HRQOL

among PLWHA (Liamputtong, 2013). This outcome holds true for all measures of

stigma. Finally, from the abundance of research available on HIV/AIDS stigma, it is clear

that HIV/AIDS has a significant negative impact on HRQOL, especially among the

populations examined in this research. Additionally, the stigma of HIV/AIDS is

underpinned by many factors such as social and residential segregation, lack of social

networks, health disparities, misconceptions about HIV/AIDS, drug abuse among urban

MSM, poverty, and the high incarceration rate among black and Hispanic men (Zeffi,

2013; Zhan et al., 2012). These factors are also partially responsible for the low SES of PLWHA. Research on stigma indicates that the availability of a trusted network appears to be the critical factor that determines whether people are impacted by stigma or not (Surkan, Muhkerjee, Louis, & Jean-Paul, 2011; Ugarte et al., 2013; UNAIDS, 2012). For the current study, stigma is included as an indicator of lack of social capital and as a potential predictor of negative HRQOL in PLWHA. The hypothesis explored in this study is that stigma has a significant negative relationship to HRQOL as well as to mental and physical health and HIV/AIDS care.

Health-Related Quality of Life

Studies on HRQOL have been widely published in public health, nursing, social science, psychology, and social work journals (Aldrich, 2012; Black & Cottrell, 2012; Condon & Sinha, 2010; Nyawasha, 2011; Rostila, 2013). While there is much controversy on how to define and measure HRQOL, researchers in most disciplines agree that people with a high level of social capital have better access to resources and improved HRQOL (Aldrich, 2012; Allan & Cotts, 2012; Kawachi, Subramanian, & Kim, 2010; Lin & Erickson, 2010; Southwell, 2012). In recent studies of PLWHA, social capital is not the only predictor of HRQOL. Others include race, gender, socioeconomic status, social class, sexual orientation, and medical comorbidities that emerge as predictors of HRQOL (Kawachi et al., 2010). For example, poor health status is often associated with lower socioeconomic status as well as race, gender, psychological stress, stigma, and poor environment. A number of these social and psychological variables have

also been identified in the literature as predictors of HRQOL for people living with HIV/AIDS (Black & Cottrell, 2012; Gile & Jarso, 2010; Kasimbassi, 2010; Nyawasha, 2011).

The World Health Organization (WHO) defines HRQOL as a multidimensional perspective of health that includes physical health, social functioning, and wellbeing (Ware, 1997). WHO (1946) also defines health as "a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity" (p. 1). According to Bowling (1999), "a measure of health status should be based on a concept of health. A medical conception of health is freedom from disease and abnormalities; a sociological view can be defined in terms of the possession of acceptable levels of mental and physical fitness in order to perform one's social role in society" (p. 8). Ware (1997) notes that HRQOL must be measured in terms of one's mental, physical, and social state and in relation to disease-specific outcomes. HRQOL is a broad concept with numerous definitions and no uniform way to measure it (CDC, 2010). In addition, other terms are often used to refer to HRQOL, such as overall health status, health outcome, and perceived health (CDC, 2010). HRQOL is often described as a multidimensional concept incorporating mental and physical health as well as overall health outcomes (CDC, 2010; Worthies et al., 2008; Gibson et al., 2011). Measures of HRQOL make it possible to scientifically demonstrate the impact of health on quality of life, going well beyond the old paradigm that was limited to what could be seen "under a microscope." *Physical* health refers to how an individual functions physically, rather than to a specific illness or condition, while *mental* health refers to how an individual functions psychologically, and

overall health status is a combination of both physical and mental health status (Fox, 2012).

Lorenz et al. (2001) examine the association of symptoms and HRQOL as part of a study of persons with HIV infection. The researchers analyzed disability days among people with HIV within a prospective cohort study consisting of a national representative sample of 2,267 adults known to be HIV-positive. They were interviewed in 1996 and again between 1997 and 1998. The study lasted for approximately two years. Four elements of health-related quality of life were investigated: symptoms, perceived health, perceived quality of life, and disability days. The results indicated that, with respect to HRQOL, people who were sick experienced a lower baseline in HRQOL. People who had few or no symptoms had a higher baseline and an improved HRQOL. Quality of life had an inverse relationship with disability days. Thus, the lower the number of disability days a patient had, the better his or her health status, and the more disability days, the poorer that patient's health status. This study was significant because it used a large sample and was longitudinal. The findings of the study also suggested that many factors may affect one's quality of life and wellbeing.

The HRQOL of PLWHA has been examined extensively in recent studies (Andrinopoulos, Clum, & Murphy; Harper et al., 2011; CDC, 2012; Peter, Kamath, Andrews, & Hedge, 2014; Williams et al., 2010; Zhang et al., 2013). Most studies examining HRQOL and HIV/AIDS are aimed at assessing physical, mental, and overall health status among PLWHA in addition to such determinants of health as HIV/AIDS care. Hence, for most of these studies, it is not difficult to determine a relationship

between HRQOL and low-income underserved HIV/AIDS-infected individuals even though many of these studies focus on race or population health (Kawachi, 2010; Kawachi et al., 2012).

HRQOL is often influenced by physical and mental health, social support, physical and personal belongings, and social integration (Gibson et al., 2011). Most persons living with HIV/AIDS report higher levels of stress than those living with chronic diseases such as diabetes, asthma, tuberculosis, and obesity, and these elevated stress levels are often related not only to HIV/AIDS but to the physical health symptoms brought on by the side effects of the HAART medications (Kamen et al., 2011).

There are a growing number of HRQOL studies focusing on underserved HIV/AIDS-infected individuals, and they have provided similar results (Crosby, Salazar, & Decremented, 2013; Patel et al., 2009; Zefi, 2013). For example, Patel and colleagues (2009) found that women on antiretroviral therapy (ART) experience lower levels of depression, fewer AIDS-related symptoms, and better quality of life than those who are not on ART. Cochran and Mays (2009) found that people with AIDS-related comorbidities often experience depression and lower HRQOL. A consistent finding is that increased HRQOL is associated with increased socioeconomic status and social connectedness (Kawachi et al., 2013). Increased social connectedness and higher socioeconomic status, using the indicators of income and educational attainment, have been found to be correlated with increased HRQOL (Williams, Mohammed, Leavell, & Collins, 2010). In the next section, the impact of residential segregation on health disparities is discussed at the individual and structural levels.

Urban Residential Segregation

Residential segregation manifested at the structural level is associated with increased HIV-positive sexual behavior among low-income urban residents (Earnshaw et al., 2013). Structural-level manifestation is the degree to which a geographic area is isolated and mirrors the demographic makeup of a large metropolitan area (Massey & Denton, 1993; Massey & Denton, 2005). Residential segregation is also referred to as the degree to which different groups of people live separately from each other within the same geographic location (Swaroop & Krysan, 2011). Most people who currently experience the inequities of residential segregation were forced to live in the same or similar neighborhoods because of unfair 1960s housing policies; they have remained there because they do not have the means to improve their SES and move out (Denton & Gibbons, 2013; Defina & Harmon, 2009; Parisa, Lithter, & Taquino, 2011).

In their influential book *American Apartheid: Segregation and the Making of the Underclass*, Massey and Denton (1993) explain that residential segregation is perpetuated in three different ways: individual actions, institutional practices, and government policies. They argue that the concentration of poverty in minority neighborhoods is the most vicious consequence of ethnic and racial segregation. In describing residential segregation as a significant social determinant of health, Massey and Denton (1993) argue that the making of the underclass in urban communities is responsible for the manifestation of many chronic diseases among urban residents. Massey and Denton (1993) further note that "because of racial segregation, a significant share of America is

condemned to experience a social environment where poverty and joblessness are the norm, where a majority of children are born out of wedlock, where most families are on welfare, where educational failure prevails, and where social and physical deterioration abounds. Through prolonged exposure to such an environment, black chances for economic success are drastically reduced" (p. 2). These systematic problems are subtle and often invisible, yet in many ways they harm individual health. Since Massey and Denton's (1993) publication of *American Apartheid*, a wide range of literature has chronicled the impact of residential segregation on the lives of PLWHA in urban neighborhoods (Brown, 2013; Denton & Gibbons, 2013; Swaroop & Krysan, 2012; Quillan, 2011; Rothstein, 2012).

Sampson (2003) studied the neighborhood context of health by assessing social mechanisms and neighborhood processes that create racial and residential segregation. He found that social characteristics vary systematically with health in different communities. The more affluent the community is, the better its health outcomes. Sampson (2003) also found a correlation between the environment and health status. In his study, which focused on human development in a Chicago neighborhood, his goal was to understand human development as it relates to the environment. He collected data from three major community sources in order to gain a complete picture of the overall social context of the neighborhood being studied. According to Sampson (2003), "the study was designed to yield a representative probability sample of Chicago residents and a large enough 'within-cluster' sample to create reliable between-neighborhood measures" (p. 557). Based on this study, he concluded that people of all socioeconomic

statuses have the capacity to gain control over their environment and engage in collective action to reduce the negative social context of their neighborhoods. Additionally, people do not necessarily need communities in order to gain control over their lives. What they need is a good education and an effective coping strategy to survive in their environment until they gain enough financial capacity to move to a better neighborhood. Sampson (2003) found that community-level efforts to change the environment can change the social context of a neighborhood, and that these efforts can help prevent the transmission of sexual diseases, reduce barriers to healthcare, eliminate racial disparities, and improve population health while reducing or eliminating pollution. These findings are encouraging because they are consistent with social capital theory, which posits that in order to gain social capital, an individual must work hard to build durable relationships and gain access to the collective assets shared by members of a defined group of people with social capital (Lin, 2007). Sampson (2003) also argues that social capital is dependent on whom an individual knows, as well as the quality, size, and diversity of the individual and community network.

Others have also discussed how residential segregation impacts the lives of urban residents living in concentrated poverty (Denton & Gibbons, 2013;Quillan, 2012-). Quillan (2012) developed a formal decomposition model of how segregation, group poverty rate, and other spatial conditions combine to create concentrated poverty. The decomposition model is an index model that was first developed by Massey and Denton (1983) to examine how group segregation, rates of poverty within a community, and other spatial conditions combine together to create concentrated poverty (Quillan, 2012).

Quillan (2012) revised the original decomposition model of Massey and Denton to account for income effects on cross-race neighborhood residence as well as the effects of interactive combinations of multiple spatial conditions in the formation of concentrated poverty. When applying his model to the data collected, Quillan (2012) discovered that racial segregation and income segregation within race contribute to the concentration of poverty. "Almost equally important for poverty concentration, however, is the disproportionate poverty of blacks' and Hispanics'" (p. 1), he explains. He concludes that poverty in minority communities results from three types of segregation: racial segregation, poverty-status segregation within race, and segregation from high- and middle-income members of other racial groups. He also asserts that low socioeconomic status among non-white groups is responsible for the growth of residential segregation. Additionally, he concludes that group poverty rates combine interactively to produce spatially concentrated poverty.

Today, residential segregation is still proving strongly resistant to change. Perhaps this accounts for the slowness of movement toward integration and racial equality in America (Denton & Gibbons, 2013; Iceland, Sharp, & Timberlake, 2013; McFarland & Smith, 2011; South, Crowder, & Pais, 2013). Many researchers have found residential segregation to account for what is described as "the tale of two cities," in which the affluent live in a neighborhood that is isolated and racially segregated while the non-affluent live in urban poverty, with minorities in the non-affluent group living segregated together. Often these two types of neighborhoods are located within a few blocks of each other (Parisi, Lichter, & Tacquino, 2013; Quillan, 2011). Defina and

Harmon (2009) argue that as minority groups such as Hispanics and blacks increase in population and become more concentrated among themselves, group residential segregation among whites also increases. This type of segregation is responsible for creating two types of communities: one that is affluent and rich in social capital and another that is poor, both in income and social capital. Defina and Harmon (2009) examined the association of racial composition and residential segregation within large metropolitan cities in the United States. They used a dissimilarity index to measure the degree of separation between whites and blacks as well as between whites and Hispanics. In communities that are more diverse, they found, the threat of racial residential segregation is significantly diminished. They also found that in areas in which blacks, Hispanics, and whites are concentrated, racial animosities increase, and there is a vast difference between the SES of whites, Hispanics, and blacks. Blacks are most likely to live in concentrated poverty, followed by Hispanics. The researchers also found that whites tend to live in areas with the highest socioeconomic gradients.

Robinson et al. (2012) outline the wide range of issues responsible for the high rate of HIV/AIDS among PLWHA within the United States. African Americans make up 44% of all HIV/AIDS cases in America, they explain, while MSM make up 61% of new cases. Hispanics are three times more likely to contract HIV/AIDS than whites, they note. They conclude that this type of racial gap in the HIV/AIDS epidemic is best explained by the high level of segregation in urban areas. Robinson et al. (2012) assert that "the high rates of HIV/AIDS we see among communities of color are not the results of high[-]risk behavior in these communities, but of structural inequalities that make them more likely

to come in contact with the disease and less likely to treat it" (p. 2). They further explain

that individuals who engage in unprotected sex with people who live in segregated

neighborhoods where the viral loads are high are more likely to contract HIV/AIDS than

those engaging in unprotected sexual intercourse with people from more affluent

neighborhoods. Furthermore, Williams and Mohammed (2012) argue that there is a

consistent correlation between increased household income and neighborhood conditions,

and that policies and interventions are needed to improve neighborhood and housing

quality among disadvantaged populations. Taub (2009) demonstrates a correlation

between residential segregation and HIV/AIDS transmission and testing, asserting that

people who reside in highly segregated urban neighborhoods are less likely to be tested

for HIV/AIDS. In addition, most of the individuals in such neighborhoods who have been

diagnosed were diagnosed at a later stage in the disease. Taub (2009) asserts that these

outcomes are related to their low income, risky sexual practices, high rate of poverty, and

depressed neighborhood conditions. Other researchers have also linked neighborhood

poverty to the transmission of HIV/AIDS (Bond & Nyblade, 2006; Denning & DiNenno,

2015; Pequegnal & Bell, 2011; Shacham, Lian, Onen, Donavan, & Overton, 2013;

Watkins-Hays, 2011). Aside from HIV/AIDS itself, residential segregation in urban

neighborhoods has been linked to high levels of HIV/AIDS-related stigma (Quinn, 2012)

and reduced access to social networks (Williams et al., 2010), which are related to higher

mortality from HIV/AIDS (CDC, 2012). Furthermore, residential segregation can have an

impact not only on the spread of HIV/AIDS but also on the spread of other infectious

diseases such as tuberculosis (Amare, Moges, Mula, Kassu, & Yifru, 2015; Joaquinn et

al., 2015; Wynne et al., 2014). Researchers have also demonstrated that poor neighborhood conditions are highly correlated with higher levels of other infectious diseases, such as tuberculosis and hepatitis B (Bond & Nyblade, 2006; Ford et al., 2009; Latkin, German, & Vlahov, 2013). However, despite mounting evidence that residential segregation adversely affects HRQOL among underserved HIV/AIDS-infected individuals, there is little research on how to reduce residential segregation as a strategy to improve HRQOL and reduce the spread of HIV/AIDS (Bauermeister, Richmond, & Webb, 2011; Bond & Nyblade, 2006; Williams & Mohammed, 2012).

Several researchers concur that understanding the role that residential segregation plays is critical to controlling the spread of HIV/AIDS and will help to reach PLWHA through more effective community interventions (Gorbie-Smith et al., 2010; Lopez-De Fede et al., 2011). Kelly and colleagues (2013) studied levels and predictors of high-HIV-risk behavior among black MSM in urban communities in Cleveland, Miami, and Milwaukee. They found that black men contract HIV/AIDS at a disproportionately higher rate than other groups because of the high numbers of men who practice unprotected sex. Many structural factors contribute to such risky behavior, the researchers found, including segregation, stigma, unemployment, and concentrated poverty. They concluded that the existence of isolated, segregated neighborhoods is a causal factor of the HIV/AIDS pandemic in the aforementioned urban communities. According Massey and Denton (1995), "the impact of race is racism, historically informed, perpetuated by institutions, and manifested in the set of assumptions, stereotypes, and biases that are attached to race, both externally and internally" (p. 89). Positioning groups of people into

relative positions of power and pronounced differences in socioeconomic status at the neighborhood level is also a likely contributor to the increases in HIV and incarceration experienced by black males (Massey & Denton, 1995; Massey & Denton, 2005).

In summary, the literature on residential segregation provides a useful framework through which to evaluate the impact of social capital on the HRQOL of urban populations living with HIV/AIDS. This literature review explores a number of pathways through which residential segregation has been shown to impact disadvantaged groups. It is clear that residential segregation in urban communities plays a major role in the spread of HIV/AIDS within large cities and small urban communities. This endemic condition forces people to live in concentrated poverty, bound by the structural vulnerabilities created within urban communities. Among such vulnerabilities is the risk of HIV/AIDS. Understanding the role of residential segregation as an influence on HIV risk among members of such communities should point to avenues for intervention and provide evidence in favor of addressing individual and structural factors as a mechanism to improve health in urban communities. Taken together, residential and racial segregation play a major role in creating the social underclass. In fact, a review of the literature on residential segregation as a health determinant points to a set of linked social circumstances that serve as common indicators of health-related problems for urban residents. This research indicates that residential segregation is responsible for creating a number of social vulnerabilities that exacerbate one another, generating patterns of accumulated social disadvantage that contribute to the many risky health-related behaviors within urban communities.

Scholars have argued that a more integrated understanding of neighborhood effects on health (Aneshebsel et al., 2011; Ramirez-Valles et al., 2012) that combines individual and structural manifestations (Earnshaw et al., 2013) is needed to help neighborhood conditions improve and reduce the spread of HIV/AIDS within the most segregated communities in America (Kelly et al., 2013). As described in the theoretical framework, action must be taken to strengthen access to social networks, improve neighborhood conditions, and increase effective HIV/AIDS-prevention education. As HIV surveillance data continue to demonstrate that HIV/AIDS is a pandemic in urban neighborhoods, especially among urban MSM (Lauby et al., 2012), action must be taken to fully advance education and training within these neighborhoods. While interest in social capital among urban residents in the social science literature has increased over the last decade, our understanding of how social capital impacts urban residents living with HIV/AIDS is incomplete. As such, this study views social capital theory as a tool offering a fundamental perspective that not only has the potential to help ease the HIV/AIDS burden among these disadvantaged groups, but that is also uniquely situated to help address the integrative theoretical needs of social science scholars because it helps explain processes and outcomes of social interactions at both individual and neighborhood levels. Mandatory government-enforced residential segregation may be against the law now, but the problems it created in the 1960s and 1970s continue to be manifested in urban neighborhoods through the spread of chronic diseases such as HIV/AIDS.

