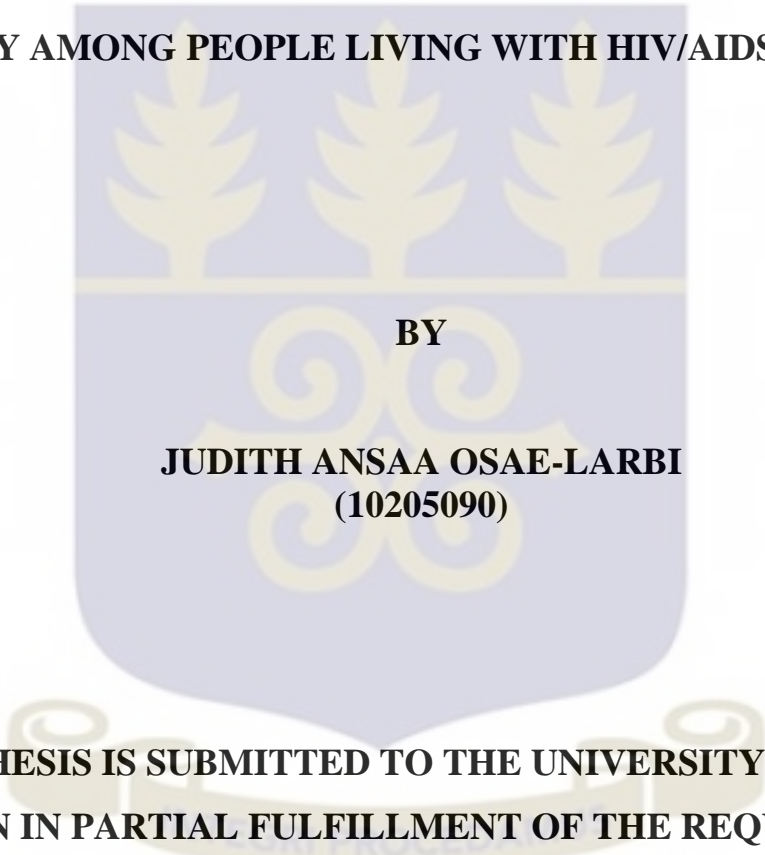


**UNIVERSITY OF GHANA
COLLEGE OF HUMANITIES
SCHOOL OF SOCIAL SCIENCES**

**EXPERIENCES OF FORGIVENESS, PSYCHOLOGICAL HEALTH-
RELATED QUALITY OF LIFE AND IMMUNOLOGICAL
MARKERS:
A STUDY AMONG PEOPLE LIVING WITH HIV/AIDS IN GHANA.**

The background of the page features a large, light blue watermark of the University of Ghana crest. The crest is a shield-shaped emblem with a yellow border. The top section contains three stylized yellow leaves. The bottom section contains a yellow scrollwork design. The text 'BY JUDITH ANSAA OSAE-LARBI (10205090)' is centered over the crest.

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**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA,
LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT
FOR THE AWARD OF PHD PSYCHOLOGY DEGREE**

JULY, 2018

DECLARATION

Having gone through the required procedures, I hereby present this thesis as an original piece of work I have personally undertaken in the Psychology Department, University of Ghana, and one which has never been presented in part or in full to any university or institution for the award of any degree. All references made to others have been duly acknowledged.

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ABSTRACT

The role of forgiveness of perceived offenses in health has gained empirical attention for about three decades now in various areas including the area of Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (HIV/AIDS). This study aimed at investigating the relationship between forgiveness of offenses directly related to one's HIV/AIDS-positive status and two health outcomes – psychological health-related quality of life (PHRQOL) and immune functioning, measured by change in cluster of differentiation 4 (CD4) cells. Employing an explanatory mixed method design, cross-sectional survey data was first collected on a total of 325 people living with HIV/AIDS (PLWHA) receiving antiretroviral therapy (ART) across HIV outpatient clinics at the Korle-Bu, Komfo Anokye, and Tamale Teaching Hospitals in Ghana. Participants completed validated forgiveness measures across three contexts – intrapersonal, interpersonal, and spiritual. Multivariate regression analyses revealed that forgiveness, particularly positive attitudes toward God and decisional forgiveness of self, uniquely predicted PHRQOL and change in CD4 cell count respectively in adjusted analyses. However, health behaviours did not moderate the forgiveness-health relationship in all contexts. To expound on the survey findings, a follow-up phenomenological study on the lived experiences of forgiveness of HIV-related offenses among 15 of the survey participants using a semi-structured interview schedule was conducted. Using interpretative phenomenological analysis, six themes emerged indicating that forgiveness was experienced as internal and external actions confirmed by the experience of positive psychological changes within the offended. These changes held meaning for participants' psychological health, their physical and socioeconomic wellbeing, as well as for adhering to ART, engaging in protective sexual behaviours, and living a new, focused, and purposeful life. Overall, the findings complementarily lend support to the Stress and Coping Model of Forgiveness, the Biopsychosocial Contexts of Framework of Forgiveness in HIV/AIDS, and the Afrocultural Social Ethos Framework. Namely, among PLWHA in Ghana, forgiveness as an adaptive coping strategy for perceived HIV-related offenses may hold benefits for psychological and immune health possibly through the stress response system and also positive health behaviours, and that among other factors, values for communalism and spirituality may facilitate forgiveness experiences via social support and religious beliefs and practices. These findings hold important implications for theory building, clinical practice, policy development, and for public health and health psychology practice. There is the need for health psychologists through collaborations with clinicians, public health professionals, and policy makers to develop and implement culturally-relevant forgiveness assessments and interventions suitable for use in clinical settings. These, together with existing ART-adherence counselling protocols, may support PLWHA to appropriately cope with any perceived offenses and emotional pain, and to feel motivated to engage in adherent and protective behaviours, both of which behaviours are necessary for curbing secondary transmission of HIV/AIDS.

DEDICATION

To Seth Osae-Larbi and Mary Osae-Larbi; I couldn't have asked for better parents.

I am indebted to you. Remain blessed in Christ.

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To God Most High, through Christ Jesus, be all the glory for granting me life, health, and a solid system of support from my family – Dad, Mum, Lydia, Eben, Twum, Charity, Fabby, and sweetest Chuchu – May God smile on you all for your love, prayers, and unflinching support!

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CHAPTER ONE

INTRODUCTION

1.0 Background

Forgiveness, throughout history, has remained one of the most important healing forces of emotional pain and buffers against mental breakdown. It is a coping strategy for dealing with offenses that involves transformations in cognitions, emotions, and behaviours of the offended person (Toussaint & Worthington, 2017). While it is typically considered a religious dogma/practice, forgiveness has been a focus of scientific research for over three decades now across various fields of psychology, including health psychology (Worthington, 2005). At present, the extant data linking forgiveness to health points out an association between this pro-social behaviour and different aspects of health and wellbeing (e.g., Akhtar & Barlow, 2016; Woodyatt, Worthington, Wenzel, & Griffin, 2017; Toussaint, Worthington, & Williams, 2015). This critical role of forgiveness in health may be attributed to its ability not only to neutralize negative responses (e.g., bitterness) to offenses, but also, to stimulate a sense of hope and other positive emotions and thoughts capable of driving healthy behaviours (Toussaint & Worthington, 2017; Woodyatt et al., 2017). Unfortunately, among the significant population of people living with HIV and AIDS (PLWHA), particularly in the sub-Saharan region, the health benefits of forgiveness have been under-researched. It is against this background that the present study sought to investigate the association between forgiveness and two health outcomes – psychological health-related quality of life (PHRQOL) and change in cluster of differentiation-4 (CD4) cell count – in people living with HIV/AIDS in Ghana.

Forgiveness can be defined as a freely made choice to forgo negative cognitive, emotional, and behavioural responses toward a person who caused a hurt, and work toward developing positive cognitive, emotional, and behavioural responses (Enright & Fitzgibbon, 2000). This definition points to forgiveness as a process that begins with a

reduction in unforgiveness, which is the prolonged negative psychological responses (thoughts, emotions, and behavioural motivations) that an individual may experience in relation to a perceived offense (Harris & Thoresen, 2005). Examples of these negative responses include anger, guilt, regret, isolation, bitterness, and motivations to revenge against or avoid the offender (Toussaint & Worthington, 2017; Toussaint, Owen, & Cheadle, 2012). The latter part of the process entails the eventual experience of positive psychological responses in place of the negative unforgiving ones. These positive responses may include empathy, benevolence, compassion, hope, and love (Toussaint & Worthington, 2017; Toussaint et al., 2012). Worthington, Witvliet, Pietrini, and Miller (2007) in emphasizing the role of emotions in the forgiveness process, distinguish between these two main stages as decisional forgiveness and emotional forgiveness. They define decisional forgiveness as change in a person's behavioural intentions toward a transgressor (e.g., intending not to take revenge against the offender). It is reported that decisional forgiveness may lead to emotional forgiveness, however, it is possible to grant decisional forgiveness while still experiencing negative emotions toward the offender (Lichtenfeld, Buechner, Maier, Fernández-Capo, 2015). Thus, Worthington and colleagues (2007) define emotional forgiveness as replacement of negative unforgiving emotions with positive other-oriented emotions.

Indeed, forgiveness is duly acknowledged by researchers in the area as but one of many coping mechanisms for reducing unforgiveness (Toussaint & Worthington, 2017). However, evidence supports its considerable health benefits compared to other coping strategies (Witvliet, Van Tongeren, & Luna, 2015). The evidence for the effects of forgiveness on health in general, has been found across a range of medical, psychological, and other outcomes. These include improvement in depression, post-traumatic stress disorders, perceived life stress, cardiovascular disorders, and immune functioning (e.g., Akhtar & Barlow, 2016; Toussaint et al., 2012; Toussaint et al., 2015; Woodyatt et al.,

2017). In HIV/AIDS, Akhtar and Barlow (2016) in a meta-analysis, found that forgiveness improved mental health for people living with the infection.

Current State of the HIV/AIDS Epidemic and Treatment

The Human Immunodeficiency Virus (HIV) and its consequent end stage disease – Acquired Immune Deficiency Syndrome (AIDS) – have plagued societies for more than three decades now. At present, it constitutes one of the most significant global health challenges, with about 6000 new HIV infections being recorded around the world each day (Kharsany & Karim, 2016; World Health Organization (WHO), 2017a). Of the estimated 36.7 million people living with the condition worldwide, the sub-Saharan African region disproportionately bears about 70% of this burden (Kharsany & Karim, 2016; WHO, 2017a). In Ghana, statistics by the Joint United Nations Programme for HIV/AIDS (UNAIDS, 2016) indicates that as of 2016, an average of 290,000 people were living with HIV/AIDS. More than 90% of this number were adults aged 15 years and over, with women constituting a larger proportion (62%) (UNAIDS, 2016). The 2016 HIV Sentinel Survey Report further revealed a prevalence rate of 2.4% in the same year (BusinessGhana, 2017; Ghana AIDS Commission (GAC), 2016). This is an interestingly high rate, considering the country's relatively small population of approximately 28.3 million (Ghana Statistical Service, 2016). And the fact that this figure (2.4%) “represents a second consecutive upsurge” from the rates recorded in 2014 (1.6%) and 2015 (1.8%) respectively (BusinessGhana, 2017, p.1).

Over the years, the tremendous advancements in antiretroviral therapy (ART) has seen HIV/AIDS progress from its initial fatal state to its current chronic illness state (Colvin, 2011; UNAIDS, 2015a). Presently, reports indicate significant decreases in morbidity and mortality coupled with a global increase in lifespan of people living with HIV/AIDS (PLWHA) (Colvin, 2011; Nakagawa, May, & Phillips, 2013; WHO, 2017b).

Indeed, among PLWHA, who initiate ART before immune cell count falls below 350 cells/ μ L, it is reported that life-expectancy may be comparable to that of HIV-negative individuals (Antiretroviral Therapy Cohort Collaboration (ATCC), 2017; Cairns, 2014; Nakagawa et al., 2013; Ripa, Chiappetta, & Tambussi, 2017).

Challenges in HIV/AIDS, Unforgiveness, and Forgiveness

Despite the exceptional advancements in treatment, PLWHA continue to face many challenges that can affect health. For instance, reports indicate that in spite of the current manageability of HIV/AIDS, both physiological and psychosocial outcomes continue to be lower than expected (Basavaraj, 2010; Liping, Peng, Haijiang, Lahong, & Fan, 2015; McMahon, Elliott, Bertagnolio, Kubiak, & Jordan, 2013; Nakanjako et al., 2016). Also, compared to the general population, quality of life (QOL) is reportedly lower for PLWHA (Basavaraj, 2010; Liping et al., 2015). In response to the persisting suboptimal outcomes, behavioural science researchers in the area have sought to identify factors capable of influencing health and being modified by interventions.