Individual-Level Manifestation of HIV/AIDS

Researchers have long argued that racial and HIV disparities operate at multiple levels, ranging from the individual to the structural level (Li et al., 2013; Williams & Mohamed, 2013; Williams & Sternthal, 2011). The structural level is where the privileged use social forces, institutional ideologies, and oppression to generate inequities among racial groups (Chowkwanyun, 2011; Gee & Ford, 2011; Lee & Han, 2012; Williams & Collins, 2001; Williams, Neighbors, & Jackson, 2003). These types of forces are often socially reproduced at the individual level through lack of access to healthcare, illicit sexual behavior, racial disparities in health, and discrimination in the healthcare system (Hyypp*ä*, 2010; Pellowski et al., 2013). It is important to note that there is a need for structural-level interventions that may involve changing policies or laws to permit needle-exchange programs, funding of social network systems that cater to PLWHA, funding for HIV prevention to improve access to high-quality healthcare, and funding for HIV/AIDS research (Des Jarlias et al., 2013; Thomas-Slaytor & Fisher, 2011).

Many researchers have documented the substantial need for effective HIV prevention and treatment services in urban neighborhoods to address widespread HIV/AIDS rates among injection drug users and substance abusers (Reddon et al., 2011; Rosenburg & Biggar, 1998; Williams et al., 2010). According to Earnshaw et al. (2013), urban MSM and other underrepresented people bear the brunt of the HIV/AIDS disease. They found that "black men who have sex with men bear the greatest burden of all races/ethnicities and transmission groups (i.e., injection drug use, plus men who have sex with men, heterosexual, and 'other') accounting for 40% percent of diagnosis among men who have sex with men among all races/ethnicities" (p. 228). Injection drug use is

particularly prevalent among urban MSM and other underrepresented PLWHA in urban

populations (CDC, 2012; Reisner et al., 2012; Takashi & Magalong, 2008). Additionally,

urban MSM who are also cocaine and heroin users are at a high risk of contracting

HIV/AIDS not only through unprotected sex because of their inconsistent use of condoms

and their multiple partners, but also through the sharing of needles among others in this

group (Earnshaw et al., 2013). Because of the HIV/AIDS disparities among underserved

HIV/AIDS-infected individuals such as this group, there is an urgent need for effective

HIV prevention and interventions, including an increase in HIV testing. There is also a

strong need to integrate HIV/AIDS testing into substance-use treatment programs within

and across all testing centers.

The National Institute of Health (NIH) defines disparities as "differences in the

incidence, prevalence, mortality, and burden of diseases and other adverse conditions that

exist among specific populations within the United States" (2010, p. 1). Given that racial

and health disparities shape the HRQOL of PLWHA, it is essential to further investigate

how racial and health disparities influence HIV/AIDS infection among this population. A

review of the empirical literature consistently reveals that racial and residential

segregation influences health inequities of the urban population living with HIV/AIDS

(Earnshaw et al., 2013; Gee & Ford, 2011; Williams & Mohamed, 2012). Additionally,

segregation within urban healthcare facilities and other institutions may also contribute to

health disparities (Walsemann & Bell, 2010). Segregation within durable social networks

may also contribute to the widespread disparity of HIV/AIDS between urban populations

and other populations. As previously noted, disparities in the spread of HIV/AIDS reflect

existing patterns of social isolation in which poor urban residents are more segregated

than other groups (Gee & Ford, 2011; Gee, Walsemann, & Brando, 2012). Additionally,

research has shown that racial and HIV/AIDS-related disparities are related to unequal

access to high-quality healthcare among minority populations, based on race, gender,

residential area, age, and socioeconomic status (Chowkwanyun, 2011; Kawachi et al.,

2013; Sum & Poughasen, 2013; Williams et al., 2010). Moreover, racial and health

disparities in HIV/AIDS are often shaped by policies that are designed to perpetuate

social segregation. For example, Gee and Ford (2011) found that segregation within

schools may also contribute to health disparities.

Research has consistently revealed that persons who report racial health

disparities are at greater risk for contracting HIV/AIDS. These factors are documented

among many minority groups, particularly women, blacks, and Hispanics (Earnshaw et

al., 2013; Gee, Walsemann, & Brondolo, 2012; Gee & Ford, 2011; Gilbert & Wright,

2003). Understanding the impact of racial and HIV/AIDS-related disparities requires the

recognition of the structural and individual-level factors that lead to the spread of

HIV/AIDS among urban populations. Earnshaw and colleagues (2013) propose that

considering how multiple intersectionalities interact with each other will provide a fuller

understanding of the impact of social capital on HRQOL among persons living with

chronic diseases like HIV/AIDS.

In their model of stigma and HIV disparities, Earnshaw et al. (2013) recognize the

role of individual manifestation in fostering racial and health disparities among PLWHA

(Earnshaw et al., 2013). The structural-level manifestation of residential segregation laid

the foundation for the individual manifestation of health inequities and the HIV/AIDS

disparity in healthcare. Individual-level factors have been recognized as playing a

significant role in determining how HIV/AIDS is spread throughout urban communities

(Surkan et al., 2010). For instance, the influence of place on health is related to other

major influences on HIV/AIDS infection (Williams & Marks, 2012). Williams and Marks

(2012) also explain that race, environment, and socioeconomic status shape the way in

which individual-level factors influence health behaviors. This relationship is evident in

urban communities with a history of residential segregation, lack of access to healthcare,

a high level of drug use, concentrated poverty, and high unemployment (Gee & Ford,

2011; Factor, Kawachi, & Williams, 2011). Although multiple factors contribute to the

spread of HIV/AIDS, examining the context in which health inequities are manifested is

important for creating an environment in which individuals can increase their

opportunities to improve their HRQOL and live a healthy lifestyle.

Neighborhood conditions are integral in shaping health-related behaviors (Frenk

& Chaves, 2010). The ability of individuals to participate in health-promoting activities is

often influenced by their place of residence, socioeconomic status, and social networks

(Jones, 2011; Frenk & Trinitapoli, 2013; Gorski, 2013). Ensuring access to high-quality

healthcare systems is the first step in helping people in urban communities to live long,

healthy lives.

As the HIV/AIDS epidemic began to spread among underserved individuals, drug

abuse was one of the purported sources of infection (Frenk & Trinitapoli, 2012; Harling

et al., 2014). Unprotected sexual behavior among these individuals was blamed for the

increase in HIV/AIDS infection among gay men, heterosexual women, and prostitutes.

This behavior was seen as leading to the urgent need for effective HIV/AIDS prevention

and intervention for urban drug users, including an increase in HIV testing sites (Kelly et

al., 2013; Kelly et al., 2010; Lee & Hahm, 2012). An increased need for integrating HIV

testing and prevention programs into drug-use treatment and other service delivery

systems for drug abusers was highlighted as a means of curtailing the spread of

HIV/AIDS within urban communities. However, there was little research to shine light on

the structural and individual factors that were affecting outcomes among drug users

(Kelly et al., 2010; Kelly et al., 2013; Kirsy et al., 2003; Lee & Hahm, 2012; Villanti et

al., 2012).

In the literature related to HIV/AIDS, drug abuse has been most often referenced

in recent studies as a major contributor to the spread of HIV/AIDS. Drug abuse often

includes crack cocaine, or cocaine (CDC, 2012; Koester et al., 2012; Kurtz et al., 2012;

Li et al., 2013). However, some evidence suggests that these drugs have a different

relationship with HIV/AIDS infection than injection drugs, although the evidence is

inconsistent. This is especially the case among low-income PLWHA. Some researchers

assert that many PLWHA turn to drugs after they have been infected with HIV/AIDS.

Others argue the opposite—that a rise in substance abuse and drug use in urban

communities is responsible for the increase in the spread of HIV/AIDS (Villanti et al.,

2012). Exploring the association between drug use and HIV/AIDS infection in urban

MSM is particularly challenging because of the complexity of finding out who is infected

with HIV/AIDS in poor urban communities. Not all people who use drugs are infected

with HIV/AIDS, and many PLWHA do not even know they are infected. Some studies have found that some black MSM do not use drugs, while other studies have discovered a higher use of drugs among white men who do not live in urban communities (Kelly et al., 2013; Villanti, German, Sifakis, Flynn, & Holtgrave, 2012).

The impact of drug abuse on HIV/AIDS management has been widely studied in the literature. Researchers have argued that drug abusers are less likely to comply with an HIV/AIDS treatment regimen, noting that these individuals tend to have a higher mortality rate than those who do not abuse drugs (Abraham et al., 2011; Kurtz et al., 2012; Korster et al., 2012; Spector & Pinton, 2011; Villanti et al., 2012). Additionally, integrated approaches to treating drug abuse in urban communities are often underfunded and ineffective (Kurtz et al., 2012; Villanti et al., 2012; Wouter, 2012). It is postulated that a majority of drug abusers within these communities do not seek treatment and are unwilling to enter into long-term care, causing this syndrome to continue posing a threat to others who practice unprotected sex (Abraham et al., 2011; Korster et al., 2012). Additionally, many HIV treatment centers incorporate HIV/AIDS care into their centers; however, they lack the funding and support to have outreach programs (Pollack & D'Anno, 2010; Pollack & Halkitis, 2009; Reddon et al., 2011). Abraham and colleagues (2011) have also pointed out that many substance abuse treatment centers lack the funding to adequately staff their programs in order to treat all people who require care, so even though these centers offer HIV-prevention services, they prove ineffective in preventing further HIV transmission (Koester et al., 2012; Wouter, 2012).

Pollack and D'Anno (2010) show that while there are programs to treat drug problems among PLWHA, drug users in large metropolitan cities are often underserved. These researchers have concluded that many of these individuals experience additional hardships such as lack of social support and the experience of being trapped in areas of high unemployment and concentrated poverty. Instead of seeking treatment, their first goal is to feed their addiction and find food so they can simply survive.

There has been much debate as to whether improved social capital will help people who are addicted to drugs. The most obvious problem with the lack of social capital among this group is that drug abuse could conflict with their access to any benefits offered by the meager social network systems available to them (Koester et al., 2012; Lloyd & Operario, 2012). A second problem is that drug abuse stigmatizes the abusers. Consequently, no social network may be available to them except perhaps through organizations such as those receiving funds under the Ryan White CARE Act of 1990 (Liu, Canada, Shi, & Corrigan, 2012). This federal legislation provides funding to large cities and metropolitan areas to improve medical care and substance abuse treatment for underrepresented PLWHA.

Several factors must be considered in order to place the issue of drug abuse among urban MSM and other underrepresented populations into perspective. First, many of the people who abuse drugs are not tested for HIV. This is a problem, because many of these individuals only discover that they have HIV/AIDS during the later stages of the disease, and by then, they might have infected a number of others who share similar drug habits (Grov & Crow, 2012). Action must therefore be taken to get more of these

individuals tested for HIV/AIDS. Such initiatives, however, require sufficient funding.

Given this context, HIV testing should be considered the first step in a drug-abuse

treatment program (Harling et al., 2014; Kurtz et al., 2012). Second, a relatively high

proportion of PLWHA living in urban communities cannot afford any type of substance

or drug-abuse treatment (Kurtz et al., 2012). Many of their illnesses could have been

prevented if steps had been taken to help them control their health-endangering behavior

(Koester et al., 2012). Urban communities need to provide services that equip residents

with the problem-solving skills that are critical for making behavioral changes. The first

challenge for drug-abuse treatment programs, then, is to define self-regulatory goals. It is

imperative that all prevention programs encourage the development of self-protective

habits to reduce drug use while connecting with local employers to encourage them to

provide jobs for area drug abusers (Harling et al., 2014;Watkins-Hays, Patterson, &

Aemour, 2011; Harrel et al., 2012; Koester et al., 2012). It is also vital that these

community residents be provided with the necessary services to not just treat their habits,

but to survive and care for their health. Baumgartner and Niemi (2013) found that "an

HIV or AIDS diagnosis means the incorporation of that identity into self; in addition,

HIV/AIDS affects other identities or roles" (p. 1). Simply put, the magnitude of the

HIV/AIDS disease causes people to devalue themselves. A support system is thus needed

to help these individuals understand that their infection is no longer a death sentence;

instead, they can live longer, healthier lives by taking care of themselves. If providers

enter into active engagement with patients that leads to improved use of social networks

that are already in place, then PLWHA will have the necessary resources to improve their

overall health. Clearly, it is imperative that action be taken at both the structural and individual levels to provide programs that help drug abusers free themselves of their addictions. This work must begin at the individual level.

In essence, drug abuse as it relates to this research has been recognized as a structural and individual manifestation that interferes with HIV/AIDS management. It poses a problem for underserved HIV/AIDS-infected individuals in many ways, including by limiting their access to social capital. It is thus critical that ways be found to reach these individuals to help them strengthen their social networks, improve their SES, and reduce the effects of HIV/AIDS-related stigma. This cluster of needs is the core concern of the present research.

Summary

A review of the literature clearly demonstrates a significant knowledge gap pertaining to the impact of social capital on the HRQOL of urban populations living with HIV/AIDS. This gap has been demonstrated at both the structural and individual levels. Previous studies have identified an association between structural-level factors such as residential segregation and a greater history of violence. Also, stigma manifested at the individual level among PLWHA has been associated with higher levels of substance use and the transmission of HIV/AIDS (Earnshaw et al., 2013), but no study has examined the impact of social capital on the HRQOL of underserved HIV/AIDS-infected individuals in terms of the presence or absence of provider networks, SES, and HIV/AIDS stigma as indicators of social capital. As there is no single definition of social

capital, there are also no consistent, agreed-upon methods for measuring it. Social capital

is everywhere, mostly existing in our social relations, neighborhoods, institutions, and

behavior toward each other (Coleman, 1998). According to Bourdieu (1997), social

capital is a set of behaviors that must be institutionalized. The present study, driven by

Bourdieu's concept of social capital, examines its impact on the health-related quality of

life of urban populations living with HIV/AIDS.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

The Data Set

This study extracted data from the Positive Connections: Connecting HIV-

Infected Patients to Care, 2004-2006 [United States] survey. Please see

www.icpsr.umich.edu for a description of the appendix. The survey was completed from

2004 to 2006 by 103 participants living with HIV/AIDS in the New England states,

including urban areas where a large number of underrepresented PLWHA reside. The

Positive Connections project was about connecting underrepresented PLWHA to

healthcare in order to help those individuals access high-quality health services that

would prevent them from dropping out of care; it also intended to assist them in

developing coping strategies for living with HIV/AIDS. The Positive Connections project

was designed to obtain a 5% stratified sample based on the number of patients who had

dropped out of care at the Fenway Health Centers, Boston. Participants in this study

included MSM, heterosexuals, lesbians, and other individuals infected with HIV/AIDS.

All 103 participants were included in the study, since the focus was the impact of social

capital on the HRQOL of urban populations living with HIV/AIDS. The survey

respondents reported that their greatest perceived barriers to care were personal,

structural, and financial (Coleman et al., 2010). The inclusion criteria for the study were:

1) people who were diagnosed with HIV/AIDS, 2) gay, bisexual, or heterosexual

individuals with HIV/AIDS, 3) individuals who were 18 years old or older, and 4)

persons who were not incarcerated at the time of the study.

Unlike other studies that focused on PLWHA, Positive Connections contained a sample of underrepresented PLWHA and addressed the problems that these individuals face in their daily lives while coping with HIV/AIDS. In the Positive Connections study, such problems included stigma, low SES, lack of access to durable social networks, a high dropout rate from HIV/AIDS treatment, a tendency to miss follow-up appointments, impediments to receiving care, and financial barriers that prevented PLWHA from accessing high-quality healthcare. The original researchers posited that it was important for HIV/AIDS patients to engage in follow-up care in order to experience an improved quality of life.

Another purpose of the Positive Connections survey was to improve the likelihood of individuals living with HIV/AIDS from historically underserved populations becoming engaged in their healthcare and remaining in high-quality, culturally competent HIV/AIDS treatment. Therefore, unlike previous studies with similar goals, Positive Connections focused on helping PLWHA gain access to HIV/AIDS care to reduce further transmission of the disease through early diagnosis (HIV testing), retaining patients in HIV treatment through HIV/AJDS-prevention interventions, and providing appropriate antiretroviral therapy (ART) to reduce their viral load.

In using the Social Capital and HRQOL Model as the framework for the present study, the researcher was able to link the model with the Positive Connections dataset and extract variables to examine: 1) the impact that provider engagement has on HRQOL, 2) the impact that such social capital as SES (education level, insurance, and income) has on

HRQOL, 3) the influence that social capital using the indicator of HIV/AIDS stigma has on HRQOL.

<div style="text-align:center">Analytic Sample</div>

As mentioned earlier, to be included in this survey, the subjects had to be 18 years or older, HIV-infected, and not incarcerated during the interview period. In keeping with the theoretical framework, the Social Capital and HRQOL Model (Figure 2), three different indicators of social capital (provider engagement, SES indicators, and HIV/AIDS stigma,) were considered as this study's independent variables. It is important to understand that these different indicators of social capital impact the HRQOL of underrepresented PLWHA in varying ways. The Positive Connections data conceptualized the variable provider engagement and its impact on HRQOL were studied. Provider engagement was considered important for anyone seeking help for HIV/AIDS care because such engagement has been found to improve HRQOL among this population. The SES conceptualized as based on income level, educational attainment, and insurance status. Additionally, HIV/AIDS stigma was conceptualized as any type of perceived stigma and discrimination that PLWHA encountered when accessing healthcare for their HIV/AIDS. As noted in the literature review, high levels of HIV/AIDS stigma negatively impact PLWHA. These types of distress are often manifested at the individual level through drug use and residential segregation.

Additionally, the factors of gender, race, sexual orientation and substance abuse history were also considered as covariates. Covariates are predictive variables that are

used to examine the independent variables in a study. These variables can potentially

affect the relationship between the dependent and independent variables being studied.

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

Dependent Variables (HRQOL)

As indicated, the dependent variable in this study was HRQOL. HRQOL was

selected as the dependent variable for this research using measures of overall health,

mental health, and healthcare for HIV/AIDS. Each of these measures was analyzed based

on respondents' self-reported overall and mental health and healthcare statuses for

HIV/AIDS. The Positive Connections study conceptualized health as the overall well-

being of the participants, including their emotions, physical limitations, and behavior, and

this study adhered to that definition.

Overall health**:** In total, six questions were used to measure the participants'

physical health. Respondents in this study were asked, "Does your health now limit you

climbing several flights of stairs?" Further questions were asked to probe for physical

limitations that the patients may have had in doing moderate activities like moving a

table. The responses ranged from 1-3 (i.e., from "very limited" to "not limited at all").

The scale had an acceptable internal consistency of $\alpha = 0.80$. All items in the

questionnaire were summed and split on the median, with a score of 0 indicating poor

overall health and a score of 1 indicating good overall health.

Mental health**:** Six variables were used for the mental health construct. The

respondents answered regarding (a) any prescribed medications for mental health or

emotional problems, (b) whether they had seen a counselor, social worker, and/or

psychologist regarding mental health problems, and (c) being hospitalized or going to a crisis center for a mental health or emotional problem during the past 6 months (dichotomized to 1 = yes, 0 = no). The scale had strong internal consistency, with $\alpha = .88$. As discussed in the literature review and conceptual framework, HRQOL is a key in helping people with HIV/AIDS to develop better coping mechanisms and live better lives. The literature suggested that mental health functioning is a crucial component for patients in developing a high HRQOL. The respondents' mental health statuses provided the resources necessary for them to confront and solve problems at the community and individual levels. All items were summed and split on the median, with 0 indicating poor mental health and 1 indicating good mental health.

HIV/AIDS care**:** The third subjective measure for HRQOL was addressed in this survey in two parts. HIV/AIDS care was measured based on the involvement in care of those surveyed and the extent to which they had knowledge of certain factors of the progression of the virus in their bodies. The self-reported participant involvement in HIV/AIDS care included a total of four questions on the HIV/AIDS care they had received. Among these were: "Do you currently have a regular place to go for your HIV/AIDS medical care?" and "Do you currently have a regular care provider that you see for your HIV/AIDS?" The study conceptualized strong HIV/AIDS care as ongoing contact with patients and providing a range of services for HIV/AIDS-related issues. The scale had a good internal consistency of 0.75. All items were summed and split on the median, with 0 indicating poor HIV/AIDS care and 1 indicating good HIV/AIDS care.

Independent Variables

Provider engagement**:** Provider engagement was used to measure the level of

engagement that the providers had with their HIV/AIDS patients. The Positive

Connections study conceptualized the HIV/AIDS provider as any licensed healthcare

professional like a physician, physician assistant, or nurse practitioner who is involved in

the care and treatment of PLWHA. It is important that providers be engaged with their

patients so that patients are encouraged to adhere to their HIV/AIDS regimens and also

gain coping strategies to adjust to life with HIV/AIDS. The Positive Connections study

identified three major aspects of provider engagement that could help individuals stay in

HIV/AIDS care: 1) trust of providers, 2) engagement in their HIV/AIDS care, and 3)

ability to receive information from the providers. In this study, a total of 13 items were

used to measure the participants' engagement with their providers. Some of these

questions included, "Does my provider listens to me?", "Do they care about me and

answer my questions?" and "Do they involve me in decision making?" The scale had a

strong internal consistency of 0.73. All items were summed, with higher values indicating

a higher level of provider engagement.

Socioeconomic status: Education level was obtained for all the 103 subjects who

participated in the Positive Connections survey. Education level was dichotomized to 1 =

some college education and 0 = high school, GED, or lower education. Household

income levels were obtained from 101 of the subjects who participated in the Positive

Connections survey. Income was dichotomized into 1 = higher than $30,000 and 0 =

lower than $30,000. Medical insurance was also used as an indicator of SES. Medical

insurance was dichotomized to 1 = some sort of insurance and 0 = no insurance.

HIV/AIDS stigma: There are many barriers to consistent treatment for low-

income PLWHA. The Positive Connections study defined stigma as the perceived

barriers that would cause individuals to avoid follow-up HIV/AIDS care. As mentioned

before, HIV/AIDS stigma is a major barrier for decreasing or eliminating HIV/AIDS

(Earnshaw, 2013; Liamputtong, 2012). HIV/AIDS stigma variables were also identified

in the Positive Connections study. Hence, it was important to measure the impact that

stigma has on underrepresented PLWHA within the present study.

Guided by the theoretical framework in Chapter Two, this study extracted stigma

variables that measured the impact of social capital on the HRQOL of the aforementioned

study population. There were a total of 11 items used for this topic. For example,

participants were asked about whether they had experienced any discrimination in the

healthcare system. A sample question would be, "In the past six months, did you ever

experience discrimination when you went for HIV/AIDS care?" They were also asked if

they were afraid about what other people might think or do if they found out that the

respondents had HIV/AIDS when they went for care. Additionally, they were asked

whether they were afraid that their healthcare providers would ask questions that they did

not want to answer. The responses to these and the related questions (coded yes = 1 and

no = 0) were used to measure HIV/AIDS stigma. All items were summed, with higher

values indicating the experience of a higher level of HIV/AIDS stigma.

Covariates

The four covariate variables in this study included the respondent's gender (which was coded female (1) or male (2)), sexual orientation (coded: heterosexual/straight = 1, homosexual/gay = 2, homosexual/female = 3, or bisexual = 4), race (coded: Caucasian/White = 1, Black/African American = 2, and other = 3), and history of substance abuse, which was coded as yes = 1 or no = 0. Table 1 lists all of the variables that were utilized in this study and provides a detailed explanation of each.

Table 1

Description of Dependent and Independent Variables

Variables	Description
Dependent Variable (HRQOL)	
Overall Health	The self-reported overall health status of the participants in the study. The subjects who rated their overall health status as excellent, very good, or good were deemed to have positive health status, coded as 1 = good. The subjects who rated their overall health status as fair or poor were included in a second category. These subjects were deemed to have negative health status and coded as 0 = not good. The scale had an acceptable internal consistency of $\alpha = 0.73$.
Mental Health Status	The self-reported mental health status of the participants in the study (dichotomized to 1 = yes and 0 = no). The scale had a strong internal consistency of $\alpha = 0.88$.
HIV/AIDS Care	Self-reported HIV/AIDS care measures were used in this study (coded: 0 = less than three positive responses and 1 = three or more positive responses, dichotomous). The scale had a strong internal consistency of 0.75.
Independent Variables (Social Capital)	
Provider engagement	The patients' engagement with their providers of healthcare services for their HIV/AIDS care. The scale had a strong internal consistency of 0.73.

Socioeconomic status (SES)	
Household income	Log of household income based on % of income below $30,000 (dichotomized to 1 = above $30,000 and 0 = below $30,000).
Education	The proportion of the sample with some college education and below (dichotomized to 1 = some college education and 0 = high school, GED, or lower education).
Insurance	The % of the sample with some type of health insurance, such as Medicaid, Medicare, or private insurance (dichotomized to 1 = some sort of insurance and 0 = no insurance).
Stigma (HIV/AIDS)	Whether the subjects had experienced any type of stigma or discrimination relating to HIV/AIDS care. The responses were dichotomized to 1 = yes and 0 = no. The scale had a strong internal consistency of $\alpha = 0.80$.
Control Variables	
Gender	Male or Female
Sexual Orientation	Heterosexual, bisexual, or homosexual gay/lesbian
Race	Black, white, or other (Hispanic, Asian)
Substance Abuse History	History of substance use such as experimenting with many different types of drugs (dichotomized to 1 = high substance abuse history and 0 = low substance abuse history)

Analysis Plan

The statistical analyses were carried out with the Statistical Package for the Social Sciences (SPSS 22.0). The statistical significance for the analyses was determined using a significance level of .05, and the data analysis was conducted in three phases.

Descriptive statistics.

Descriptive statistics were run for each of the study variables, including overall health, mental health, HIV/AIDS care, provider engagement, medical insurance, income, and education level, HIV/AIDS stigma, sexual orientation, gender, race and substance abuse. Frequencies and percentages were calculated for nominal data (such as gender and sexual orientation) and means and standard deviations were calculated for continuous data (such as provider engagement).

Correlations

Pearson correlations were conducted between the continuous independent variable of social capital using the indicators of provider engagement, SES and HIV/AIDS stigma, and the dependent variable of HRQOL, measured by overall and mental health as well as HIV/AIDS care. The purpose was to determine whether a relationship existed between the variables and the strength of this relationship. Each indicator of social capital was paired with HRQOL. Before the binary logistic regression was conducted, the assumption of the absence of multi-collinearity was tested with the correlation matrix. If the predictor variables in the binary logistic regression were correlated to a high degree (i.e., over .80), then they may have contributed to inaccurate results, and the regression would not be conducted as planned (Tabachnick & Fidell, 2013).

Logistic regression

The third phase of data analysis consisted of logistic regressions to examine the relationships between the dependent and independent variables. Three domains of variables (provider engagement, SES, and HIV/AIDS stigma,) were used as predictors in

the research questions. Additionally, overall health, mental health, and HIV/AIDS care were the dependent variables for the research questions. All variable groups, their definitions, and item-measure summaries from the survey are displayed in Table 2. Logistic regression is appropriate when the dependent variable is dichotomous, meaning that it has two possible outcomes, so a researcher can directly estimate the probability of an event's occurrence (Stevens, 2009). Logistic regression estimates the probability of membership in one of the two outcome groups (i.e., levels of the dependent variable) based on the values of the predictor variables. Because all of the dependent variables in this study were dichotomous, logistic regression was chosen as the method of data analysis. This type of analysis can be used when the predictor variables are continuous, discrete, or a combination of continuous and discrete. In the present study, logistic regression models were used to analyze and calculate adjusted odd ratios at the 95% confidence intervals to find out whether there was an association between the independent variables and HRQOL. The overall model was evaluated using the Hosmer-Lemeshow goodness-of-fit test, and these statistics were reported for significant overall models as well. Both of these statistics indicate how well the proposed models fit the data (Hosmer, Lemeshow, & Sturdivant, 2013). The Wald chi-square was used to evaluate the null hypothesis that the coefficient of the individual predictors was significant (Garson, 2009). The odds ratio was used to evaluate each predictor's association with the dependent variable.

Four theoretical groupings of the independent and control variables were used in the model-building process: SES (including education level and insurance), stigma,

provider engagement, and demographics (sexual orientation, race, gender, and substance-use history). These predictor variables were used in the full model.

The equation for a general logistic regression is as follows:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \ldots + \varepsilon$ (general logistic regression)

In the current study, the full logistic-regression equation used for each of the indicator variables was:

Y (overall health, mental health, or healthcare for HIV/AIDS) $= \beta_0 + \beta_1 X_1$ (income) $+ \beta_2 X_2$ (education) $+ \beta_3 X_3$ (insurance) $+ \beta_4 X_4$ (stigma) $+ \beta_5 X_5$ (provider engagement) $+ \beta_6 X_6$ (sexual orientation) $+ \beta_7 X_7$ (race) $+ \beta_8 X_8$ (gender) $+ \beta_9 X_9$ (substance use history) $+ \varepsilon$.

In the above regression, the dependent variable was represented by Y, which represented each of the HRQOL-indicator variables. In all models, β_0 signified the intercept of the logistic regression equation. The β-coefficients indicated that, for a one-unit increase in the predictor, the dependent variable was expected to change by its respective regression coefficient while all other variables are held constant.

Six models of three binary logistic regressions were conducted to examine the relationship of the HRQOL indicators with the provider engagement, SES indicators (education level, income, and insurance), and HIV/AIDS stigma. The first model was conducted with provider engagement predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators. The second model was conducted with SES indicators (education level, income and insurance) predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators. The third model was conducted with

HIV/AID stigma predicting overall health, mental health, or HIV/AIDS care as HRQOL

indicators. For the fourth through sixth models, the control variables of sexual

orientation, gender, race, and substance abuse history were added as predictors to each of

the first three models.

If a model was significant and showed a significant goodness-of-fit, individual

predictors were assessed using the Wald statistic and the odds ratio (exp (b)). The Wald

statistic tests the statistical significance of each individual coefficient in a model (Agresti,

1996). The odds ratio of each predictor measures the odds of being placed into one of the

binary outcomes for an increase of one unit in the respective predictor (Pallant, 2010).

The logistic regression model included the overall model evaluations (the percentage of

correct predictions). The overall model significance for the logistic regression was

examined by the effect of the independent variables when presented with an $\chi 2$

coefficient. The Nagelkerke R^2 was examined to assess the maximum possible percentage

of variability accounted for by each model.

CHAPTER 5

RESULTS

The purpose of this study was to: explore the relationships between social capital and HRQOL among low-income PLWHA. Social capital was assessed from the variables of provider engagement, SES and HIV/AIDS stigma, while HRQOL was assessed from the indicators of overall health, mental health, and HIV/AIDS care. Data were extracted from the Positive Connections: Connecting HIV-Infected Patients to Care study of 2004-2006, which had 103 participants from the New England states who were living with HIV/AIDS. All of the participants were diagnosed with HIV/AIDS, gay, bisexual, or heterosexual, 18 years and older, and not incarcerated at the time of the study. After excluding two participants for identifying their orientations as other, the final sample used for the analyses included 101 participants.

Pre-Analysis Data Screening

Prior to the analyses, the data set was analyzed for missing values and to ensure the accuracy of data entry. Descriptive statistics were assessed and are presented in this chapter. The data set was checked for both univariate and multivariate outliers. Stevens (2009) defined univariate outliers as values greater than -3.29 and +3.29 standard deviations from the mean. Univariate outliers were examined, but no data points were identified as outliers. No observations were removed based on the criteria.

Descriptive Results

Descriptive statistics for the participants in this study are presented in Table 3.

Fifty-nine percent of the participants in this study were heterosexual ($n = 61$). Sixty-eight

percent of the participants were male ($n = 70$), with 3% being transgender ($n = 3$). The

largest racial segment in this study was Caucasian or White at 41% ($n = 42$). Forty-nine

percent of the participants had Medicaid as their insurance ($n = 50$), with only 5% of the

participants ($n = 5$) not having any form of insurance. In terms of household income, 75%

of the participants had an estimated income of less than $9,999 ($n = 77$). In regards to the

highest level of education attained, 42% of the participants completed some college ($n =$

43), and 39% of participants had earned a high school diploma or GED ($n = 40$).

Table 2

Demographic Characteristics of the Sample

Variables	n	%
Sexual Orientation		
Bisexual	9	9
Heterosexual/Straight	61	59
Homosexual	31	30
Other	2	2
Gender		
Female	30	29
Male	70	68
Transgender	3	3
Race		
Black/African American	28	27
Caucasian/White	42	41
Other	32	31
Insurance		
No Insurance	5	5
Medicaid	50	49
Medicare	11	11
Medicare and Medicaid	27	26

Private	6	6
Medicaid and Private	3	3
Estimated Household Income		
<$9,999	77	75
$10,000-$19,999	19	18
$20,000-$29,999	3	3
$30,000-$59,999	1	1
$60,000-$99,999	1	1
Don't Know	2	2
Highest Level of Education		
No H.S. Degree	20	19
H.S. Degree or GED	40	39
Some College Education	43	42

Note. Due to rounding errors, percentages may not add up to 100.

Table 3 presents the means and standard deviations for the computed scales as well as their minimums and maximums. The scale for overall health had a range from 0 to 6, with an average score of 3.72 ($SD = 2.00$), indicating that overall health was more positive than negative. The same can be said about mental health, which had a range from 0 to 9 and a mean of 5.55 ($SD = 3.04$). HIV/AIDS care was measured from 0 to 5, with an average score of 3.44 ($SD = 1.02$), suggesting a more positive than negative level of HIV/AIDS care. HIV/AIDS stigma had an average score of 1.05 ($SD = 1.69$) from a range of 0 to 8, which indicates that the participants experienced lower levels of HIV/AIDS stigma. Provider engagement was rated on a scale of 0 to 13, with an average of 12.17 ($SD = 2.38$), suggesting that the participants experienced higher levels of provider engagement. Substance abuse had an average of 3.19 ($SD = 1.56$) from a range of 0 to 5, which suggests a higher level of substance abuse history.

Table 3

Means and Standard Deviations for Computed Scales

	N	Minimum	Maximum	Mean	Std. Deviation
Overall Health	101	.00	6.00	3.72	2.00
Mental Health	101	.00	9.00	5.55	3.04
HIV/AIDS Care	101	.00	5.00	3.44	1.02
HIV/AIDS Stigma	101	.00	8.00	1.05	1.68
Provider Engagement	101	.00	13.00	12.17	2.38
Substance Abuse	100	.00	5.00	3.19	1.56

Note: Values for overall health, mental health, HIV/AIDS care, and substance abuse are prior to dichotomizing for use in the analyses.

In order for logistic regression to be used to analyze the variables of interest, the dependent variables were recoded into dichotomous variables. As specified in Chapter 4, overall health, mental health, and HIV/AIDS care were dichotomized as indicators of HRQOL. Substance abuse, education, household income, and insurance were also dichotomized in preparation for the logistic regression. Income level showed a large disparity in the two dichotomous groups, which might affect the results of this predictor in the models. Table 5 shows the frequencies and percentages of each dichotomized variable.

Table 4

Frequencies and Percentages of Dichotomized Scales

	n	*%*
Overall Health		
Good overall health (1)	60	59
Poor overall health (0)	41	41
Mental Health		
Good mental health (1)	75	74
Poor mental health (0)	26	26

HIV/AIDS Care

     Good HIV/AIDS care (1)   86   85

     Poor HIV/AIDS care (0)   15   15

Substance Abuse

     High substance abuse history (1)   54   54

     Low substance abuse history (0)   47   47

Education Level

     Some college education (1)   42   42

     High school, GED, or lower (0)   59   58

Income Level

     Income above $30,000 (1)   1   1

     Income below $30,000 (0)   100   99

Insurance

     Some insurance (1)   95   94

     No insurance (0)   6   6

Note. Due to rounding errors, percentages may not add up to 100.

Correlation Results

Before conducting the logistic regressions to answer the research questions, a

Pearson correlation matrix was used to look for multicollinearity between the variables of

interest. Highly correlated variables ($r \geq 0.80$) display multicollinearity and would have

been removed from the analyses (Field, Miles, & Field, 2012). None of the correlations

were high enough to present a problem of multicollinearity, so the logistic regressions

were able to be conducted with the proposed variables. The results of the Pearson

correlations are shown in Table 5

Table 5

Correlation Matrix Among Overall Health (OH), Mental Health (MH), HIV/AIDS Care
(HC), Education Level (EDU), Income (INC), Insurance (INS), HIV/AIDS Stigma (STIG),

and Provider Engagement (PROV)

	OH	MH	HC	EDU	INC	INS	STIG	PROV
OH	1							
MH	0.21	1						
HC	-0.06	0.07	1					
EDU	-0.08	-0.01	0.01	1				
INC	0.08	0.06	0.04	-0.08	1			
INS	0.05	0.14	0.01	0.13	0.03	1		
STIG	0.17	0.03	-0.10	0.02	0.12	0.11	1	
PROV	-0.09	0.10	0.55	-0.09	0.04	-0.02	-0.13	1

Logistic Regression Models

Logistic regression was used to measure the predicting power of the independent variables on the HRQOL of low-income PLWHA. This analysis utilized estimate odd ratio (exp (b)) for each of the independent variables in the model. To assess the research questions, six models of binary logistic regressions were conducted to examine the relationship of the HRQOL indicators with provider engagement, SES indicators and HIV/AIDS stigma. The first model of the logistic regression was performed with provider engagement predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators. The second model of logistic regression was conducted with SES predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators. The third model

of logistic regression was conducted with HIV/AIDS stigma indicators predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators.