One factor that has been identified for years now, but which has received relatively little attention is unforgiveness of offenses directly related to a positive HIV/AIDS status. Although currently a manageable chronic illness, HIV/AIDS continues to be associated with various difficulties which have the potential to arouse unforgiveness in people with the illness (Temoshok & Wald, 2005). First of all, reports indicate that being infected with HIV continues to arouse a wide range of emotions. These include shock, panic, anger, despair, sense of helplessness or vulnerability, fear and numbness (Fabianova, 2011; Silva et al., 2015). Even though some of these responses may be adaptive at the initial stages following a positive diagnosis, if prolonged, they may lead to unforgiveness and its associated negative health consequences (Temoshok & Wald, 2005; Wald & Temoshok, 2004a).

Secondly, HIV/AIDS remains an infectious disease transmissible by two of the most intrinsic human desires – sexuality and procreation (Temoshok & Wald, 2005). Therefore, infection with the HIV virus continues to arouse life-changing questions that cut across many spheres of life. These include questions such as “how do I get married and have children without infecting my spouse and/or children after living a risky lifestyle?”; “has my partner been unfaithful and/or intentionally non-disclosing and un-protective?”; “how do I come to terms with infecting my child even if unintentionally?” (Temoshok & Chandra, 2000). Such sensitive and life-changing situations may cause PLWHA to experience the negative cognitions, emotions, and behaviours characteristic of unforgiveness towards those they may perceive to be responsible for their HIV-positive status (Temoshok & Chandra, 2000; Temoshok & Wald, 2005). These may include themselves (e.g., for engaging in risky sexual behaviours), other persons (e.g., an unfaithful spouse) or an institution (e.g., the healthcare institution over contaminated blood transfusion or delays in providing timely prophylaxis following HIV risk exposure).

Also, the long-standing challenge of HIV-related stigma, discrimination, labelling, out-casting and other negative attitudes continues to be reported among PLWHA (Catona, Greene, Magsamen-Conrad, & Carpenter, 2016). Such negative attitudes may awaken a threat to self-esteem as well as a threat to the sense of inclusion of PLWHA (Temoshok & Wald, 2005). If directly experienced as a result of one’s positive status, they may likewise arouse bitterness and other negative attitudes characteristic of unforgiveness towards perpetrators of such attitudes (Temoshok & Wald, 2005).

According to Temoshok and Chandra (2000), PLWHA who believe that God allowed them to acquire HIV may also harbour anger towards God. These may include those who acquired the infection through mother-to-child transmission, sexual abuse, or other causes that may be perceived as no direct fault of theirs. It may also include those who believe that God may be punishing them for some reason. All these challenges may

be considered as sources of HIV-related offenses that may arouse unforgiveness (Temoshok & Chandra, 2000; Temoshok & Wald, 2005).

It has been reported that unforgiveness of offenses directly related to one's HIV-positive status may negatively impact on critical health outcomes (Harris & Thoresen, 2005; Temoshok & Chandra, 2000; Temoshok & Wald, 2005; Wald & Temoshok, 2004a). On the other hand, forgiveness of HIV-related offenses has been proposed as a coping strategy that may improve both physiological and psychological health in this important population. While very few forgiveness studies have been carried out in the particular context of HIV and AIDS. The extant literature in the area suggests that forgiveness is associated with positive HIV/AIDS treatment outcomes including improved immune functioning and QOL (e.g., Gates, 2012; Owen, Hayward, & Toussaint, 2011; Wald & Temoshok, 2004a). Studies have also found associations between forgiveness and positive health-promoting behaviours including medication adherence (Wald & Temoshok, 2004b).

Psychoneuroimmunology and Forgiveness in HIV

Theoreticians and researchers have attempted to explain the mechanisms by which forgiveness, and for that matter psychosocial factors, may play a role in health (e.g., Temoshok & Wald, 2005; Worthington et al., 2007). One such explanation is the concept of psychoneuroimmunology, which concerns how mind-body interactions influence health. It is the study of the association between psychological processes (cognitions, emotions, and behaviours), neural and endocrine function, and immune processes (Daruna, 2012).

In HIV/AIDS, Temoshok and Wald (2005) have theorized that the role of forgiveness in health may play out via two main pathways. The first is a direct psychoneuroimmunological consequence of forgiveness. While this mechanism remains to

be fully understood, they conceptualize unforgiveness as a stressful response, and hence the opposite – forgiveness – of which may be beneficial to health (Temoshok & Wald, 2005). Specifically, they theorize that the positive and stress-free psychological responses of forgiveness directly reduce physiological activation of the stress response system, reducing the release of cortisol which is linked to many illnesses (Temoshok & Wald, 2005). However, unforgiveness is theorized to impact health negatively “through the pathways of chronic sympathetic nervous system hyperarousal and increased allostatic load” (Harris & Thoresen, 2005, p. 323; Saplosky, 2005). According to Woodyatt and colleagues (2017), forgiveness coping eases the stressful burden of unforgiveness, restoring a state of physiological and mental equilibrium.

The second hypothesized pathway linking forgiveness to health is through health behaviour motivation (Temoshok & Wald, 2005; Woodyatt et al., 2017). It has been suggested that experiencing prolonged negative responses such as cycles of rumination, resentment, bitterness, guilt, and/or blame, may dampen an individual’s motivation to effectively engage with important health demands (Woodyatt et al., 2017). Studies have also found that forgiveness promotes health outcomes via motivation to engage with positive behaviours including seeking and accepting of social support (Green, DeCourville, & Sadava, 2012; Webb, Hirsch, Visser, & Brewer, 2013; Woodyatt et al., 2017). Others have found associations with medication adherence and protective sexual behaviours (Wald & Temoshok, 2004a, 2004b; Webb et al., 2013).

In effect, the psychology of forgiveness lies in the capacity of the latter to manipulate physiological processes via transformation in fundamental psychological processes (cognitions, emotions, behavioural motivations, and actual behaviours) (Toussaint et al., 2015; Woodyatt et al., 2017; Worthington, 2005). In the particular case of HIV and AIDS, the relevance of forgiveness lies in the health-related transformations that may be realized across intrapersonal, interpersonal, and spiritual contexts of the

experience of unforgiveness as related to HIV-specific offenses (Temoshok & Wald, 2005).