The fourth model of the logistic regression was performed with provider engagement predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators after controlling for the variables of gender, race, sexual orientation, and substance abuse history. The fifth model of the logistic regression was conducted with SES (education and insurance) predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators after controlling for the variables of gender, race, sexual orientation, and substance abuse history. Finally, the sixth model of the logistic regression was conducted with HIV/AIDS stigma predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators after controlling for the variables of gender, race, sexual orientation, and substance abuse history.

In this study, the OR (exp (b)) indicates how many odds are more likely it would be for a person to be in the high HRQOL group. Also, when there are negative coefficients, the OR (exp (b)) indicates how many times more likely it would be for a person to have low HRQOL (Leech, Barrett, & Morgan, 2008). To summarize, the odd ratios were used to compare the relative odds of the occurrence of the outcome of the study interest (in this research, HRQOL). The odds ratio of each predictor measures the change in odds or effect that the predictor has in increasing or decreasing the likelihood of an individual having low or high HRQOL (Pallant, 2010).

Model 1

The first logistic regression model was conducted with provider engagement predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators. The results of the logistic regression for overall health were not statistically significant ($\chi2$ (1) = 1.06, p = 0.30), indicating that there was no statistically significant relationship between provider engagement and overall health. The results of the model for mental health were not statistically significant ($\chi2$ (1) = 0.78, p = 0.38), indicating that there was no statistically significant relationship between provider engagement and mental health. The results of the model for HIV/AIDS care were statistically significant ($\chi2$ (1) = 22.24, $p < 0.001$), however, indicating that there was a statistically significant relationship between provider engagement and HIV/AIDS care. A Hosmer-Lemeshow goodness-of-fit test was conducted to determine if the model was a good fit for the data. If the result of the Hosmer-Lemeshow test is not significant in a case like this, then the model has a good fit. The Hosmer-Lemeshow goodness-of-fit test was not statistically significant (χ^2 (1) = 2.87 p = 0.09) for this model, indicating that there was no significant difference between the observed data and the expected data predicted by the model. This suggests that the model was a good fit for the data. For example, this model has 2 degrees of freedom, a value of 2.87, and a probability of p = 0.9. For this type of model, the indication is that the model has a good fit because it contains only the constant, which indicates that the predictor variables do not have a significant effect that caused them to create essentially the same model. It was necessary that we examine the logistic regression model goodness-of-fit test to determine whether the fitted model residual variation was too small, had no systematic tendency, or followed the variability detected

by the model. Any violations in these three characteristics would signify a lack-of-fit in

the logistic regression model (Hosmer, Hosmer, Le Celeste, & Lemeshow, 1997).

Overall, using provider engagement accounted for 35% of the variance in HIV/AIDS care

(Nagelkerke's R^2 = 0.35). Provider engagement (OR = 2.00, p = 0.02) was a significant

predictor, indicating that participants were 2.00 times more likely to have high levels of

HIV/AIDS care if provider engagement increased by one unit. Table 6 presents the

results for the first model of the logistic regression, with provider engagement predicting

overall health, mental health, and HIV/AIDS care as HRQOL indicators, respectively.

Table 6

Model 1: Logistic Regressions of Provider Engagement Predicting Overall Health, Mental Health, and HIV/AIDS care

Dependent Variable	*B*	*SE*	Wald	*OR*	95% CI	*P*
Overall Health						
Provider Engagement	-0.10	0.10	0.90	0.91	[0.74, 1.11]	0.34
$\chi2$ (1) = 1.06, p = 0.30						
Mental Health						
Provider Engagement	0.08	.09	0.82	1.08	[0.91, 1.28]	0.37
$\chi2$ (1) =0 .78, p = 0.38						
HIV/AIDS Care						
Provider Engagement	0.69	0.29	5.68	2.00	[1.13, 3.54]	0.02*
$\chi2$ (1) = 22.24, p < 0.001						

Note. * $p \leq$ .05.

Model 2

The second logistic regression model was conducted with SES indicators (education, insurance, and income level) predicting overall health, mental health, and HIV/AIDS care as HRQOL indicators. In a review of the logistic regression, the result for income had a p-value of .999. As stated by Tabachnick and Fidell (2011), these types of extreme outliers can create a bias in statistical results. This result can be attributed to the fact that all of the study's participants were low income PLWHA. Thus, it was decided to remove the result from the logistic regression model. However, descriptive statistics were completed for the income variable, so it was decided to keep it in that section of this research. The results of the logistic regression for overall health were not statistically significant ($\chi2$ (3) = 2.26, p = 0.52), indicating that there was no statistically significant relationship between SES indicators and overall health. The results of the model for mental health were not statistically significant ($\chi2$ (3) = 2.17, p = 0.54), indicating that there was no statistically significant relationship between SES indicators and mental health. The results of the model for HIV/AIDS care were not statistically significant ($\chi2$ (3) = 0.51, p = 0.92), indicating that there was no statistically significant relationship between SES indicators and HIV/AIDS care. The results for the second model of the logistic regression with SES indicators predicting overall health, mental health, and HIV/AIDS care as HRQOL indicators are presented in Table 7.

Table 7

Model 2: Logistic Regressions of SES Indicators (Education, and Insurance) Predicting Overall Health, Mental Health, and HIV/AIDS care

Dependent Variable	B	SE	Wald	OR	95% CI	p

Overall Health

Education	-0.41	0.41	1.00	0.66	[0.30, 1.49]	0.32
Insurance	0.50	0.85	0.34	1.64	[0.31, 8.75]	0.56
$\chi2$ (3) = 2.26, p = 0.52						
Mental Health						
Education	-0.12	.046	0.07	0.89	[0.36, 2.18]	0.80
Insurance	1.08	0.86	1.57	2.94	[0.55, 15.81]	0.21
$\chi2$ (3) = 2.17, p =0.54						
HIV/AIDS Care						
Education	0.23	0.57	0.16	1.26	[0.42, 3.80]	0.68
Insurance	0.02	1.14	0.00	1.02	[0.11, 9.51]	0.99
$\chi2$ (3) = 0.51, p =0.92						

Note. * $p \leq .05$.

Model 3

The third logistic regression model was conducted with HIV/AIDS stigma predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators. The results of the logistic regression for overall health were not statistically significant ($\chi2$ (1) = 2.94, p = 0.09), indicating that there was no statistically significant relationship between HIV/AIDS stigma and overall health. The results of the model for mental health were not statistically significant ($\chi2$ (1) = 0.18, p = 0.68), indicating that there was no statistically significant relationship between provider engagement and mental health. The results of the model for HIV/AIDS care were not statistically significant ($\chi2$ (1) = 0.71, p = 0.40), indicating that there was no statistically significant relationship between

HIV/AIDS stigma and HIV/AIDS care. Table 9 presents the results for the second model

of the logistic regression, with HIV/AIDS stigma predicting overall health, mental health,

and HIV/AIDS care as HRQOL indicators, respectively.

Table 8

Model 3: Logistic Regressions of HIV/AIDS stigma Predicting Overall Health, Mental Health, and HIV/AIDS care

Dependent Variable	B	SE	Wald	OR	95% CI	p
Overall Health						
HIV/AIDS Stigma	0.23	0.14	2.53	1.26	[0.95, 1.67]	0.11
$\chi^2 (1) = 2.94$, *p* =0 .09						
Mental Health						
HIV/AIDS Stigma	0.06	0.14	0.17	1.06	[0.80, 1.40]	0.68
$\chi^2 (1) = .18$, *p* = 0.68						
HIV/AIDS Care						
HIV/AIDS Stigma	-0.13	0.15	0.76	0.88	[0.66, 1.17]	0.38
$\chi^2 (1) = .71$, *p* = 0.40						

Note. * $p \leq .05$.

Model 4

The fourth logistic regression model was conducted with provider engagement

predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators after

controlling for gender, race, sexual orientation, and substance abuse. The results of the

logistic regression for overall health were not statistically significant ($\chi^2 (7) = 10.52$, *p* =

0.16), indicating that there was no statistically significant relationship between provider

engagement and overall health after controlling for gender, race, sexual orientation, and

substance abuse. The mental health model was not statistically significant ($\chi2$ (7) = 12.22, $p = 0.09$), indicating that there was no statistically significant relationship between provider engagement and mental health after controlling for gender, race, sexual orientation, and substance abuse. The results of the model for HIV/AIDS care were statistically significant ($\chi2$ (7) = 29.82, $p < 0.001$), however, indicating that the model for provider engagement significantly predicts HIV/AIDS care after controlling for gender, race, sexual orientation, and substance abuse. The Hosmer-Lemeshow goodness-of-fit test was not statistically significant (χ^2 (8) = 7.57, $p = 0.48$), indicating that there was no significant difference between the observed data and the expected data predicted by the model. This suggests that the model was a good fit for the data. Overall, this model indicates that 45% (Nagelkerke's $R^2 = 0.45$) of the variance in HIV/AIDS care is related to provider engagement and the control variables. Provider engagement ($OR = 1.95$, $p = 0.02$) was a significant predictor, indicating that, as provider engagement increased by one unit, participants became 1.95 times more likely to have high HIV/AIDS care, holding all other variables constant.

Gender was not a significant predictor of overall health in the fourth model ($OR = 1.93$, $p = 0.22$). Gender was also not a significant predictor in this model of mental health ($OR = 2.43$, $p = 0.18$). For the fourth model predicting HIV/AIDS care, gender was not a significant predictor ($OR = 1.47$, $p = 0.65$).

Race was not a significant predictor of overall health in the fourth model (Black: $OR = 1.53$, $p = 0.44$; other: $OR = 1.62$, $p = 0.39$). Race was also not a significant predictor in this model of mental health (Black: $OR = 0.79$, $p = 0.71$; other: $OR = 0.64$, p

= 0.47). For the fourth model predicting HIV/AIDS care, race was not a significant

predictor (Black: *OR* = 1.81, *p* = 0.57; other: *OR* = .74, *p* = 0.73).

Participants' sexual orientation was not a significant predictor of overall health in

the fourth model (bisexual: *OR* = 1.46, *p* = 0.65; heterosexual: *OR* = 0.69, *p* = 0.51).

Sexual orientation was also not a significant predictor in this model of mental health

(bisexual: *OR* = 4.97, *p* = 0.17; heterosexual: *OR* = 1.29, *p* = 0.67). For the fourth model

predicting HIV/AIDS care, heterosexual orientation was not a significant predictor

(heterosexual: *OR* = 0.48, *p* = 0.48). However, bisexual orientation was a significant

predictor of HIV/AIDS care (*OR* = 0.10, *p* = 0.04), indicating that being bisexual meant

that the participants were 10 times more likely to not have high levels of HIV/AIDS care

than the homosexual participants.

Although the model of overall health was not significant, history of substance

abuse was a significant predictor (*OR* = 3.69, *p* = 0.01), indicating that having a high

substance abuse history meant that the participants were 3.69 times more likely to have

lower overall health outcomes. Substance abuse was also a significant predictor of mental

health in this model (*OR* = 3.14, *p* = 0.03), indicating that having a high substance abuse

history meant that the participants were 3.14 times more likely to have lower overall

health. For the fourth model predicting HIV/AIDS care, substance abuse was not a

significant predictor (*OR* = 3.12, *p* = 0.15).

Table 9 presents the results for the fourth model of the logistic regression, with

provider engagement predicting overall health, mental health, and HIV/AIDS care as

HRQOL indicators after controlling for the variables of gender, race, sexual orientation,

and substance abuse history, respectively.

Table 9

Model 4: Logistic Regressions of Provider Engagement Predicting Overall Health, Mental Health, and HIV/AIDS care After Controlling for Gender, Race, Sexual Orientation, and Substance Abuse History

Dependent Variable	*B*	*SE*	Wald	*OR*	95% CI	*P*
Overall Health						
Provider Engagement	-0.11	0.10	1.13	0.90	[0.74, 1.11]	0.29
Gender {ref: Male}	0.66	0.54	1.48	1.93	[0.67, 5.59]	0.22
Race						
Black {ref: White}	0.43	0.55	0.60	1.53	[0.52, 4.52]	0.44
Other {ref: White}	0.48	0.56	0.75	1.62	[0.54, 4.82]	0.39
Sexual Orientation						
Bisexual {ref: Homosexual}	0.38	0.85	0.20	1.46	[0.28, 7.77]	0.65
Heterosexual {ref: Homosexual}	-0.37	0.57	0.43	0.69	[0.23, 2.09]	0.51
Substance Abuse	1.31	0.48	7.54	3.69	[1.45, 9.39]	0.01*
χ2 (7) = 10.52, *p* = 0.16						
Mental Health						
Provider Engagement	-0.11	0.10	1.28	1.11	[0.93, 1.34]	0.26
Gender {ref: Male}	0.87	0.66	1.79	2.43	[0.66, 8.89]	0.18
Race						
Black {ref: White}	-0.34	0.64	0.14	0.79	[0.23, 2.75]	0.71
Other {ref: White}	-0.45	0.62	0.53	0.64	[0.19, 2.13]	0.47
Sexual Orientation						
Bisexual {ref: Homosexual}	1.60	1.18	1.85	4.97	[0.49, 50.09]	0.17
Heterosexual {ref: Homosexual}	0.26	0.60	0.18	1.29	[0.40, 4.16]	0.67
Substance Abuse	1.14	0.53	4.71	3.14	[1.12, 8.80]	0.03*
χ2 (7) = 12.22, *p* = 0.09						

HIV/AIDS Care

Provider Engagement	0.69	0.31	5.08	2.00	[1.09, 3.64]	0.02*
Gender {ref: Male}	0.39	0.86	0.20	1.47	[0.27, 8.00]	0.65
Race						
Black {ref: White}	0.59	1.04	0.33	1.81	[0.24, 13.95]	0.57
Other {ref: White}	-0.30	0.88	0.12	0.74	[0.13, 4.13]	0.73
Sexual Orientation						
Bisexual {ref: Homosexual}	-2.32	1.13	4.26	0.10	[0.01, .89]	0.04*
Heterosexual {ref: Homosexual}	-0.73	1.04	0.50	0.48	[0.06, 3.68]	0.48
Substance Abuse	1.14	0.79	2.09	3.12	[0.67, 14.58]	0.15

χ^2 (7) = 29.82, $p < .001$

Note. * $p \le .05$.

Model 5

The fifth logistic regression model was conducted with SES indicators (education and insurance) predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators after adding the control variables of gender, race, sexual orientation, and substance abuse history. The results of the logistic regression for overall health were not statistically significant (χ^2 (9) = 10.72, $p = 0.30$), indicating that there was no statistically significant relationship between SES indicators and overall health after controlling for gender, race, sexual orientation, and substance abuse history. The results of the model for mental health were not statistically significant (χ^2 (9) = 13.98, $p = 0.12$), indicating that there was no statistically significant relationship between SES indicators and mental health after controlling for gender, race, sexual orientation, and substance abuse history. The results of the model for HIV/AIDS care were not statistically significant (χ^2 (9) = 11.21, $p = 0.26$), indicating that there was no statistically significant relationship between

SES indicators and HIV/AIDS care after controlling for gender, race, sexual orientation, and substance abuse history.

The SES indicators were not a significant predictor of overall health in the fifth model (education: $OR = 0.71$, $p = 0.45$; insurance: $OR = 1.45$, $p = 0.68$). The SES indicators were also not a significant predictor in the fifth model of mental health (education: $OR = 0.94$, $p = 0.91$; insurance: $OR = 2.40$, $p = 0.36$). For the fifth model predicting HIV/AIDS care, SES indicators were not a significant predictor (education: $OR = 1.96$, $p = 0.29$; insurance: $OR = 0.51$, $p = 0.63$).

Gender was not a significant predictor of overall health in the fifth model ($OR = 1.88$, $p = 0.63$). Gender was also not a significant predictor in the sixth model of mental health ($OR = 2.18$, $p = 0.23$). For the fifth model predicting HIV/AIDS care, gender was not a significant predictor ($OR = 0.51$, $p = 0.63$).

Race was not a significant predictor of overall health in the fifth model (Black: $OR = 1.30$, $p = 0.63$; other: $OR = 1.59$, $p = 0.40$). Race was also not a significant predictor in the sixth model of mental health (Black: $OR = 0.89$, $p = 0.85$; other: $OR = 0.65$, $p = 0.46$). For the fifth model predicting HIV/AIDS care, gender was not a significant predictor (Black: $OR = 3.13$, $p = 0.18$; other: $OR = 1.01$, $p = 0.99$).

Participants' sexual orientation was not a significant predictor of overall health in the sixth model (bisexual: $OR = 1.58$, $p = 0.59$; heterosexual: $OR = 0.67$, $p = 0.49$). Sexual orientation was also not a significant predictor in the fifth model of mental health (bisexual: $OR = 4.85$, $p = .18$; heterosexual: $OR = 1.24$, $p = 0.79$). For the fifth model predicting HIV/AIDS care, the model of mental health was not significant. However,

sexual orientation was a significant predictor for the bisexual vs. homosexual comparison (bisexual: $OR = 0.11$, $p = 0.03$), indicating that being bisexual meant that participants were 9.09 times more likely to not have high HIV/AIDS care than the homosexual participants. The heterosexual vs. homosexual comparison was not significant (heterosexual: $OR = 0.57$, $p = 0.49$).

Although the model of overall health was not significant, substance abuse was a significant predictor ($OR = 3.44$, $p = 0.01$), indicating that having a high substance abuse history meant that participants were 3.44 times more likely to have lower overall health statuses. Although the model of mental health was not significant, substance abuse was a significant predictor in the sixth model of mental health ($OR = 3.26$, $p = 0.03$), indicating that having a high substance abuse history meant that participants were 3.26 times more likely to have poor mental health outcomes. For the fifth model predicting HIV/AIDS care, substance abuse was not a significant predictor ($OR = 3.44$, $p = 0.07$).