1.1 Problem Statement

HIV/AIDS continues to be associated with challenging experiences that are capable of arousing negative and painful thoughts, emotions, and behavioural motivations toward self, others, or God, despite the remarkable advancements in treatment over the years. It is possible that these stressful unforgiving responses to perceived HIV-related offenses may have a negative influence not only on patient reported outcomes, but also, on immunological markers such as CD4 cell count (Harris & Thoresen, 2005; Temoshok & Wald, 2005). This is because various forms of psychological stress have long been associated with reduced response to antiretroviral drugs and lower recovery of CD4 cells via increased sympathetic nervous system activity that may trigger immune responses (Amanor-Boadu et al., 2016; Cancer Network, 2002; Rehm & Konkle-Parker, 2017). Thus, it is implied that forgiveness coping with perceived HIV-related offenses could hold important health benefits for the millions of PLWHA, particularly in the sub-region. In that, the stress-relieving potential of forgiveness can arouse the parasympathetic nervous system in counteraction to the effects of the sympathetic nervous system, triggering positive immune responses.

Unfortunately, with few exception, studies are lacking on the influence of forgiveness on health among PLWHA. In non-Western societies, to my knowledge, no study has yet been identified to the best of the researcher's knowledge, that has considered this potential relationship. The available studies in the area have been carried out in typically Western and individualistic settings such as the United States (Ironson et al., 2011; Owen et al., 2011; Wald & Temoshok, 2014b). Thus, at present, knowledge of the

potential influence of forgiveness as related to physiological and psychosocial health in PLWHA in Ghana and the wider sub-region is lacking.

Of the existing forgiveness-HIV/AIDS studies, greater attention has been paid to forgiveness as a global construct, with very little focus on the relative impact of its major processes (decisional forgiveness and emotional forgiveness) on health. This may reflect a general caveat in forgiveness research, where theories are largely incorporative of these two processes yet, where little empirical evidence regarding their differences is available (Lichtenfeld et al., 2015). While it has been reported that emotional forgiveness may have more health benefits than decisional forgiveness, these reports are again, largely based on studies done in the typical individualistic settings of the West (e.g., Toussaint & Worthington, 2017; Worthington et al., 2007; Worthington & Scherer, 2004). In generally collectivistic African societies, people may tend to prioritize interpersonal/social harmony and may pay less attention to emotions (Dzokoto, 2010; Markus & Kitayama, 1991). Thus, it is likely that people may be quick to decide to forgive to maintain this harmony (Hook, Worthington, Utsey, 2009; Hook, Worthington, Utsey, Davis, & Burnette, 2012). There is a need to examine how the likely greater decisions to forgive may influence the health of PLWHA in these societies.

Furthermore, very little is known about the relationship between forgiveness and health across different contexts within which HIV-related offenses may be experienced. Generally, forgiveness of offenses may occur in three main contexts – intrapersonal, interpersonal, and spiritual – with various sub-contexts (e.g., feeling forgiven by God or others). However, studies in this area have tended to examine more of the interpersonal context of forgiveness, leaving a wide gap in knowledge of the contribution of other potentially important contexts (Webb, Bumgarner, Conway-Williams, Dangel, & Hall, 2017). These include the self or intrapersonal and the spiritual contexts.

Finally, it is possible that cultural differences in psychological experiences (thoughts, emotions, and behaviours) may influence whether and how PLWHA may experience forgiveness of offenses related to their HIV-positive status. This may in turn affect health outcomes differently. However, at present, studies exploring forgiveness experiences of PLWHA using qualitative methods are lacking.

The possible consequence of this primary problem – gross lack of forgiveness-health studies among PLWHA, particularly in the sub-Saharan African region – is that HIV-related offenses and unforgiveness may go unassessed and may also be masked by other psychosocial problems. Therefore, understanding the association between forgiveness and health in a generally collectivistic context is necessary to inform development of culturally-relevant and -sensitive forgiveness interventions.

1.2 Aim of the Study

The aim of this study therefore, was to determine as well as understand the association between forgiveness and two health outcomes – psychological health-related quality of life (PHRQOL) and change in CD4-cell count – among PLWHA in Ghana's typical collectivistic societies. An explanatory sequential mixed method design beginning with a survey to ascertain the forgiveness-health relationship and followed by an in-depth phenomenological study to provide contextual explanations to any identified relationships, was employed to achieve this overall aim. Phenomenology is a type of qualitative research approach concerned with exploring in detail, participants' personal (life-world) perceptions, experiences, or accounts of a phenomenon (Eatough & Smith, 2008; Smith & Osborn, 2004). The survey and interview data gathered were respectively subjected to statistical and qualitative analyses including multivariate regression analysis and interpretative phenomenological analysis (Eatough & Smith, 2008; Smith & Osborn, 2004). Specifically, the objectives of the present study were to:

1. Investigate which stage/type of forgiveness is more engaged in among PLWHA in Ghana.
2. Investigate the predictors of the types of intrapersonal, interpersonal, and spiritual forgiveness on PHRQOL and change in CD4-cell count.
3. Examine the moderating effects of ART adherence, multiple sexual partner behaviour, and condom use behaviour on the association between forgiveness and the outcome variables – PHRQOL and change in CD4 cell count.
4. Determine the predictive strength of the types/stages of the three forgiveness contexts on PHRQOL and change in CD4-cell count, controlling for key socio-demographic, clinical, and psychosocial factors.
5. Explore the lived experiences of forgiveness and the meaning these experiences hold for the health of PLWHA in Ghana in order to gain in-depth and cultural contextual insights into any directions of associations between forgiveness and the two outcome variables.

1.3 Significance of the Study

In seeking to understand whether and how forgiveness relates to PHRQOL and immune markers among PLWHA in typical collectivistic societies, the present study would make important contributions to knowledge of the effects of forgiveness on health as well as contribute to the existing body of literature linking stress to immunological responses.

The clinical significance of the present study lies in its potential to inform development of culturally-sensitive and -relevant forgiveness interventions, which may help to promote both psychological and immunological wellbeing. Such interventions could augment standard adherence counselling and other psychosocial support in clinical settings for PLWHA and similar illnesses associated with experiences which are capable

of arousing unforgiveness. These include sickle cell, cancer, diabetes, cardiovascular conditions.

The socioeconomic benefit of the present study is that it may inform pioneering studies on forgiveness in the area of occupational health. Findings of such studies could improve the health and wellbeing of organizational members and promote organizational outcomes.

For individuals living with HIV in largely collectivistic societies, an answer to the gap in knowledge of which stage of forgiveness – decisional or emotional – may be a better predictor of health outcomes, may help to tailor support at the most needed stages of the HIV care pathway.