The results for the logistic regression with the SES indicators predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators after adding the control variables of gender, race, sexual orientation, and substance abuse history are presented in Table 10

Model 5: Logistic Regressions of SES Indicators (Education and Insurance) Predicting Overall Health, Mental Health, and HIV/AIDS care After Controlling for Gender, Race, Sexual Orientation, and Substance Abuse History

Dependent Variable	B	SE	Wald	OR	95% CI	p
Overall Health						
Education	-0.35	0.46	0.57	0.71	[0.29, 1.73]	0.45

Insurance	0.37	0.90	0.17	1.45	[0.25, 8.40]	0.68
Gender {ref: Male}	0.63	0.54	1.36	1.88	[0.65, 5.41]	0.24
Race						
Black {ref: White}	0.26	0.55	0.23	1.30	[0.44, 8.81]	0.63
Other {ref: White}	0.46	0.55	0.72	1.59	[0.54, 4.64]	0.40
Sexual Orientation						
Bisexual {ref: Homosexual}	0.46	0.85	0.29	1.58	[0.30, 8.30]	0.59
Heterosexual {ref: Homosexual}	-0.40	0.58	0.47	0.67	[0.22, 2.09]	0.49
Substance Abuse	1.23	0.48	6.64	3.44	[1.34, 8.78]	0.01*

$\chi2$ (9) = 10.72, p = 0.30

Mental Health

Education	-0.06	0.52	0.01	0.94	[0.34, 2.62]	0.91
Insurance	0.87	0.96	0.83	2.40	[0.37, 15.63]	0.36
Gender {ref: Male}	0.78	0.66	1.42	2.18	[0.60, 7.88	0.23
Race						
Black {ref: White}	-0.12	0.64	0.04	0.89	[0.25, 3.09]	0.85
Other {ref: White}	-0.44	0.59	0.54	0.65	[0.20, 2.07]	0.46
Sexual Orientation						
Bisexual {ref: Homosexual}	1.58	1.17	1.84	4.85	[0.49, 47.65]	0.18
Heterosexual {ref: Homosexual}	0.22	0.62	0.12	1.24	[0.37, 4.18]	0.73
Substance Abuse	1.18	0.53	4.94	3.26	[1.15, 9.25]	0.03*

$\chi2$ (9) = 13.98, p = 0.12

HIV/AIDS Care

Education	0.67	0.63	1.13	1.96	[0.57, 6.78]	0.29
Insurance	-0.66	1.40	0.23	0.51	[0.03, 8.00]	0.63
Gender {ref: Male}	0.07	0.71	0.01	1.07	[0.27, 4.30]	0.92
Race						
Black {ref: White}	1.14	0.85	1.80	3.13	[0.59, 16.61]	0.18
Other {ref: White}	0.01	0.72	0.00	1.01	[0.25, 4.10]	0.99
Sexual Orientation						
Bisexual {ref: Homosexual}	-2.23	1.00	4.95	0.11	[0.02, 0.77]	0.03*

Heterosexual {ref: Homosexual}	-0.56	0.81	0.48	0.57	[0.12, 2.80]	0.49
Substance Abuse	1.23	0.67	3.35	3.44	[0.92, 12.89]	0.07

χ2 (9) = 11.21, *p* = 0.26

Note. * *p* ≤ .05.

Model 6

The sixth logistic regression model was conducted with HIV/AIDS stigma

predicting overall health, mental health, or HIV/AIDS care as HRQOL indicators after

adding the control variables of gender, race, sexual orientation, and substance abuse

history. The results of the logistic regression for overall health were not statistically

significant (χ2 (7) = 10.57, *p* = 0.16), indicating that there was no statistically significant

relationship between HIV/AIDS stigma and overall health after controlling for gender,

race, sexual orientation, and substance abuse history. The results of the model for mental

health were not statistically significant (χ2 (7) = 12.47, *p* = 0.09), indicating that there

was no statistically significant relationship between HIV/AIDS stigma and mental health

after controlling for gender, race, sexual orientation, and substance abuse history. The

results of the model for HIV/AIDS care were not statistically significant (χ2 (7) = 110.45,

p = 0.16), indicating that there was no statistically significant relationship between

HIV/AIDS stigma and HIV/AIDS care after controlling for gender, race, sexual

orientation, and substance abuse history.

HIV/AIDS stigma was not a significant predictor of overall health in the sixth

model (*OR* = 1.21, *p* = 0.21). HIV/AIDS stigma was also not a significant predictor in

this model of mental health ($OR = 0.96$, $p = 0.81$). For the sixth model predicting HIV/AIDS care, HIV/AIDS stigma was not a significant predictor ($OR = 0.83$, $p = 0.29$).

Gender was not a significant predictor of overall health in the sixth model ($OR = 2.14$, $p = 0.16$). Gender was also not a significant predictor in this model of mental health ($OR = 2.30$, $p = 0.21$). For the sixth model predicting HIV/AIDS care, gender was not a significant predictor ($OR = 1.04$, $p = 0.95$).

Race was not a significant predictor of overall health in the sixth model (Black: $OR = 1.46$, $p = 0.49$; other: $OR = 1.57$, $p = 0.41$). Race was also not a significant predictor in the sixth model of mental health (Black: $OR = 0.89$, $p = 0.85$; other: $OR = 0.65$, $p = 0.47$). For the sixth model predicting HIV/AIDS care, race was not a significant predictor (Black: $OR = 2.45$, $p = 0.27$; other: $OR = 1.1$, $p = 0.90$).

Participants' sexual orientation was not a significant predictor of overall health in the sixth model (bisexual: $OR = 1.23$, $p = 0.81$; heterosexual: $OR = 0.60$, $p = 0.36$). Sexual orientation was also not a significant predictor in this model of mental health (bisexual: $OR = 5.01$, $p = 0.17$; heterosexual: $OR = 1.38$, $p = 0.59$). For the sixth model predicting HIV/AIDS care, sexual orientation was a significant predictor for the bisexual vs. homosexual comparison (bisexual: $OR = 0.15$, $p = 0.05$), indicating that being bisexual meant that participants were 6.67 times more likely to not have high HIV/AIDS care than the homosexual participants. The heterosexual vs. homosexual comparison was not significant (heterosexual: $OR = 0.71$, $p = 0.67$).

Substance abuse history was a significant predictor in this model ($OR = 0.57$, $p = 0.24$). Although the model of mental health was not significant, substance abuse was a

significant predictor in the sixth model predicting mental health ($OR = 3.31$, $p = 0.03$), indicating that having a high substance abuse history meant that participants were 3.31 times more likely to have poor mental health. For the sixth model predicting HIV/AIDS care, substance abuse was not a significant predictor ($OR = 3.48$, $p = 0.07$).

The results for the sixth model of the logistic regression with HIV/AIDS stigma predicting overall health, mental health, and HIV/AIDS care as HRQOL indicators after adding the control variables of gender, race, sexual orientation, and substance abuse are presented in Table 11.

Table 11

Model 6: Logistic Regressions of HIV/AIDS stigma Predicting Overall Health, Mental Health, and HIV/AIDS care After Controlling for Gender, Race, Sexual Orientation, and Substance Abuse History

Dependent Variable	*B*	*SE*	Wald	*OR*	95% CI	*p*
Overall Health						
HIV/AIDS Stigma	0.19	0.15	1.55	1.21	[0.90, 1.63]	0.21
Gender {ref: Male}	0.76	0.54	1.96	2.14	[0.74, 6.22]	0.16
Race						
Black {ref: White}	0.38	0.55	0.48	1.46	[0.50, 4.24]	0.49
Other {ref: White}	0.45	0.55	0.68	1.57	[0.54, 4.58]	0.41
Sexual Orientation						
Bisexual {ref: Homosexual}	0.21	0.86	0.06	1.23	[0.23, 6.61]	0.81
Heterosexual {ref: Homosexual}	-0.51	0.56	0.82	0.60	[0.20, 1.81]	0.36
Substance Abuse	1.15	0.48	1.36	0.57	[1.23, 8.07]	0.24
$\chi 2\ (7) = 10.57$, $p = 0.16$						
Mental Health						
HIV/AIDS Stigma	-0.04	0.16	0.06	0.96	[0.71, 1.31]	0.81
Gender {ref: Male}	0.83	0.66	1.59	2.30	[0.63, 8.40]	0.21
Race						

Black {ref: White}	-0.11	0.62	0.03	0.89	[0.26, 3.01]	0.85
Other {ref: White}	-0.43	0.59	0.51	0.65	[0.20, 2.09]	0.47
Sexual Orientation						
Bisexual {ref: Homosexual}	1.61	1.18	1.87	5.01	[0.50, 50.72]	0.17
Heterosexual {ref: Homosexual}	0.32	0.59	0.29	1.38	[0.43, 4.41]	0.59
Substance Abuse	1.20	0.54	4.99	3.31	[1.16, 9.45]	0.03*
χ^2 (7) = 12.47, p = 0.090						
HIV/AIDS Care						
HIV/AIDS Stigma	-0.19	0.18	1.11	0.83	[0.58, 1.18]	0.29
Gender {ref: Male}	0.04	0.72	0.00	1.04	[0.26, 4.25]	0.95
Race						
Black {ref: White}	0.90	0.82	1.20	2.45	[0.49, 12.22]	0.27
Other {ref: White}	0.09	0.72	0.02	1.10	[0.27, 4.50]	0.90
Sexual Orientation						
Bisexual {ref: Homosexual}	-1.90	0.99	3.70	0.15	[0.02, 1.04]	0.05*
Heterosexual {ref: Homosexual}	-0.35	0.81	0.19	0.71	[0.15, 3.43]	0.67
Substance Abuse	1.25	0.69	3.23	3.48	[0.89, 13.56]	0.07
χ^2 (7) = 110.45, p = 0.16						

Note. * $p \leq 0.05$.

CHAPTER 6

DISCUSSION

In recent social capital research, little attention has been given to how structural and individual-level factors work together to influence the HRQOL of low-income PLWHA, especially in urban communities. The focus of this study was to examine the impact of social capital on the HRQOL of low-income PLWHA. Provider engagement, socioeconomic status and HIV/AIDS stigma were used as proxies of social capital, while Overall health, mental health, and HIV/AIDS care were used as indicators of HRQOL at both structural and individual levels. Using the social capital and Health Related Quality of Life Model (Figure 2), the questions were studied of how structural and individual-level factors might influence provider engagement, SES, and HIV/AIDS stigma and impact overall health, mental health, and HIV/AIDS care. This chapter reviews three research questions and discusses the study's limitations and results as well as its implications for policy and future research. This study asked three overarching research questions: (a) how does provider engagement impact HRQOL for low-income PLWHA residing in urban communities, (b) how does SES (educational attainment and insurance) impact HRQOL for low-income PLWHA in urban communities, and (c) how does HIV/AIDS stigma impact HRQOL for low-income PLWHA in urban communities? The goal of this research is to generate a better understanding of social capital with provider engagement, SES and HIV/AIDS stigma as proxies and the impact on HRQOL. The study results posit that provider engagement could be considered as a proxy of social capital when predicting provider engagement in HIV/AIDS care. However, SES and

HIV/AIDS stigma should not be adopted as proxies of social capital. The following

sections provide a review of the study results from the six logistic regression models in

Chapter 5. This chapter explains the findings as they relate to this study and the

theoretical framework (Figure 2), and it briefly compares the results of this research to

other related studies.

Summary of Findings

Chapter 5 presented the results of the analyses of the Positive Connections: Connecting

HIV-Infected Patients to Care, 2004-2006 data set in detail. The research questions were

examined through six logistic regressions models. The results show that provider

engagement was not a significant predictor of overall health and mental health for the

first logistic regression model. However, provider engagement was a significant predictor

of HIV/AIDS care, indicating that an increase in the likelihood of getting HIV/AIDS care

is related to provider engagement. For the second model, no statistically significant

relationships were found in SES indicators (education and insurance) in predicting

overall health, mental health, or HIV/AIDS care. The results from the third model

showed that HIV/AIDS stigma was not a significant predictor of overall health, mental

health, or HIV/AIDS care. For the fourth model, provider engagement was not a

significant predictor of overall health and mental health after controlling for the variables

of gender, race, and sexual orientation. However, significant relationships were found for

substance abuse on overall health and mental health. This finding indicates that low-

income PLWHA were more likely to have poor overall and mental health because of their

substance abuse history. For the fourth model, bisexual orientation was a significant predictor of less HIV/AIDS care. The results indicate that bisexual participants were less likely to have HIV/AIDS care than homosexual participants. The finding raises the possibility that the health of the bi-sexual participants may be impacted by their unwillingness to have HIV/AIDS providers engage them in HIV/AIDS care. Therefore, it is important to consider the long term impact that this will have on their HRQOL and target these individuals for HIV/AIDS care and prevention.

The fifth logistic regression model explored the SES indicators (i.e., insurance and education) predicting overall health, mental health, or HIV/AIDS care controlling for the covariates of gender, race, sexual orientation, and substance abuse. In this model, sexual orientation was a significant predictor for the bisexual participants when compared with the homosexual participants. The results indicate that bisexual participants were less likely to have HIV/AIDS care than the homosexual participants.   Also, after controlling for the covariates of substance abuse, significant relationships were found for substance abuse on overall and mental health. The findings indicate that a history of substance abuse meant that the participants were more likely to have poor mental and overall health.

The sixth logistic regression model was conducted with HIV/AIDS stigma predicting overall health, mental health, or HIV/AIDS care after controlling for the covariates of gender, race, sexual orientation, and substance abuse. It is worthwhile to note that this model only has two significant findings. First, substance abuse was a predictor of mental health, indicating that having a substance abuse history meant that the

participants were more likely to have poor mental health. In this model, there was no

significant relationship found between HIV/AIDS stigma and overall health after

controlling for substance abuse history. For the sixth model predicting HIV/AIDS care,

sexual orientation was a significant predictor for the bisexual versus homosexual

comparison. The result indicates that the bisexual participants were less likely to have

HIV/AIDS care than homosexual participants. The results also suggest that the

heterosexual versus homosexual comparison within the logistic regression was not

significant.

Provider Engagement and Overall Health Mental Health, and HIV/AIDS care

The first question examined the relationship between provider engagement and

HRQOL using the indicators of overall health, mental health, and HIV/AIDS care. It is

worthwhile to note that within the first model, the only statistically significant

relationship exists between provider engagement and HIV/AIDS care. In fact, the results

of this study showed that people who are engaged in HIV/AIDS care are two times more

likely to stay in HIV/AIDS care with each level of increase in provider engagement. This

study finds that the more HIV/AIDS providers are engaged in their care, the more likely

those patients will stay in HIV/AIDS care. This finding is significant because PLWHA

are required to have HIV/AIDS care at least four times per year (Coleman et al.

2007;UNAIDS, 2014), which can significantly influence the quality of provider-patient

relationships and consequently improve the health benefits that can be gained through

having HIV/AIDS care.

In the theoretical model (Figure 2), provider engagement was also posited to influence mental health and overall health care among low-income PLWHA. However, there was no significant relationship between provider engagement and mental and overall health in this study. One reason for this finding may include a host of individual-level stressors, such as poverty and unemployment, that are related to their social isolation in urban neighborhoods, could have served as barriers to accessing mental and overall health care. Additionally, because the experience of PLWHA in urban poor communities is different from that of other people living in communities with high SES, factors such as segregation could have also played a significant role in their access to mental and overall health care services (Earnshaw et al., 2013). While these individuals may have had some mental health facilities within their communities, the structural-level factors could have also played a significant role in their decision not to access these services (Earnshaw et al., 2013; Han et al., 2015). Additionally, the individual-level manifestations of prejudice and discrimination that often serve as barriers to accessing mental and overall health care could have also played a role in this finding. Also, the socioeconomic conditions of low-income PLWHA, their lack of social capital, and their exposure to a combination of environmental stressors related to HIV/AIDS might have also played a role in this finding.

Finally, this study posits that for the provider-patient relationship to develop in HIV/AIDS care, trust, a sense of belonging and reciprocal exchange must be present to some degree between the provider and the patients in HIV/AIDS care before they can develop supportive relationships. Putnam (2000) characterizes trust as the foundation of

social capital. He argues that trust is a type of behavior that gives an individual the ability to predict the actions and motives of others. Putnam (1995) asserts that trust is a proxy of social capital "that enable participants to act together to pursue shared objectives" (p. 664). Where there is trust, there is the likelihood that cooperation will increase (Putnam, 2000). In essence, when patients feel valued and respected by their providers, they will develop a high level of trust for the providers, and they will be more committed to staying in HIV/AIDS care even though they have other unmet needs. The provider engagement in HIV/AIDS care that is built on trust will go a long way in helping the patients to cope with any adverse situations that would have otherwise become a barrier to HIV/AIDS care. Putnam (2000) posits that the significance of social capital lies in how well a society can build trust among the people who make up a community, and how well the people can develop trusting feelings towards each other. Putnam (2000) also asserts that it takes trust and a sense of belonging to generate a positive and sustainable relationship between individuals.

Putnam (2000) argues that a sense of belonging is also an essential element of social capital that is built through trusting feelings between each other. Putnam (2000) defines the sense of belonging as the degree to which individuals feel that they are part of a community, as well as how they feel that the community values them. For instance, if they are absent, the community would miss them because the community highly appreciates their presence. Having a sense of belonging is necessary for low-income PLWHA to remain in HIV/AIDS care. A sense of belonging is crucial in the effort to improve provider-patient engagement in HIV/AIDS care. As the findings of this study

point out, there is a significant relationship between provider engagement and HIV/AIDS care. Thus it is important to note that without the patients feeling a sense of belonging in their HIV/AIDS care, it is possible that provider engagement would not have significantly related to HIV/AIDS care. This study posits that trust and a sense of belonging are two foundations of social capital that can combine to improve the provider-patient relationship in HIV/AIDS care among low-income PLWHA. In essence, whenever the patients feel that they matter to the providers as much as the providers feel that they matter to the patients, both parties will feel a sense of belonging and relational trust will develop.

The third aspect of social capital that is important in the provider-patient engagement in HIV/AIDS care is the reciprocal exchange. Putnam (2000) argues that reciprocal exchange is an important aspect of social capital because it gets people to make concessions and deals that will increase cooperation, and it punishes those who refuse to cooperate. In this study, the reciprocal exchange is necessary for provider engagement to work in HIV/AIDS care. Providers must be willing to make deals with their patients to get them to cooperate during HIV/AIDS care and adhere to their medication regimen. This type of reciprocal exchange can reduce uncertainty about the illness. Additionally, providers must be strong reciprocators when engaging the patients in HIV/AIDS care. A strong reciprocator is someone who rewards others for cooperative behaviors and imposes some types of sanctions on those who do not cooperate (Putnam, 2000). While trust, reciprocal exchange and sense of belonging where not measured as key variables in this studies, they justify using provider engagement as a proxy of social

capital. It takes trust, reciprocal exchange and a sense of belonging between the HIV/AIDS provider and the patients for the relationship to work, and for the HIV/AIDS patients to remain in HIV/AIDS care and improve their HRQOL.

Model 4 examined the question of provider engagement and HIV/AIDS care, mental health, and overall health after controlling for the covariates of gender, race, sexual orientation, and substance abuse. In the logistic regression, neither race nor gender was a significant predictor of provider engagement of HIV/AIDS care, mental health, and overall health. In the logistic regression model examining the predictor of provider engagement and HIV/AIDS care, bisexual orientation was a significant predictor of HIV/AIDS care. By using homosexuals as a reference group, the results indicate that bisexual participants were more likely to engage in HIV/AIDS care. The results revealed that the participants who identified themselves as being bisexual were ten times less likely to have HIV/AIDS care than the individuals who were homosexual. The significance of the finding related to the individuals who were bisexual in this study is somewhat tricky to interpret because both the homosexual participants and the bisexual participants encounter the same structural and individual-level conditions referred to in this study. A recent history of substance abuse may be a deciding factor in the level of provider engagement in HIV/AIDS care among the study participants. However, it is difficult to evaluate the factors that are associated with the bisexual significance in this study; therefore, it is recommended that provider engagement should be encouraged for all individuals who are in HIV/AIDS care.