Also, findings of this study may help to address a crucial public health issue – the secondary transmission of HIV by some infected persons, who may engage in health risk behaviours that could result from negative emotions and thoughts. Reports suggest a link between forgiveness of HIV-positive-related offenses and the adoption of measures to protect others from acquiring the virus (Wald & Temoshok, 2004b). Thus, in seeking to curb secondary transmission of HIV, this study may inform public health agents and policy makers of the need for integrating forgiveness assessments, interventions, and evaluation in HIV care protocols.

Finally, the present study may inform future longitudinal and controlled studies that could help to ascertain whether forgiveness, compared to other forms of coping, may indeed cause increases in important health outcomes among PLWHA in this region.

1.4 Summary and Organization of the Thesis

The HIV/AIDS infection constitutes one of the most devastating illnesses of all times. Being a highly stigmatized, long-term, and infectious illness bordering on sexuality and procreation, infection with HIV/AIDS is potentially challenging in various ways.

Thus, it is possible that PLWHA may perceive offenses directly related to their HIV-positive status. The experience of unforgiveness (prolonged negative thoughts, emotions, and behavioural motivations) in response to perceived offenses has been found to hold negative implications for health. However, forgiveness as a coping mechanism, has also been found to hold promise for mitigating the stressful burden of unforgiveness. Therefore, this six-chapter two-part study, aims to investigate the influence of forgiveness of HIV-specific offenses on the outcomes of PHRQOL and immune functioning (change in CD4-cell count) among PLWHA in Ghana.

Beginning with an overview of forgiveness, Chapter one (Introduction) outlines the background to the study, problem statement, and the objectives and significance of the study. Chapter two presents a review of theoretical frameworks and an empirical review of studies in HIV/AIDS, including a systematic review of forgiveness studies in HIV. It concludes by highlighting the gaps in the extant forgiveness-HIV literature and presenting a list of operational definition of terms used in the study. Chapter three – General Methodology – follows with highlights on the mixed-method research approach employed, including the philosophical foundations and rationale for which this approach was adopted. The fourth chapter focuses on Study 1; a cross sectional-survey. It includes the methodology, results, summary, and brief discussion of the findings. Chapter five details the methodology, results, summary, and brief discussion of findings from Study 2 – the qualitative phase of the study. Chapter six consolidates and discusses findings from the two studies, emphasizing particularly on themes from the qualitative study that provide further explanations to the Study 1 findings. In addition, Chapter six addresses the limitations of the study, and draws out the theoretical, clinical, public health, and health psychology implications of the findings, as well as the scientific contributions of the study. Finally, the chapter concludes with recommendations for future research in the area of forgiveness and health of PLWHA.

CHAPTER TWO

THEORETICAL FRAMEWORK AND L ITERATURE REVIEW

2.0 Introduction

The experience of offenses or injustices is almost an inevitable life phenomenon. Depending on factors such as the perceived severity of the offense and its potential or actual consequence, the offended may shrug it off or may experience hurtful emotions in response to the offense. Harboring painful emotions such as resentment, bitterness, guilt, anger, and fear has been widely reported to be stressful, to the extent that lay reports emphasize that letting go of these emotions makes one feel relieved or lighter (Toussaint & Worthington, 2017). Indeed, experts in forgiveness and health studies also suggest that stress-relief is possibly the primary mechanism underlying the association between these two factors. This chapter discusses relevant theoretical frameworks that may help to explain the forgiveness–health link. Specifically, the Stress and Coping Model of forgiveness (Lavelock et al., 2015; Toussaint & Worthington, 2017; Worthington & Scherer, 2004), the Biopsychosocial Framework of Contexts of Forgiveness in HIV/AIDS (Temoshok & Chandra, 2000; Temoshok & Wald, 2005), and the Afrocultural Social Ethos Framework (Jagers, Smith, Mock & Dill, 1997). How these frameworks together support the present study of forgiveness of HIV-related offenses and health is critically reviewed.

The theoretical review is followed by a critical review of the empirical literature on important biopsychosocial factors in HIV/AIDS outcomes. This is followed by a systematic review of forgiveness studies to identify what is known so far in the specific situation of offenses perceived by PLWHA. Implications of the review findings for the present study including the study’s research questions are presented. The chapter closes with operational definitions of terms commonly used in this study.

2.1 Theoretical Frameworks

2.1.1 The Stress and Coping Model of Forgiveness

The Stress and Coping Model of Forgiveness (SCMF) draws from the principles underlying Lazarus and Folkman's (1984) transactional model of stress and coping. According to the SCMF, when an individual perceives a situation as offensive or hurtful, he/she may experience an injustice gap (Lavelock et al., 2015; Strelan & Covic, 2006; Toussaint & Worthington, 2017; Worthington, 2006; Worthington & Scherer, 2004). The injustice gap refers to the difference between the way the victim would prefer a transgression to be fully resolved and the way they perceive the situation to be currently (Exline, Worthington, Hill, & McCullough, 2003). It is directly proportional to unforgiveness such that the wider the injustice gap, the more unforgiveness a victim experiences in response to a perceived offense or injustice (Worthington & Scherer, 2004). Factors such as not accepting responsibility, a non-remorseful attitude, lack of sincere apology, or ongoing offensive behaviours from the perpetrator may widen the injustice gap, further increasing unforgiveness (Davis, Yang, DeBlaere, McElroy, & Van Tongeren, 2016).

According to Exline and colleagues (2003), unforgiveness is a complex combination of delayed negative emotions (e.g., resentment, hatred, bitterness, disappointment, hostility, anger, and fear) toward a person who has transgressed personal boundaries. It is further conceptualized as a stress reaction to appraisals of offenses, betrayals, wrongs, etc., all of which are referred to as interpersonal stressors (Berry, Worthington, Parrott, O'Connor, & Wade, 2001).

Forgiveness on the other hand has been defined as an emotional juxtaposition of positive emotions (e.g., empathy, compassion, sympathy, altruistic love) against the negative (and stressful) emotions of unforgiveness resulting over time, in the

neutralization or replacement of all or part of the negative emotions with positive ones (Worthington & Wade, 1999).

In line with these conceptualizations, the SCMF theorizes that when an individual experiences unforgiveness in response to a situation perceived as a wrongdoing, injustice, or threat (primary and secondary appraisals), and adopts forgiveness of the offender as a coping mechanism, the injustice gap perceived by the individual reduces. In turn, this reduces the stressful burden of the initial state of unforgiveness and its associated health risks (re-appraisal) (Lavelock et al., 2015; Strelan & Covic, 2006; Toussaint & Worthington, 2017; Worthington, 2006; Worthington & Scherer, 2004). Hence, according to the SCMF, while unforgiveness is stressful, forgiveness as an emotion-focused coping strategy reduces the stress of unforgiveness and is therefore related to health positively.

The Stress and Coping Model of Forgiveness and HIV/AIDS

In the specific case of HIV/AIDS, a positive diagnosis may be perceived as an injustice or offense particularly in cases such as where the virus is perceived to have been acquired from an unfaithful and/or intentionally un-disclosing partner. Acquiring the virus via perinatal infection (from an infected mother to child), rape/sodomy, or through one's line of work accidentally, may also be perceived as unjust/hurtful modes of transmission. Where an individual has no idea how they got the virus, diagnosis with HIV may likewise be perceived as an injustice or a punishment from God for a sin they may have committed. Also, PLWHV may experience unforgiveness towards themselves when they perceive that they may have unjustly infected others or themselves through their own risk behaviours. Furthermore, experiences of stigmatization, discrimination, isolation, and labelling among PLWHA may also be perceived as injustices or offenses directly related to one's seropositive status. In addition, diagnosis with HIV may be perceived as a threat to one's self-esteem, self-respect, social inclusion, peace of mind, and life goals like marriage and

child bearing (Temoshok & Wald, 2005). It may also be appraised as a threat to the safety of spouses, children, and other significant others.

According to the SCMF, PLWHA who perceive that they can cope with their offensive HIV-related situation and adopt forgiveness as a coping mechanism, are more likely to experience a reduction in perceived stress. In turn, they may be more likely to record positive health outcomes (e.g., better PHRQOL and immune health), compared to those who report little to no forgiveness. Figure 1.0 illustrates application of the SCMF to the case of forgiveness of HIV-related offenses and two critical health outcomes – PHRQOL and CD4 cell count.

Critique of the Stress and Coping Model of Forgiveness

Indeed, the SCMF helps to map out a very plausible mechanism – stress relief – by which forgiveness may have its influence on health. Decades of studies on forgiveness have also found support respectively for the unforgiveness–negative health and the forgiveness–positive health link via increases/reduction in stress (e.g., Green et al., 2012; Harris & Thoresen, 2005; Temoshok & Wald, 2005; Toussaint et al., 2012; Toussaint, Shields, Dorn, & Slavich, 2016; Toussaint, Shields, & Slavich, 2016; Toussaint et al., 2015; Worthington et al., 2007; Worthington & Scherer, 2004).

Among PLWHA, evidence similarly suggest that potential stressors such as fear of disclosing positive status and perceptions of no psychosocial resources (e.g., perceived isolation and social rejection) have substantial negative effects on health outcomes. These include recovery, survival time, disease progression, CD4 cell count, depressive symptoms, and social support (Temoshok & Wald, 2005; Ullrich, Lutgendorf, & Stapleton, 2003).

Despite the evidence found in favour of the Stress and Coping Model of Forgiveness, the model seems to place a biased emphasis on interpersonal offenses or forgiveness of others over other contexts within which offenses, unforgiveness, and forgiveness may be experienced. These include intrapersonal and spiritual contexts. For instance, Berry et al. (2001, p. 387) define unforgiveness as “a stress reaction to appraisals of interpersonal stressors that include transgressions, betrayals, offenses, and wrongs”. This definition seems to suggest that situations that are appraised as offenses and which may lead to the stressful reaction of unforgiveness are limited to interpersonal contexts between an individual and another individual or group. Toussaint and Worthington (2017, p.5) have also recently referred to forgiveness as “a good-fitting approach for coping with interpersonally stressful events where there is a clear culpable wrongdoer”, which also seems to exclude the role of forgiveness in “intrapersonally” or spiritually stressful situations.

Contrary to the biased emphasis that the model seems to place on interpersonal forgiveness, it is argued that the model has often been used to explain fragments or specific dimensions of this complex and multifaceted construct at a time. For instance, it has been applied extensively to situations of injustices perpetrated by one’s self whether against one’s own self or another, warranting the application of self-forgiveness (Woodyatt et al., 2017). It may also be applied to offenses perceived to be the doing or punishment of God (Temoshok & Wald, 2005). Applying the SCMF to this context, it is posited that a positive change in attitudes towards God may yield positive health benefits (Ironson, Stuetzle, & Fletcher, 2006; Ironson, et al., 2011).