Also within the logistic regression model examining the relationship between provider engagement and HIV/AIDS care, mental health, and overall health, when the covariates of substance abuse history were controlled, provider engagement was no longer a significant predictor of HIV/AIDS care. Instead, provider engagement was significant with mental health and overall health when substance abuse was controlled for. This means that a history of substance abuse increases the likelihood that low-income PLWHA will have poor mental and overall health. The finding sheds light on how exposure to substance abuse and a history of substance abuse can negatively impact mental and overall health among low-income PLWHA. It also demonstrates how exposure to structural-level and individual-level conditions (e.g., prejudice and discrimination) can cause individuals to develop a substance abuse history that will ultimately impact their mental and overall health. Regarding the relationship between the provider and HIV/AIDS care, substance abuse can negatively affect any prospect for a meaningful relationship, and thus cause the patient to develop further mental health problems. Consideration of substance abuse in this study highlights the importance of how a history of substance abuse can negatively impact the provider-patient relationship in HIV/AIDS care. Additionally, it shows how substance abuse history can add more problems to PLWHA, which will ultimately cause them to have poor mental and overall health.

Durvasula and Miller (2014) argue that HIV/AIDS is a public health crisis in urban communities, that needs immediate attention, especially among substance abusers. In their study, Durvasula and Miller (2014) argue that clinical diagnosis of HIV/AIDS

must account for the management of mental health, overall health, and substance abuse. They suggest that clinical diagnosis of HIV/AIDS must also account for the possibility of psychiatric diagnosis, substance use disorder, and medical symptoms. They also state that "substance use and abuse are common among HIV-positive individuals, with nearly 50% of persons living with HIV/AIDS reporting current or past histories of drug or alcohol disorders" (p. 43).

In poor urban communities, substance abuse history is one of the many manifestations that combine with racial/residential segregation, prejudice, and discrimination to fuel the transmission of HIV/AIDS (Earnshaw et al., 2013). Results from several studies support mental health treatment as a significant practice method to enable PLWHA to overcome their depression and substance use history (Chen et al., 2013; Eaton et al., 2015; Korthuis et al., 2011; Nicholas et al., 2014). Other studies have shown that clients who need but do not get mental health services are less engaged in HIV/AIDS care (Christopoulos, 2011; Nicholas et al., 2014). The results of this study, along with other studies, have shown the importance of psychosocial support coupled with HIV/AIDS care when treating HIV/AIDS patients. Researchers have speculated that PLWHA who receive mental health and substance abuse services will not only see an improvement in their mental health status but will remain engaged in their mental health care (Burchell et al., 2015; Nicholas et al., 2014). In the recent HIV/AIDS care research, very little attention has been given to overall and mental health care among poor urban population (Burchell et al. 2015). If overall health and mental health problems can be reduced, the HRQOL of PLWHA could be much improved, a position supported by most

studies discussed in the literature review (Burchell et al. 2015; Brayan et al. 2013). Also consideration of substance abuse history advances the conceptual perspectives that address variables of substance abuse history that are commonly used in HIV/AIDS research. Substance abuse history in part determines who get HIV/AIDS (Earnshaw et al. 2015; Quinn et al. 2012). In considering the interpretation of the findings that substance abuse history is significantly related to poor overall and mental health, this finding mirrors those in other studies and strengthen the notion that these types of services are need to curtail the spread of the HIV/AIDS within society.

Brayan et al. (2013) assert that the best predictor of health status is the absence of disease and the stabilization of any chronic conditions. They further argue that efforts must be made to retain PLWHA in HIV/AIDS care by providing other support services such as mental health care. They believe that these treatments will not only serve to reduce mortality and morbidity, but will also slow down the progression of HIV/AIDS.

Finally, there were no significant differences found between males and females when the covariates of gender were controlled for. Dasgupta et al. (2016) found that differences in HIV/AIDS care persisted when gender was controlled for in measuring provider engagement and HIV/AIDS care, or retention in HIV/AIDS care. They state that "among Blacks, 35% of males were consistently retained in care compared with 44% of females" (p. 77). They argue that efforts must be made to establish early engagement in HIV/AIDS care in order to mitigate gender disparities over time. This study did not echo the findings in my study.

Socioeconomic Status and Overall Health, Mental Health, and HIV/AIDS care

In the logistic regression model examining the predictor of SES (i.e., educational attainment and health insurance coverage) and HRQOL (overall health, mental health, and HIV/AIDS care), SES was not statistically significant with overall health, mental health, and HIV/AIDS care. The lack of relationship between SES and HIV/AIDS care, mental health, and overall health is surprising because of the assertion that HIV/AIDS tends to increase because of low SES at the community level and because of the concentration of racial and ethnic minorities into communities of high poverty (CDC, 2011). Also, increased factors that are related to low SES have historically caused people to reside in poor urban communities and play a significant role in how individuals access health care (Williams et al., 2010). In the case of HIV/AIDS, there are frequent assertions within the literature that HIV/AIDS is fueled by low SES or poverty in urban communities, and that was not the indication in this study (CDC, 2011; Reilly et al., 2013).

The finding that SES is not statistically significant with overall health, mental health, and HIV/AIDS care in this study points to the importance of using income as an indicator of SES. In the logistic regression, it was decided to remove the variable of income from the final results measuring SES, because the results using income showed a statistical error. A majority of the sample reported an annual household income below $10,000, which is a clear indication that most of the individuals tested were either unemployed or underemployed. Thus, it is possible that the results revealed that there was no significant relationship between SES and overall health, mental health, and

HIV/AIDS care because income was removed in the logistic regression model. It is widely perceived that low-income PLWHA may need assistance in finding jobs, even though they are receiving health care services so that they can access quality health care (Aidala et al., 2012). Among these individuals, any crisis they encounter can result in job loss, which can immediately jeopardize their SES and also prevent them from paying for their health care services.

In the Social Capital and Health Related Quality of Life Model (Figure 2), SES was posited to influence overall health, mental health, and HIV/AIDS care. In looking at the impact of structural-level conditions, SES is considered to be a social determinant of health among PLWHA. For instance, increased residential segregation, medical mistrust, and traumatic assault are thought to have an adverse effect on SES. These structural-level conditions are also posited to be related to lower SES, and to fuel the transmission of HIV/AIDS. Additionally, these structural-level conditions are postulated to be responsible for the higher rates of low educational attainment, unemployment, and the lack of health insurance (Earnshaw et al., 2013; Earnshaw et al., 2015). The connection between structural-level conditions and individual-level conditions is often determined by the SES of the community. Communities with high SES often experience less violence, greater integration among racial and ethnic groups, and better access to health care (Earnshaw et al., 2015). On the other hand, communities that are considered poor because of their low SES often have higher than usual low educational attainment, unemployment, poverty, crime, and low-quality health care. Therefore, the difference in

structural-level effects on health may be related to the socioeconomic position of the community in which PLWHA reside.

Though SES was not significantly related to overall health, mental health, and HIV/AIDS care in this study, other studies have found that educational attainment was positively associated with overall health, mental health, and HIV/AIDS care (Dasgupta et al., 2016; Magnus et al., 2012). Having an educational attainment that is less than a high school diploma decreases the chance that SES will be a significant predictor of overall health, mental health, and HIV/AIDS care in some studies. However, the theoretical framework (Figure 2) posits that low SES (i.e., educational attainment and insurance) was also postulated to influence HIV/AIDS care, mental health, and overall health (Dasgupta et al., 2016; Magnus et al., 2012).

It is also the conceptual premise of this study that the spread of HIV/AIDS in urban communities is largely a byproduct of low SES and the severe socioeconomic disadvantages that people within large urban communities face. The literature posits that low SES is also directly linked to the lack of provider engagement in HIV/AIDS care and that there are certain risky behaviors, such as unprotected sex, which cause people living in urban poor communities to become HIV-infected (Earnshaw et al., 2013; Irvine et al., 2015).

The fifth logistic regression model was conducted using the SES indicators of educational attainment and insurance predicting overall health, mental health, and HIV/AIDS care, after adding the control variables of gender, race, sexual orientation, and substance abuse. The results from the logistic regression did not reveal a statistical

relationship between SES and overall health, mental health, and HIV/AIDS care after controlling for the variables of gender and race. However, the results showed a significant association between SES and HIV/AIDS care when controlling for the variable of sexual orientation. Sexual orientation was a significant predictor for the bisexual versus homosexual comparison. The results indicate that being bisexual meant that the participants were less likely to have HIV/AIDS care than the homosexual participants because of their socioeconomic status. The heterosexual versus homosexual comparison was not significant when SES was used to predict HIV/AIDS care after controlling for the covariate of sexual orientation. The reference group was homosexual. The finding also brings to bear that SES plays a significant role in the decision-making of those individuals who access HIV/AIDS care. Unfortunately, the bisexual participants in this study were less likely to have HIV/AIDS care than their homosexual participants because of their SES. Therefore, it is not only important that low-SES individuals living in urban communities be targeted for HIV/AIDS care, but that efforts are made to improve their SES through education and training. Such training may not only improve their SES but may play a vital role in mitigating the spread of HIV/AIDS in urban communities.

In this study, SES is also regarded as a social determinant of health because of its influence on neighborhood settlement patterns; the environmental conditions of the community; its structural influence on health; and its impact on how people react to prejudice and discrimination (Earnshaw et al., 2015). Earnshaw et al. (2015) posit that low socioeconomic status is associated with a delay in HIV/AIDS care; increased stress,

depression, and other mental health problems; and mortality among PLWHA. Thus, the consideration of SES in this study is critical, because it addresses the notion that SES is an important predictor of HIV/AIDS care, mental health, and overall health among low-income PLWHA. The convergence of HIV/AIDS in urban poor communities in the past three decades can be explained by the SES or position of many urban communities (CDC, 2011). Earnshaw et al. (2015) describe the effect of SES on PLWHA, and the exposure to both structural and individual-level manifestations of prejudice and discrimination. They explain that one of the driving forces behind the spread of HIV/AIDS is the concentration of poverty in urban communities. According to Earnshaw et al. (2015), much emphasis must be placed on improving SES to stop the spread of HIV/AIDS in urban communities. The higher the SES, the lower the risk factor in the spread of HIV/AIDS.

Also in Model 5 using the SES indicators (educational attainment and insurance) to predict mental and overall health, after controlling for the covariates of substance abuse, SES became significant with mental health and overall health. The results indicate that when measuring SES and mental health and overall health, a history of substance abuse is negatively related to poor overall health and poor mental health. The study revealed that as a consequence of their history of substance abuse, low-income PLWHA were more likely to have poor overall and poor mental health outcomes. This study did not investigate cause and effect, so it would be foolhardy to say that low SES is responsible for people having a history of substance abuse. However, it can be speculated that low SES can fuel a history of substance abuse among low-income PLWHA. Also,

the possibility exists that low SES and long-term exposure to an environment that has both structural and individual-level challenges are driving forces that cause PLWHA to develop a history of substance abuse.

Within the fifth model, there were no significant differences between males and females, on SES and HIV/AIDS care, overall health, and mental health when controlling for the covariate of gender and race. Studies have documented the positive impact that SES has on overall health , mental health and HIV/AIDS care, using the covariates of gender and race (Gonzalez-Guardia, Floram-Smith, & Thomas, 2011; Kelly et al., 2013; Lehavon, Hull, & Walters et al., 2011; Windsor, Benoil, Ream, & Florenza, 2013). These studies have also shown that poverty is correlated with HIV infection among inner-city residents and within low-income urban communities. Some researchers argue that HIV/AIDS is responsible for the high concentration of poverty within urban communities among women and other minorities such as Blacks and Hispanic males (Dasgupta et al., 2016; Taraphdar et al., 2011). Studies suggest that Blacks are more socially isolated than other ethnic groups and are more concentrated into residentially segregated communities, where their chance of HIV infection is much higher than that of Whites and Hispanics with similar SES (Kelly et al., 2013; Taraphdar, Guha, & Haldar et al., 2011; Windsor et al., 2013). Thus, we should not overlook the importance that SES plays among gender in the transmission of HIV/AIDS in urban poor communities.

HIV/AIDS stigma and Overall Health, Mental Health and HIV/AIDS care

HIV/AIDS stigma was not a significant predictor of overall health, mental health, or HIV/AIDS care. The current literature review examined the literature in relationship to the significance of HIV/AIDS stigma and HRQOL. In most of those studies, HIV/AIDS stigma was found to fuel the transmission of HIV/AIDS in urban poor communities, and among groups who are stigmatized (Earnshaw et al., 2013; Earnshaw et al., 2015; Quinn & Chaudior, 2009; Liamputtong, 2013). The conceptual model (Figure 2) recognizes the relationship between HIV/AIDS stigma and overall health, mental health, and HIV/AIDS care. It also acknowledges that HIV/AIDS stigma can influence the structural and individual-level factors to the point where it impacts health adversely. Low-income PLWHA are particularly vulnerable to HIV/AIDS stigma (Quinn & Chaudior, 2009). The literature review on HIV/AIDS stigma, mental health, and overall health supports the argument that PLWHA who experience HIV/AIDS stigma will experience mental and overall health issues. These types of problems are thought to occur as PLWHA face prejudice and discrimination at the individual level. As stated before, low-income PLWHA often have little access to social capital, which is often blocked due to the prejudice and discrimination that they face. The lack of social capital and the lack of access to resources at the individual level, as well as the structural level, which are fueled by HIV/AIDS stigma often lead to increasing depression, stress, and hopelessness and limited access to HIV/AIDS care (Quinn & Chaudior, 2009).

Stigma occurs when PLWHA are treated as undesirable or unimportant, and results in the individual being devalued by the society at large. This is especially true among PLWHA whose stigmatized identities have potential negative consequences, such

as the possibility of becoming substance abusers or experiencing job loss due to their HIV status. We cannot overemphasize the negative impact that HIV/AIDS stigma has on mental health, overall health, and HIV/AIDS care. Therefore people who are affected by HIV/AIDS stigma have the profound disadvantage of suffering from mental health and overall health problems, and ultimately not benefiting from HIV/AIDS care (Prachakul, Grant, & Keltner, 2007; Remien et al., 2016). Stigma is a negative type of social capital that if not eradicated can negatively affect mental health, overall health, and HIV/AIDS care. Therefore, it is necessary that programs be designed to eliminate stigma among low-income PLWHA.

Finally, the deleterious effects of HIV/AIDS stigma on a broad range of health outcomes, including the fueling of the transmission of HIV/AIDS in urban poor communities, are well documented (Bradford et al., 2007; Dasgupta et al., 2015; Earnshaw et al., 2013; Liamputtong, 2013). However, little is known about how low-income PLWHA cope with the stressors or other mental health issues that are associated with HIV/AIDS stigma. Therefore the study suggest that if low-income PLWHA can employ coping strategies to deal with the negative impact of HIV/AIDS stigma on overall health, mental health and HIV/AIDS care (Liamputtong, 2013). When stigma is absent or eradicated from urban poor communities, individuals will develop trust, have a sense of belonging, and become engaged in reciprocal exchanges inside the health care settings and also at the structural and individual level. Contrary to the finding of this study, the link between HIV/AIDS stigma and adverse health outcomes has been well established in the literature (Earnshaw et al., 2015; Liamputtong, 2013).

In the literature, HIV/AIDS stigma is expected to have an adverse impact on overall health, mental health and HIV/AIDS care when controlling for the covariates of race, gender, and sexual orientation. However, there was no statistically significant relationship between HIV/AIDS stigma and overall health, mental health, and HIV/AIDS care, after controlling for the covariates of gender and race. The present study also observed that HIV/AIDS stigma was significantly related to poor mental health when substance abuse was controlled for. It is worthwhile to note that no relationship was found between HIV/AIDS stigma and overall health after controlling for the covariate of substance abuse.

Recent reviews of the literature on HIV/AIDS stigma and the risk of contracting the HIV virus pay enormous attention to research that shows a significant relationship between HIV/AIDS stigma and poor mental health among substance abusers (Phillips, Peterson, & Binson et al., 2011; Radcliffe, Doty, & Hawkins et al., 2010; Woods, 2012). Also, because of the lingering fear of stigma, many substance abusers are afraid of disclosing their HIV status and develop mental health issues from having to hide it. To them, disclosing their HIV status will add one more problem to their already stigmatized identity (Specter & Remien, 2015). These individuals are faced with many challenges that are created because of HIV/AIDS stigma that causes them not to seek mental health treatment. For those who do seek mental health treatment, many of them have other social issues that prevent them from communicating with the mental health providers (Specter & Remien, 2015). Among them is the co morbid presence of mental health, overall health, and substance abuse problems, as well as homelessness and other chronic

diseases that are brought on by HIV/AIDS (Iyers, 2015). Their stigmatized identities have

often made it difficult for them to open up about their mental health issues because

stigma has made it tough for them to trust others (Iyers, 2015; Liamputtong, 2013; Quinn

& Chaudior, 2009). Also, many of these individuals do not have a social network that can

help them with the information that they need to navigate the health care system

successfully. Such problems can be overcome by setting them up with a social network

system that will connect them to mental health providers who can help them to overcome

their depression and other mental health-related problems.

As stated before, mental health problems are common among PLWHA with a

history of substance abuse (Iyers, 2015). Thus it is necessary to connect these individuals

with mental health professionals who will motivate them to engage in activities that will

improve their poor mental health conditions. Also, these social networks must be fully

equipped to help them to build their social capital and improve their SES. Unless they

build their social capital and improve their SES, providers will find it difficult to treat

their depression and help them improve their mental health status (Earnshaw et al., 2014).

Additionally, having to deal with the individual manifestations of HIV/AIDS

stigma, prejudice, and discrimination that are associated with their substance abuse

history can contribute to poor mental health among PLWHA. Coupled with this, a loss of

social support from family, friends, and acquaintances can heighten mental health

problems. Thus it is even more important to connect PLWHA to mental health providers

whom they can talk to about their problems. While there is a shortage of mental health

providers in many urban communities, connecting PLWHA to mental health providers

outside of these communities can help them to deal with depression, stigma, and other

cognitive problems that are associated with HIV/AIDS. Getting low-income PLWHA to

open up about their substance abuse problems can also help the mental health providers

to connect them to treatment centers for substance abuse issues.

Urban communities, especially those in the major metropolitan cities, remain the

dominant centers where stigma is linked to HIV transmission through the exchange of

needles, drug abuse, and other related substance abuse (CDC, 2011; Iyers, 2015). This is

true in these areas where there is residential segregation between communities of Whites

and communities of racial and ethnic minorities, or where there are inequalities in

poverty, housing, and education between suburban communities and urban communities.

It should be noted that substance abuse history is not restricted to urban poor

communities; rather, all communities are at risk of dealing with people with a history of

substance abuse. What is different is that in urban poor communities PLWHA cannot

afford the cost of substance abuse treatment, and Medicaid often does not pay for some of

these services (Sohler et al., 2009). Therefore, the experience of PLWHA in urban poor

communities is different from those in more affluent communities, in particular among

those who are on Medicaid or have Medicaid managed care versus those who have

private insurance. Therefore, it is imperative that low-income PLWHA with a history of

substance abuse are connected to substance abuse treatment, and that the substance abuse

providers positively engage them in care. In considering the interpretation of the findings

in this study, it is useful to consider how it connects with the literature. According to

researchers at the CDC (2015), approximately 10 percent of PLWHA contracts it through

the sharing of needles, injection drug use and other substance abuse history. They noted

that it is important to connect PLWHA with a history of substance abuse to care so in

order to increase the effectiveness of current HIV/AIDS prevention methods, and to learn

about the behaviors of PLWHA with a history of substance abuse (CDC, 2015). They

further note that more should be spent on getting these individuals into treatment centers

so that the number of people who are infected with HIV/AIDS will not increase through

this medium (CDC, 2015).

When predicting HIV/AIDS stigma and HIV/AIDS care, the results from the

sixth model show a significant relationship when controlling for the covariates of sexual

orientation. The findings indicate that bisexual participants were less likely to have

HIV/AIDS care than the homosexual participants when HIV/AIDS stigma was used to

predict HIV/AIDS care after controlling for the covariates of sexual orientation. There

was no significant relationship when the comparison was made between the heterosexual

and homosexual participants. HIV/AIDS stigma is less likely to affect the homosexual

participants who are engaged in HIV/AIDS care than it affects the bisexual participants.

Connections with Theoretical Framework

The Social Capital and Health Related Quality of Life research model discussed in

Chapter 2 was the conceptual framework used for this study. In this conceptual

framework both structural-level factors (residential segregation, medical mistrust,

traumatic assaults) and individual-level factors (prejudice and discrimination) were

postulated negatively to impact the HRQOL of low-income PLWHA in underserved

urban communities. The structural-level and individual-level factors were seen as a place for intervention and also a place where there is little access to HIV/AIDS care, mental health, and overall health services. It is worthwhile to note that if the structural-level factors that so negatively influence social capital and adversely impact HRQOL can be mitigated, then overall health, mental health, and HIV/AIDS care can be improved through the provider engaging them in the appropriate services. Not only were the structural and individual-level factors examined as primary effects on social capital and HRQOL, but the interactions of the structural-level (medical mistrust, residential segregation, and traumatic assaults) and individual-level factors (prejudices and discrimination) were also studied.

<p style="text-align:center">Structural Level and Individual Level Factors</p>

In the Social Capital and Health Related Quality of Life Model, provider engagement, SES, and HIV/AIDS stigma were posited as social determinants of health for low-income PLWHA. Findings from this study indicate that among the participants in this study, provider engagement is critical in HIV/AIDS care. It also finds, using homosexual participants as a reference group, that bisexual participants are less likely to engage in HIV/AIDS care. The theoretical model in this research recognizes that the structural-level (residential segregation, medical mistrust, and traumatic assaults) and individual-level factors (prejudice and discrimination) play a fundamental role in influencing provider-patient engagement in HIV/AIDS care. Thus, understanding the factors that are associated with provider engagement in HIV/AIDS care will help to make

the necessary modifications to help low-income PLWHA and their HIV providers

develop a better relationship during the HIV/AIDS care encounter.

The theoretical model in this research recognizes that provider engagement in

HIV/AIDS care is also essential to retaining PLWHA in HIV/AIDS care. Studies have

shown that a higher proportion of low-income PLWHA were more likely to underutilize

HIV/AIDS care when compared to other, more affluent groups (Dasgupta, Oster, Li, &

Hall, 2016; Earnshaw et al., 2013). In general, low-income PLWHA who were engaged

in HIV care had fewer visits and had a less favorable impression of their HIV/AIDS

providers than those with household income above the national poverty guidelines

(Dasgupta, Oster, Li, & Hall, 2016; Earnshaw et al., 2013). As a consequence of being

exposed to the structural-level conditions of residential segregation, traumatic assaults,

and provider mistrust, and the individual-level manifestations of prejudice and

discrimination, low-income PLWHA are less likely to engage in HIV/AIDS care because

of these barriers. It is speculated that these conditions work together to prevent low-

income PLWHA from accessing HIV/AIDS care; thus, it is difficult for HIV providers to

engage them in HIV/AIDS care (Bradford et al., 2007; Dasgupta et al., 2016). Thus it is

important that efforts be made to encourage HIV providers to engage low-income

PLWHA in HIV/AIDS care positively when they show up for their appointments. These

types of provider-patient engagements only serve to improve HIV/AIDS care and to help

these individuals to work harder to keep their appointments and become healthy.

Researchers have also speculated that SES is a significant force that is responsible for the

racial and residential segregation policies that cause individuals to settle in poor urban

neighborhoods (Kramer & Hague, 2009; Massey & Denton, 1993). In the theoretical

model, SES was posited to be related to neighborhood settlement patterns and was

posited to be the driving force behind the social and spatial isolation for individuals of

racial and ethnic minority status, especially among Blacks (Earnshaw et al., 2013;

Massey & Denton, 1993). These individuals were thought to have a greater housing need

because of the forced discriminatory practices of residential segregation (Massey &

Denton, 1993), which left many of them in unstable housing. Coupled with this is the

need to access quality HIV/AIDS care, where providers will positively engage them in

care (Dasgupta et al., 2015).

Considerations of HIV/AIDS stigma measures advance the theoretical

perspectives that address the structural and individual-level factors that low-income

PLWHA face. The model also recognized that stigma is endemic and plays a key role in

the limited access to social capital, the spread of HIV/AIDS, and the low retention of

HIV/AIDS care or access to care among low-income and underserved HIV/AIDS-

infected individuals. Since the participants in this study are being exposed to the same

structural-level and individual-level conditions, these individuals are likely to experience

HIV/AIDS stigma that may adversely impact their access to HIV/AIDS care. Coupled

with this, they are also likely to have a history of substance abuse, which is embedded in

their communities as a result of concentrated poverty and their social isolation in

communities with little or no social capital. Earnshaw et al. (2013) posit in their research

model (Figure 1) that there are certain social determinants of health that are aligned to

poor neighborhood conditions that can adversely impact health. As previously explained,

such social determinants of health include stigma, concentrated poverty, discrimination, prejudice, residential segregation, and poor-quality social relationships among the urban population. These, they argued, can negatively influence health outcomes.

Researchers have speculated that women and racial and ethnic minority men were more likely to be socially isolated because of residential segregation into communities of concentrated poverty (Massey and Denton, 1993). Massey and Denton (1995) postulated that residential segregation is a precise mechanism through which chronic diseases are spread in urban poor communities. They defined residential segregation as the degree to which two or more groups live separately in different geographic regions. According to Massey and Denton (1993), the physical separation of people by ethnicity and race may reflect the social, economic, and health disparities between Blacks and Whites, and the increase in chronic diseases in urban communities. They argued that residential segregation has been demonstrated to impact health adversely and contribute to the widespread ill health of individuals who are socially isolated into communities of concentrated poverty.

Suggested pathways by which residential segregation is posited to influence health include: the increase in medical mistrust, crime, and poverty in poor communities where Blacks live (Earnshaw et al., 2013); a social and physical environment with higher exposure to crime and assaults (Massey & Denton, 1993); and communities of heightened unemployment and low SES (educational attainment, low income, and no insurance). As stated before, HIV/AIDS is one of the leading causes of death in urban poor communities in the United States. Despite the decline in HIV/AIDS mortality, racial

and ethnic health disparities among PLWHA have persisted. Previous explanations have emphasized individual-level socioeconomic status and the role of residential segregation. For example, in poor urban neighborhoods, SES is the leading cause of the transmission of HIV/AIDS (CDC, 2011). Thus it is important to reduce the social isolation of people based on race or ethnicity and SES.

Massey and Denton (1993) argue that residential segregation in the United States was developed slowly and deliberately, with efforts to drive Blacks into communities that they described as the urban ghetto. These communities were established through various public policies that were enacted by the federal government that promoted discrimination in housing. The housing policies that were adopted to drive people into residential segregation are now illegal—though still in effect in some inner cities—but the lasting impact of these policies is that many of these individuals are socially isolated into the communities that were created by those laws. Massey and Denton (1993) posit that residential segregation is responsible for creating neighborhoods that are different regarding social risk exposures, opportunity structure, socioeconomic position, and levels of safety. Moreover, residential segregation has been demonstrated to affect people's well-being and to have a consequential impact on health, as well as contributing to racial and health disparities that persist today.

Medical mistrust and high traumatic assaults are also two structural-level factors that are believed to have the most profound impact on population health, especially among PLWHA (Earnshaw et al., 2013). Medical mistrust and traumatic assaults are related to racial residential segregation, historical trauma, and the concentration of

poverty within poor urban neighborhoods. According to Massey and Denton (1993), the long-term exposure of people to communities of poverty is responsible for the lack of access to resources that can help them to improve their quality of life. The racial isolation of Blacks and their exposure to poor environmental conditions have only made it difficult for them to trust the health care system. Additionally, where there is concentrated poverty, there is crime and violence, and so living under the conditions of concentrated poverty has exposed individuals to traumatic assaults. These factors often combine to limit the opportunities that individuals could access, and thus heighten the structural-level challenges that they face on a daily basis (Earnshaw et al., 2015; Earnshaw et al., 2013). Thus, it is important to consider the fact that the structural-level conditions of residential segregation, medical mistrust, and traumatic assaults combine to impact health adversely and limit the chances of PLWHA accessing social capital. It should be noted that these are processes through which social structures have intertwined for decades to impact health adversely, and to limit the opportunities of low-income people living in concentrated poverty (Massey & Denton, 1993). Thus it is tough to separate the structural-level factors of medical mistrust, traumatic assaults, and residential segregation from each other, as they are embedded in neighborhoods of poverty. Additionally, these structural-level factors embody the environment in which low-income PLWHA reside (Earnshaw et al., 2015). They also contribute to the multiple stigmatized identities of low-income PLWHA (Quinn & Chaudior, 2009).

It is also important to explore how the structural-level factors are connected to trust, sense of belonging, and reciprocal exchange at the structural level, because these

are proxies of social capital that are necessary to improve the HRQOL of PLWHA. It is

when there are high levels of trust, a sense of belonging, and reciprocal exchanges at the

structural level that programs can be tailored to improve the mental health and overall

health of PLWHA. Where there are traumatic assaults, residential segregation, and high

levels of mistrust at the structural level, there is no sense of belonging, no reciprocal

exchange, and no trust (Putnam, 2000). However, when these structural factors are absent

or mitigated, then the opportunity will arise for individuals to develop trust, have a sense

of belonging, and ultimately engage in reciprocal exchanges.

Other proposed mechanisms by which trust, sense of belonging, and reciprocal

exchange may improve overall health, mental health and HIV/AIDS care include the

diffusion of residential segregation, medical mistrust, and traumatic assaults in urban

communities (Earnshaw et al., 2013; Kim & Kawachi, 2008). For instance, the last four

decades have witnessed an increase in research that cites trust, a sense of belonging, and

reciprocal exchanges as the foundation of social capital that can combine to improve

community health (Bourdieu, 1986; Field, 2008; Lin, 2011; Putnam, 2000). According to

Kim & Kawachi (2008), "indicators of interpersonal trust, norms of reciprocity, and

associational memberships" (p. 294) at the community level have mostly helped in the

improvement of population health. Putnam (2000) asserts that the process of making

decisions is impacted by civic engagement and that citizens have a better chance of

improving their health when they participate in their community. This study posits that

the more individuals are engaged at the structural level, the more they will develop a

level of trust for their community leaders, the better access they will have to quality

health care, and the safer their communities will become because they are a part of the decision-making team.

Finally, the model also posited that there are other benefits that can be obtained by PLWHA at the structural level who are engaged in care or in the community as a whole. Individuals who are in HIV/AIDS care tend to exhibit more control over their lives and are more apt to refrain from passing the HIV on to others (CDC, 2011). These individuals are more likely to accumulate larger amounts of capital because of their quest to live a healthy life, specifically financial, economic, cultural, and social capital (Bourdieu, 1986). In securing these types of capital, these individuals are more likely not to be impacted by residential segregation and other negative factors, such as high unemployment, high crime rates, housing instability, and medical mistrust, that are manifested at the structural level.

In this conceptual model, the individual-level factors cannot be separated from the structural-level factors or conditions because they work together to shape social capital and predict HRQOL. For example at the individual level, low SES and the lack of resources are manifested through prejudices and discrimination, and other factors that resulted from the high concentration of poverty in urban neighborhoods. These factors are responsible for the high incidence of substance abuse and the lack of provider engagement in HIV/AIDS care (Earnshaw et al., 2013; Earnshaw et al., 2015).

In the theoretical model, the individual-level factors of prejudice and discrimination were all posited as having a negative influence on overall health, mental health, and HIV/AIDS care. A higher level of perceived stress that is related to prejudice

or discrimination and that is brought on by a history of substance abuse was thought to

negatively impact overall health and mental health care needs and lower access to social

capital among low-income PLWHA. The greater the impact of prejudice and

discrimination, the more unwilling PLWHA are to access HIV/AIDS care and mental

health services (Dasgupta, Oster, Li, & Hall, 2016; Earnshaw et al., 2013). Putnam

(2000) finds that the more the individuals are embedded in communities of concentrated

poverty, the higher the probability that they will not trust others. Trust is required to

pervade individual-level networks and allow them to function. However, when there are

no social networks for those with a history of substance abuse and those who are

negatively impacted by prejudice and discrimination, the more problematic it is for them

to develop trust, have a sense of belonging, and engage in reciprocal exchanges. Putnam

(2000) asserts that exchanges can only occur at the individual level for reasons including

trust, reciprocal exchanges, and a sense of belonging. Moreover, people will not

cooperate with others unless they are in the frame of mind to do so; thus, to have

reciprocal exchange individuals must have the mindset to make deals and to keep their

promises. For instance, for transactions to occur among individuals, they must have

shared reciprocity and social norms (Putnam, 2000). Thus the history of substance abuse

may create little trust, no sense of belonging, and negative reciprocal exchanges. Trust, a

sense of belonging, and reciprocal exchange can positively influence the individual-level

factors of prejudice and discrimination by providing people with a social network where

they can positively engage with others who are infected. In any social network, the

sharing of information is important in improving population health. Therefore, once the

individuals have access to those types of systems and become involved, then they may be able to overcome prejudice and discrimination that they face.

Finally, since the discovery of HIV/AIDS, surveillance of the disease has expanded not only to include the tracking of infections but also to monitor the structural-level factors and individual-level factors that are directly or indirectly related to HIV infection (Bout et al., 2014). Population surveys of structural-level factors associated with residential segregation, medical mistrust, and the impact of community assaults help to track how these factors work together to fuel the transmission of HIV/AIDS (Kramer & Hague, 2009; Paradies et al., 2015). Data on the structural and individual-level factors is of critical importance to public policy analysts in tailoring intervention at both levels to target these conditions that are responsible for the spread of HIV/AIDS (Kramer & Hague, 2009; Paradies et al., 2015; Peterson et al., 2014). Studies have shown that increasing knowledge of modes of HIV/AIDS transmission and means of prevention is positively associated with the quest to eradicate HIV/AIDS from society (Han et al., 2015; Paradies et al., 2015: Peterson et al., 2014). This theoretical framework posits that trust, a sense of belonging, and reciprocal exchanges must be developed at the neighborhood level and the individual level to mitigate the factors that are responsible for the transmission of HIV/AIDS.

In this study, the researcher was able to develop an understanding of the connections between the structural- and individual-level factors and their influence on the HRQOL of low-income PLWHA through trust, a sense of belonging, and reciprocal exchanges. A notable finding that is related to this study is that at the structural and

individual level, the theoretical model provides a bridge to understanding the impact that the structural factors have on the building of trust, a sense of belonging, and reciprocity. While this study did not establish provider engagement as a social capital for the patient with mental and overall health problems, it did establish that it can be used as a proxy of social capital for provider engagement in HIV/AIDS care. Furthermore, this study did not justify that low SES and HIV/AIDS are proxies of social capital; rather they should be used as confounding variables when assessing the connection between the structural-level and individual-level factors and their influence on accessing quality overall health, mental health and HIV/AIDS care.

Conclusion

The intent of this study was to expand the existing knowledge base on how social capital impacts the HRQOL of low-income PLWHA in poor urban communities. Because the disproportionate burden of HIV/AIDS among PLWHA in poor urban neighborhoods remains a public health crisis among this population, conducting this study proved quite interesting. Furthermore, it was even more important to explore how provider engagement, SES and HIV/AIDS stigma impact overall health, mental health, and HIV/AIDS care among this population. The study results provided little evidence showing the impact of social capital on the HRQOL of low-income PLWHA in urban communities. However, this study did provide information on the association between provider engagement and HIV/AIDS care. It also provided some evidence of the impact of SES on poor overall and mental health, HIV/AIDS stigma on poor mental health, among PLWHA with a history of substance abuse.

The theoretical framework of this study was based on a model of how structural-level factors work together with individual level factors to fuel the transmission of HIV/AIDS. HIV/AIDS research has linked the HIV epidemic to poor urban communities where structural and individual-level factors work together to create an environment plagued with residential segregation, medical mistrust, traumatic assaults, prejudice, and discrimination to fuel the transmission of HIV/AIDS (CDC, 2011; Earnshaw et al., 2013).

There is a need to strengthen provider engagement in HIV/AIDS care and to eradicate HIV/AIDS stigma among low-income PLWHA in communities where HIV/AIDS remains an epidemic. The vast disparity of HIV/AIDS can be explained by the divergent SES—defined by income, occupational prestige, and level or types of insurance—between people living in suburban areas and urban communities (Kawachi et al., 2008). Residential segregation, traumatic assaults, and medical mistrust often shape the worldview of low-income PLWHA and deny them access to quality healthcare, jobs, and material goods that could increase their SES, eradicate stigma, and improve their health (Earnshaw et al., 2013). At the individual level, the lack of resources serves to negatively influence health through pronounced discrimination and prejudice that works together with the structural-level factors of increased mortality and morbidity among low-income PLWHA (Earnshaw et al., 2013). Therefore, it is also necessary to take steps to mitigate these conditions and their influence on health.

PLWHA in poor urban communities often drop out of care, and policy analysts have long been trying to find ways to retain them in HIV/AIDS care. The finding that PLWHA whose providers are fully engaged with them in their HIV/AIDS care are more

likely to continue HIV/AIDS care represents a significant step toward working to keep

PLWHA in HIV/AIDS care. This study also finds that a history of substance abuse is

correlated to poor overall health and mental health among low-income PLWHA in urban

communities. With respect to these findings, efforts should be made to help low-income

PLWHA get the types of treatments that they need in order to improve their overall

health. It is also necessary to provide substance abuse treatment for those PLWHA who

have become substance abusers in order to curtail the spread of HIV/AIDS. Furthermore,

it is postulated that individuals living in racially segregated urban communities

experience a higher amount of individual-level prejudice and discrimination, as well as a

greater need for HIV/AIDS care and mental health services, than those PLWHA who

reside in less segregated communities (Earnshaw et al., 2013). Thus, the need for mental

health services becomes even more important for them because of the numerous

problems associated with living in poor urban communities where these types of services

are lacking.