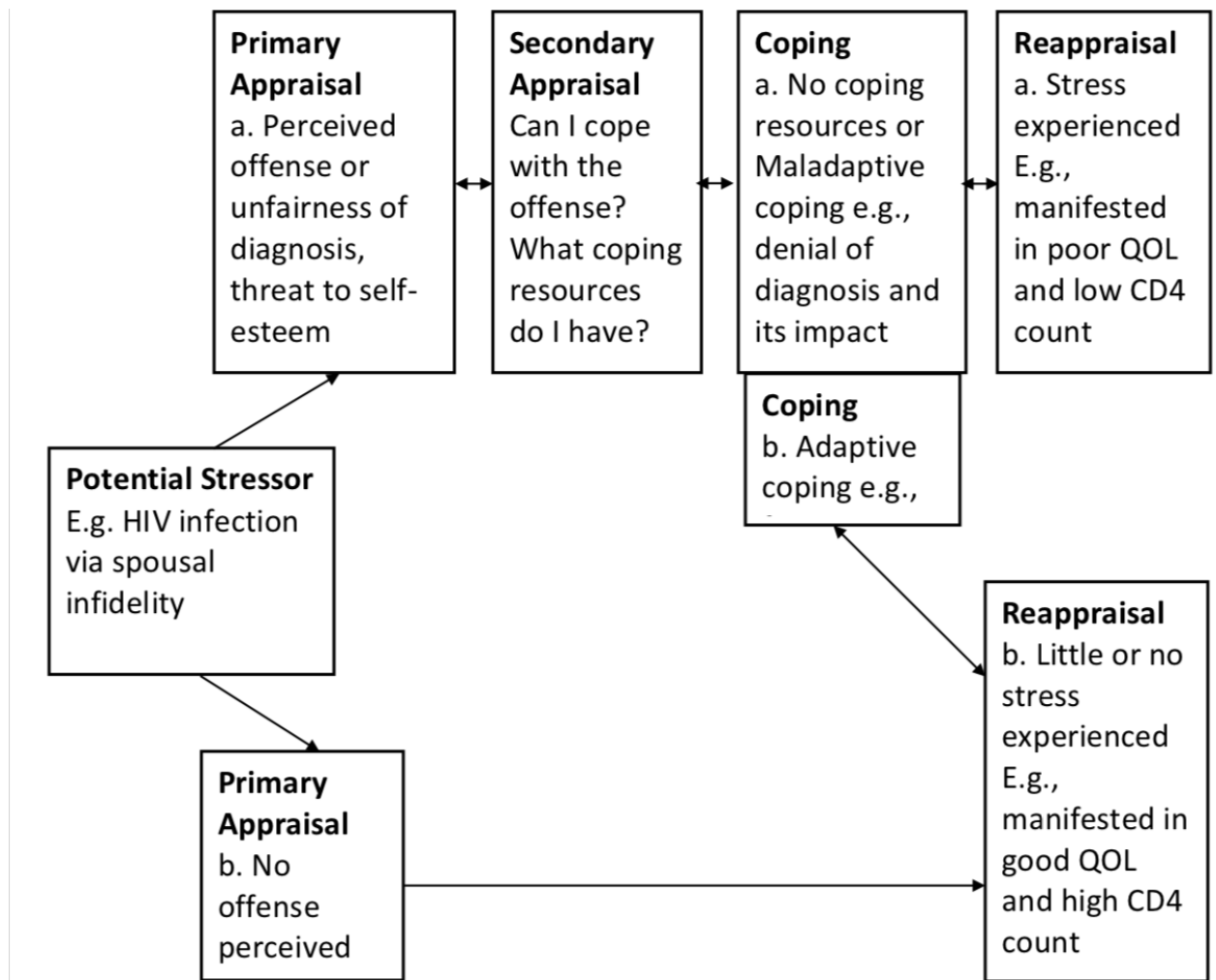


Figure 2.1: Application of the Stress and Coping Model of Forgiveness to HIV/AIDS (Lavelock et al., 2015; Strelan & Covic, 2006; Toussaint & Worthington, 2017)

2.1.2 The Biopsychosocial Framework of Contexts of Forgiveness in HIV/AIDS

The social (interpersonal), individual (intrapersonal), and spiritual contexts within which forgiveness (or its converse) of perceived HIV-specific offenses may be experienced and have its impact on health, places the present study of forgiveness as associated with the outcomes of PHRQOL and immune functioning within a biopsychosocial framework.

According to Temoshok and Wald (2005, p. 336), “the role of forgiveness in the lives of persons living with HIV/AIDS is located within a biopsychosocial framework.” Indeed, the antecedents, processes, and consequences of forgiveness may all be explained within the context of the BPS framework (Engel, 1977). For example, the factors that

determine whether or not one would forgive a given offense may be biological (e.g., age), psychological (e.g., beliefs), or social (e.g., religiosity) in nature. The processes characteristic of forgiveness also involve changes in cognitions, emotions, and behaviours (psychological factors) in response to social phenomena such as the experience of injustices (Harris & Thoresen, 2005). Furthermore, the consequences of forgiveness could be biological/physiological (e.g., reduced activation of the stress-response system), psychological (e.g., reduced psychological distress) and social (increased acceptance of social support) (Harris & Thoresen, 2005, Toussaint & Webb, 2005).

Therefore, drawing on the BPS model, the Biopsychosocial Framework of Contexts of Forgiveness (BPSFCF) in HIV/AIDS first of all posits that biological, psychological, and social factors interact in a complex manner to affect HIV/AIDS health outcomes (Temoshok & Wald, 2005). Secondly, the BPSFCF theorize that forgiveness is an adaptive way of coping with stress that involves appropriate recognition and expression of emotions and which has both biomedical/psychoneuroimmunological (PNI) and psychosocial consequences. Thirdly, Temoshok and Wald (2005) within the BPSFCF further posit that the influence of forgiveness on HIV/AIDS health outcomes occurs through two main pathways; a direct biomedical/PNI pathway and an indirect pathway via psychosocial behaviours. For example, they hypothesize that along the PNI/biomedical cascade, forgiving an HIV-specific offence may lead to reduced stress and lower arousal of the hypothalamic-pituitary-adrenal-cortical (HPAC) axis. In turn, this may enhance immune functioning as well as HIV immuno-regulatory mechanisms, leading to improved response to HIV treatment.

Along the psychosocial pathway, forgiveness of HIV-specific offenses is hypothesized to lead to an increased feeling of self-esteem, self-respect, self-value, trust, hopefulness, and empathy among other positive thoughts and emotions. These positive responses may lead to more adaptive behaviours including seeking and accepting social

support, attending HIV routine clinics, quitting or not initiating risk behaviours such as alcohol and substance abuse, forgoing suicidal thoughts and attempts, and also, communicating better with healthcare providers. These in turn may promote other important and more direct health behaviours such as adherence to ART and responsible sexual behaviours (Temoshok & Wald, 2005). These two behaviours are particularly critical to health outcomes in HIV/AIDS (Du et al., 2015; Sikkema et al., 2010; US Department of Veterans Affairs (USDVA), 2017). Table 2.1 summarizes the hypothesized BPS consequences of the converse of forgiveness (unforgiveness) across intrapersonal, interpersonal, and spiritual contexts of the experience of HIV-specific offenses.

Table 2.1: Temoshok and Wald’s (2005) hypothesized biopsychosocial contexts and consequences of unforgiveness of HIV-specific offenses.

Context of Unforgiveness	Perceived Offense Situations	Psychosocial Consequences	Resulting Behavioural Consequences	Biomedical Consequences
Intrapersonal	Promiscuity, Infection of others	Low self-esteem, guilt, self-blame, shame, regret, depression	Drug & alcohol abuse, poor eating & sleeping behaviours (bhvs)	Stress, immune dysfunction, disease progression
Interpersonal	Unfaithful partner, Stigma, Sexual abuse, mother-to-child	Anger, mistrust, resentment, fear, disappointment	Poor ART adherence, risky sexual behaviours	Treatment failure, STDs co-infection, HIV re-infection
Spiritual	Born with HIV, accidental acquisition, unknown cause	Anger, despair, hopelessness, hostility, helplessness	Suicidal thoughts/behaviours, isolation, withdrawal	Multisystem breakdown (mental, biological, social)

Table 2.1 illustrates the three main HIV-related contexts within which unforgiveness may be experienced and the potential psychosocial, behavioural, and physiological outcomes of unforgiveness.