This begs the question: Why social capital? Social capital provides a means of

developing a positive relationship within healthcare settings that is necessary for

meaningful interactions between the providers and PLWHA in HIV/AIDS care. Social

capital comprises both provider engagement and the social relations between providers

and patients. Each patient enters the healthcare setting with a particular level of social

capital, no matter how weak it is. The ability to develop greater social capital can be

influenced by the HIV/AIDS care provider's willingness to engage a patient in his or her

HIV/AIDS care. A lack of collaboration in HIV/AIDS care between the care provider and

the patient may exert a negative influence on the patient's health. Therefore, the formation of a positive relationship between the HIV provider and the HIV patient will not only serve to improve health but will also help the patient work to acquire additional social capital.

This study indicates that greater provider engagement leads to improved HIV/AIDS care and health. Improvements in these two areas could significantly reduce HIV/AIDS stigma and give low-income PLWHA the opportunity to improve their SES. In turn, improving HIV/AIDS care and health among low-income PLWHA could significantly affect disengagement in HIV/AIDS care and the transmission of HIV/AIDS in urban communities. For instance, social interactions between HIV/AIDS providers and patients may initiate other conversations, which then may increase opportunities for the providers to refer patients to social networks that will give them the information they need to improve their SES. Finally, this study shows that the problems faced by low-income PLWHA are multifaceted. These issues range from the need for HIV providers to engage them in HIV/AIDS care to the need to build their SES and eradicate HIV/AIDS stigma, coupled with the need to improve the structural-level and individual-level factors mentioned throughout this study.

Policy Implications

This dissertation makes contributions to the research on social capital by providing some evidence for the relationship between the social capital proxies of provider engagement, SES, HIV/AIDS stigma and overall health, mental health and

HIV/AIDS care. These findings can serve as a useful resource for researchers and policy analysts to help them decide whether these proxies of social capital should be further studied among PLWHA. This study could not fill many of the gaps that exist in the social capital literature because of the lack of a uniform way to measure it and the multidimensional meaning of social capital. The reduction of high-HIV-risk behavior and HIV/AIDS among the urban population has proven difficult and requires interventions both at the structural and individual levels. One vital concept for researchers to consider is that social capital does provide multiple benefits to those who have it. Thus, it is paramount that practitioners and policy analysts become aware of the many problems that low-income PLWHA face, and then tailor policies and intervention strategies to alleviate the many issues that determine their health status. A failure to implement these policies and intervention strategies could further impact the HRQOL and negatively influence the social capital of low-income PLWHA. Researchers at the National AIDS Housing Coalition (NAHC; 2013) state, "The lack of stable housing is strongly linked to inadequate HIV health care, high viral load, poor health status, avoidable hospitalizations and emergency room visits, and early death" (p. 1). They found that stable housing plays a significant role in helping low-income PLWHA to remain in HIV/AIDS care. Additionally, permanent housing has been linked to positive health outcomes among PLWHA (NAHC, 2013).

As policy implications of this research are considered, the findings of this study should be considered in terms of current HIV/AIDS policy. Again, although this study did not measure structural and individual-level conditions, policy recommendations

should be considered in based on how these conditions work together to influence

provider engagement, SES, and HIV/AIDS stigma as well as their impact on overall

health, mental health, and HIV/AIDS care. By doing so, it is hoped that this study's

findings will positively influence policy that ensures the provision of mental health

services and HIV/AIDS care for PLWHA in urban communities.

      Since the early 1980s, the development of policy to eradicate HIV/AIDS from

society has been somewhat limited, although it has helped to slow the spread of the

disease in some communities. There have been numerous studies on SES and HIV/AIDS

stigma, and how they have influenced the spread of HIV/AIDS in urban communities

(Earnshaw et al., 2013; Earnshaw et al., 2015; Quinn & Chaudior, 2009). However, there

has been limited support from the federal government in addressing residential

segregation and providing quality housing for socially isolated PLWHA to assist them in

moving into neighborhoods that can help them achieve a better quality of life. Not much

has been done to help PLWHA improve their SES and to eradicate HIV/AIDS stigma

from the urban community. A similar claim can be made in respect to social capital

policy. In many regards, the federal government has not invested in urban communities in

ways that will improve overall health and mental health or influence provider

engagement in HIV/AIDS care. This study highlights the reality that residential

segregation, traumatic assaults, and medical mistrust are a driving force behind the

transmission of HIV/AIDS in urban communities. Further, this study also emphasizes

that prejudice and discrimination play a role in the continued spread of HIV/AIDS in

urban communities. This study also supports the idea that PLWHA must be encouraged

to remain in HIV/AIDS care. Additionally, they must be provided with the necessary

mental and overall support to improve their health.

In the last three decades, HIV/AIDS policy and funding have not shifted to

address the rising need in urban communities for low-income PLWHA. There is an

increased focus on provider-patient engagement in HIV/AIDS care from a theoretical

perspective; however, little has been said about how this type of engagement must be

adapted into policy. Hence, provider engagement and its implications for improved

HIV/AIDS care must be included in policy conversations at the federal, state, and

community levels. Further, provider engagement and its impact on improved HIV/AIDS

care must be included in the HIV policy discussion at the national, state, and local

government levels. Provider-patient engagement in HIV/AIDS care may not be

effectively carried out without developing policies tailored to educating providers

through ongoing training about the effectiveness of provider engagement in HIV/AIDS

care. The approach to provider engagement must be developed through sound theoretical

foundations and adopted as a strategy to improve HIV/AIDS care. Policy should maintain

that provider engagement must be highly personable and should be aimed at inspiring

patients to commit to their HIV/AIDS care. Thus, it is important that providers seek to

understand the patients in their care and to provide them with opportunities to

communicate with the providers about their physical, mental, and overall health. In this

way, providers can become highly sensitive to their patients' needs and adopt a caring

presence while engaged with patients in HIV/AIDS care. Providers must also give

patients access to information and resources that can help them improve their quality of

life, which will also help patients to become committed to their care and to stay in

HIV/AIDS care.

In urban communities, not much funding has been allocated to encourage provider

engagement in HIV/AIDS care (Coleman et al. 2007). In fact, researchers have

speculated that there are urban communities where providers do not treat mental health

problems, either because Medicaid does not pay for it or because they receive less

payment than what is spent to provide these services. Many mental healthcare providers

do not accept Medicaid, which is the insurance that most PLWHA below the federal

poverty level have, or they simply do not bring their practices to these communities. As

demonstrated in this study, mental healthcare is more involved than simply connecting an

individual to a provider or just putting someone in mental health treatment. Thus, policies

must integrate mental health treatment into the care and treatment of low-income

PLWHA.

Although this study does not measure residential segregation, it does clearly

demonstrate that the structural conditions of low-income PLWHA can negatively

influence their health. Previous research has shown that better housing quality can

positively improve access and retention in quality mental health and HIV/AIDS care

(Aidala et al., 2016). Therefore, by understanding how the reduction of residential

segregation in poor urban communities and the removal of PLWHA from neighborhoods

of concentrated poverty influence health, policymakers can advocate for improving the

structural-level conditions in which PLWHA reside. They can also advocate for improved

community policing to reduce traumatic assaults and for provider engagement in

HIV/AIDS care to reduce medical mistrust among low-income PLWHA. Some policy recommendations are summarized in the next two paragraphs.

The first recommendation is the inclusion of mental and overall healthcare in HIV/AIDS care. This study demonstrates that a history of substance abuse among low-income PLWHA has an adverse impact on mental and overall health and further diminishes their chances for improved HRQOL. Based on the studies reviewed in this research, a history of substance abuse is often influenced by the structural and individual-level factors that PLWHA face. In practice, the structural-level and community factors must be brought to the forefront of the discussion of HIV/AIDS-related policies and strategies to improve health. In many urban communities, there is a lack of conversation about the influence of structural-level and individual-level factors, leading the spread of HIV/AIDS to continue in these communities (Earnshaw et al., 2015). Policies are needed that will reduce residential segregation and improve mental health, overall health, and HIV/AIDS care, as well as reducing the discrimination and prejudice that PLWHA face.

The second recommendation is to consider how residential segregation in distressed urban communities is impacting the spread of HIV/AIDS. Thus, the provision of stable housing in urban communities must be an essential strategy for improving the HRQOL of low-income PLWHA. How racial residential segregation in urban communities is promoting the cycle of poverty in this communities, along with unemployment and lack of access to quality care—and how these factors fuel the transmission and spread of HIV/AIDS—must be considered. Most PLWHA in urban communities are poor and unemployed, and have little or no income, so there should be

an intensified effort to break this cycle of poverty and deter people from practicing risky sexual and drug-related behaviors. Policies should be instituted to make sure that people are healthy, and that they are receiving the necessary treatments and care for HIV/AIDS. The urban system should become more focused on the convertibility of the different types of social capital within cities and how people can benefit from the resources within and outside of their immediate communities. Only when funds are distributed equitably to promote quality education and reduce unemployment, stigma, access to quality healthcare, and other healthier lifestyles, will we see people becoming healthier. So based on what the study found or did not find, the main recommendations are increased provider engagement in HIV/AIDS care, mental health services and reduce residential segregation.

Study Limitations

This study has limitations that should be considered. First, the original research that was the source of the data was conducted in a federally qualified health center in Boston, Massachusetts; it is also self-reported data, which may be subject to bias. Also, the sample primarily represents PLWHA who have dropped out of HIV/AIDS care. Hence, individuals who have never received HIV/AIDS care and those who do not know their HIV status were excluded from this study. It is critical to understand the reasons why these individuals are experiencing difficulty receiving or staying in HIV/AIDS care. Also, since the HIV treatment cascade requires providers to offer patients antiretroviral therapy so the virus can reach a stage where it is undetectable, it would be useful to know

the viral loads of the subjects in the study. Third, concerning the sample size, only 101 patients were included in the study. A small sample size will increase the type I error for the study. With a larger sample size, a researcher can increase the confidence level, and the significance level will then increase as well (Tabachnick & Fidell, 2007).

Another limitation of this study is that 98% of the sample population had a household income of $29,999 or less. Challenges such as a household income below $10,000 can have adverse effects on overall health, mental health, and HIV/AIDS care. The findings of this study, however, are limited to low-income PLWHA, which could adversely impact their HRQOL. A similar study conducted in more urban communities where the rate of HIV/AIDS is rising, and where household income is above or at the national poverty rate of $23,000, might yield different results. Such limitations make this study's findings even more limited in scope. Since the sample represents individuals who are often dropping out of HIV/AIDS care, it is interesting to note that one factor that prevents PLWHA from actively engaging in care is low income.

Lastly, there are methodological limits that exist because the original study was longitudinal. The repeated usage of the variables for the study participants in the different interviews could lead to an overestimation of the real effect of the factor that the patient faces. This constitutes call bias, or recall bias, and it will affect the study's internal validity in other studies. Another problem is that a longitudinal study could have been subjected to cohort bias during the two-year study period. Also, since the study used secondary data, the scope of analysis for this study was limited to variables included in the original data set. The Positive Connection data set provided information about

subjects' need for HIV services, barriers to health service use, satisfaction with services, provider engagement, and formal and informal care received from the providers. However, social capital—mainly individual and structurally based social capital—was measured with limited information, since those questions mainly focused on the interpersonal relationships between providers and patients, SES, and HIV-related stigma.

<div align="center">Future Research</div>

As the field of social capital is still evolving, and researchers cannot agree on what constitutes social capital, some areas of the field require further study. Thus far, we have barely begun to acquire knowledge about the impact of social capital on the HRQOL of the urban population living with HIV/AIDS. Future studies related to the population of underserved HIV/AIDS-infected individuals are needed to examine the relationship between SES and overall health, mental health, and HIV/AIDS care. It goes without saying that poverty is responsible for much of the depression, anxiety, and mental disorders that PLWHA experience on a daily basis. While there is some research in the literature on the relationship between SES and health, even among PLWHA, we know almost nothing about the impact of low SES on overall health, mental health, and HIV/AIDS care among low-income PLWHA.

Another potentially significant area of future research is the relationship between HIV/AIDS stigma and overall health, mental health, and HIV/AIDS care. Future studies should examine topics such as whether people with stigmatized identities such as low-income underserved HIV/AIDS-infected individuals respond less to HIV/AIDS care,

antidepressants, and mental health treatments than those living in rural areas. Furthermore, future studies should investigate whether the social support provided by an HIV/AIDS clinic is more helpful to PLWHA than that provided to PLWHA in a more generalized healthcare setting. Further studies should also explore the interactive effects of stigma interventions and how to encourage PLWHA to stay in HIV/AIDS care.

Finally, studies are needed that will systematically examine the impact of social capital and HRQOL among underrepresented urban populations. Such studies can help to develop programs in venues such as religious settings to promote early testing for HIV/AIDS and to detect HIV early in its development. Churches and other religious settings may sponsor screenings for HIV in urban communities that are heavily impacted by HIV/AIDS, for instance. Additionally, where such programs are not in place, research is needed to examine churches' interest and willingness to develop such programs. Also, in future studies, other social resources or factors need to be measured, such as how social networks, social cohesion, and neighborhood factors impact the HRQOL of PLWHA. In this way, interventions guided by these studies will be more tailored to the needs of PLWHA. Meanwhile, the conceptualization and methodological issues of the concept of social capital have made it difficult to measure different forms of social capital. Hence, social capital research is still too disconnected to lend a significant number of policy recommendations.

Provider engagement is among the newest areas of HIV/AIDS study to explain why PLWHA are dropping out of HIV/AIDS care. This study finds that bisexual men are less likely to stay in HIV/AIDS care than homosexual patients. However, among these

individuals, research is needed that targets their risk behaviors, such as substance abuse, IV drug use, and other behaviors that put underserved HIV/AIDS-infected individuals at risk of infecting other people with HIV. Additionally, HIV/AIDS is increasing among women who have sex with bisexual men (Parsons et al., 2003). Further research is needed to examine how provider engagement can help reduce risky sexual practice among women, bisexuals, and same-sex partners to keep them from passing the virus to others. This research is also needed in urban areas where there is an HIV/AIDS pandemic. In recent literature, positive provider experiences are often highlighted as a means of reducing HIV risk as well as reducing HIV prevalence in a community (O'Daniel, 2012; Paz-Bailey et al., 2013). Again, further research is needed on how provider communities can best support PLWHA through long-term monitoring or other support services that will help them cope with HIV/AIDS. There is some research indicating that PLWHA are receptive to HIV prevention and intervention, and provider engagement is a necessary step in the right direction (Koester et al., 2012; Kurtz, Buttram, Surratt, & Stall, 2012; O'Daniel, 2012).

In conclusion, the options for future research are plentiful in the aforementioned areas. Developing a consistent universal definition of social capital will strengthen future HIV/AIDS research. Additionally, exploring individual, community, and neighborhood conditions through multilevel modeling with hierarchical linear modeling (HLM) will aid in examining the individual and structural manifestation of HIV/AIDS on the lives of PLWHA, especially in rural and urban communities. Additionally, exploring the conditions in which PLWHA reside is expected to help enhance the level of provider

engagement that is needed to help them stay in care, as well as to adhere to ART. Also, research should focus more on studying HIV models and interventions that address SES, HIV/AIDS stigma, provider engagement, overall health, mental health, and HIV/AIDS care needs for low-income PLWHA. If successful, these models can be replicated for other chronic diseases or countries where HIV/AIDS is a pandemic.

Contributions to Future Research

It is important to explore the contributions that this study makes to the literature. First, this study adds to the understanding that there are positive and negative forms of social capital that influence the degree to which provider engagement, SES, and HIV/AIDS stigma impact the overall and mental health as well as HIV/AIDS care of underserved PLWHA. This study emphasizes that PLWHA must be supplied with information that will help them find jobs that will improve their earning potential and thus give them the ability to buy or get quality insurance from their employers. They must also be reintroduced to learning, and they should be given the necessary information to become engaged in their healthcare. HIV/AIDS stigma is an interchangeable factor; if people who are impacted by it are reintroduced to the notion of capital, they will not be as strongly influenced by the negative consequences that stigma has on PLWHA. To my knowledge, no prior studies have combined the variables of provider engagement, SES, and HIV/AIDS stigma to explore how they impact the overall health, mental health, and HIV/AIDS care of low-income PLWHA. This study has determined that engagement between HIV/AIDS providers and PLWHA is statistically significant in HIV/AIDS care.

It has also determined that homosexuals are more likely to seek and stay in HIV/AIDS

care than bisexuals. This finding is significant because it suggests that one of the ways to

reduce HIV/AIDS stigma and improve HRQOL may be to target bisexual individuals for

HIV testing, care, and retention in HIV/AIDS care. This study has also determined that

engaging people in HIV/AIDS care is a step in the right direction in eradicating

HIV/AIDS from society.

Finally, this study enhances the understanding that PLWHA whose HIV/AIDS

providers engage them in HIV/AIDS care are more likely to remain in care. This

research also suggests that measures of both HRQOL and social capital need to be

sensitive to the cultural, racial, sexual and identity profiles of the population being

studied. There are multi-practice clinics that could deal with substance abuse, overall

health care, mental health care and HIV/AIDS care, like the HIV/AIDS clinics at the

Fenway Health center and the Montefiore, in Bronx, New York. A model clinic in this

respect would provide ongoing outpatient care for overall health, mental health and

HIV/AIDS care, while at the same time provide the patients with the information they

need to improve their HRQOL. Provider engagement in these settings will only serve to

help HIV/AIDS patient to live a long and healthy life.

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APPENDIX

Appendix Table 1: *Cronbach's Alpha Reliability for Overall Health, Mental-Health Status, HIV/AIDS care, Provider Engagement, and HIV/AIDS stigma*

Appendix A

Reliability of Measures

The reliability scale of variables was assessed by calculating Cronbach's alpha, internal consistency, and the homogeneity of the items. The total scale demonstrated strong internal consistency (Cronbach's alpha: 0.73 and above for the group of variables measured within the original datasets). In this study, a number of composite scales were selected so that we could obtain reliability scores. See Table 2 below for the results that were obtained for the Positive Connections study.

Table 1

Cronbach's Alpha Reliability for Overall Health, Mental-Health Status, HIV/AIDS care, Provider Engagement, and HIV/AIDS stigma

Composite Scale	α	No. of items
Dependent Variable		
Overall Health	.80	6
Mental Health Status	.88	9
HIV/AIDS care	.75	4
Independent Variable		
Provider Engagement	.92	13
HIV/AIDS Stigma	.73	11