Critique of the Biopsychosocial Framework of Contexts of Forgiveness in HIV/AIDS

The BPS model upon which the BPSFCF has been developed is one of the most extensively applied models in healthcare since its conceptualization forty decades ago (Wade & Halligan, 2017). This may be due to its alignment with the WHO's definition of and constitutional principle about health as a state of complete physical, mental, and social wellbeing and not merely the absence of disease (WHO, 2017c). It may also be that most of the models that have attempted to explain the possible determinants of health outcomes or vital health behaviours, may critically be broken down into the three components of the BPS model – biological, psychological, and social factors. Furthermore, rather than focusing biasedly on illness and/or defective health behaviours or determinants, the BPS model places an equal emphasis on prevention and health promotion as it does on treatment of illnesses (McInerney, 2015). In addition, the model's extensive application may be due to the studies done in various areas that have found and continue to find support for the interaction between biological, psychological, and social factors as associated with health and illness. These areas include health psychology and medical humanities/behavioural medicine to mention a few (e.g., Hatala, 2012; Hyman & Fleisher, 2011; Melchert, 2013; Wade & Halligan, 2017; Weiner, 2008).

However, one popular criticism that has been levelled against the BPS model is the concern that its social domain leaves out other critical influences on health such as culture, religiosity, and large social units like community, society, and nation (Benning, 2015; Tavakoli, 2009). Perhaps in response to this, the biopsychosocial-spiritual model was proposed to capture the perceived missing spiritual/cultural component of health and illness (Hatala, 2012; Taylor, Stotts, Humphreys, Treadwell, & Miaskowski, 2013).

Quite contrary to these views, it is argued that there seem to be gross misrepresentation of the social dimension of the model. As rightly noted by Suls and Rothman (2004), the social component of the multidimensional, multi-level BPS model

encompasses all system-level/macro-cultural factors beyond the individual. These include the family, community, culture, subcultures (e.g., religiosity), society, economy, nation, and the broader environment or biosphere within which the individual functions. In their review of studies underpinned by the BPS model, Suls and Rothman (2004) noted that the under-representation of the model's social/systems component may be due to the limited degree to which all three domains of the model have been integratively explored even within the field of health psychology. Often, only the psychological domain has been explored (Suls & Rothman, 2004). Thus, it is maintained that the BPS model upon which the BPSFCF is situated, is a holistic model that duly considers the role of biological, psychological, and social (system-level/macro-cultural) factors in health, illness, and healthcare delivery. It is argued that the onus lies on researchers and practitioners to understand the range of factors encapsulated within each of the three broad domains of the BPS framework and the possible interactions between these.

2.1.3 The Afrocultural Social Ethos Framework

The third theoretical framework that underpins the current study is the afrocultural social ethos framework (ASEF) by Jagers, Smith, Mock and Dill (1997). Although this framework originally sought to explain how culture influences psychosocial functioning in urban African American adolescents in the USA, its underlying principles may be extended to understand forgiveness coping among PLWHA in Ghana's typical collectivistic societies. According to the ASEF, spirituality, affect, and communalism constitute three main worldview factors that are central to the psychosocial experiences of African Americans. Spirituality concerns reliance on God's help, consciousness of the presence of deceased loved ones, and respect for the presence of a "spirit" in man. Affect describes the typical nature of Africans to acknowledge and sincerely express emotions in line with one's thoughts. Finally, communalism is the worldview that concerns the

commitment of Africans to values for interdependence, respect for group goals, and acceptance of group responsibilities, particularly among those who are socially involved. According to Jagers et al. (1997), much of the psychosocial experiences of African Americans center around these three major worldviews, which together form the ASEF.

Critique of the Afrocultural Social Ethos Framework in HIV/AIDS

The HIV/AIDS literature suggests that firstly, the components of the ASEF play vital roles along the illness and treatment trajectories of HIV/AIDS. For instance, it has been reported that religiosity of newly diagnosed HIV/AIDS persons tends to be an important determinant of whether they accept their condition (Szaflarski, 2013) or of adhere to ARTs following initiation of treatment (Parsons, Cruise, Davenport, & Jones, 2006). In relation to forgiveness, that this prosocial behaviour is practiced or encouraged by many religious bodies in Ghana may mean that the spirituality worldview component of the ASEF may be relevant to consider in forgiveness coping with HIV-specific offenses. It is possible that religiosity may be a reason for which PLWHA may forgive perceived HIV-related offenses (Davis, Hook, & Worthington, 2008; Owen et al., 2011). Concerning communalism, reports indicate that people in typically collectivistic societies tend to value harmonious social relationships (e.g., Hook et al., 2012). This may suggest that PLWHA in Ghana may be likely to receive support from others, which may help them to forgive grievances they may hold in relation to their HIV-positive status.

On the other hand, it is argued in relation to the affect component of the ASEF that Africans may not be emotionally expressive in all situations. This may be particularly so where expressiveness of thoughts and emotions may jeopardize their personal relationships with others or their status within the community. For instance, the continuous stigma surrounding HIV may mean that infected persons may not express or disclose their status nor their perceived HIV-related offenses easily (Arrey, Bilsen, Lacor, &

Deschepper, 2016). Dzokoto (2010) has also found that compared to people in largely individualistic cultures (e.g., U.S.), Ghanaians may actually pay less attention to their emotions and more to their bodies.

2.1.4 Summary of Theoretical Underpinnings

In summary, the three frameworks underpinning the present study together suggest that when an individual appraises a situation as an offense and adopts forgiveness as a way of coping, it may manifest in positive health outcomes via direct biological changes in the stress response system and/or indirectly through motivation to engage in positive health behaviours. In addition, the extent to which an individual may forgive, may be influenced by his/her worldviews on spirituality and communalism, which may reflect in their religious behaviours and perception of social support. (see Figure 2.2).

Figure 2.2 illustrates that the SCMF would guide the present study in ascertaining the relationship of forgiveness of HIV-specific offenses to PHRQOL and immune health, taking participants' reported offenses and offense severity/hurtfulness as stressful events.

The BPSFCF in HIV/AIDS would direct the present study into further identifying what biopsychosocial conditions (moderators) may change the way forgiveness may be associated with the outcomes.

Finally, the ASEF would help to identify (and control for) some important factors that may influence whether or not PLWHA in Ghana may forgive offenses specifically related to their positive status. These include religiosity and social support, which may stem from the value that Africans place on spirituality and communalism (Jagers et al., 1997).

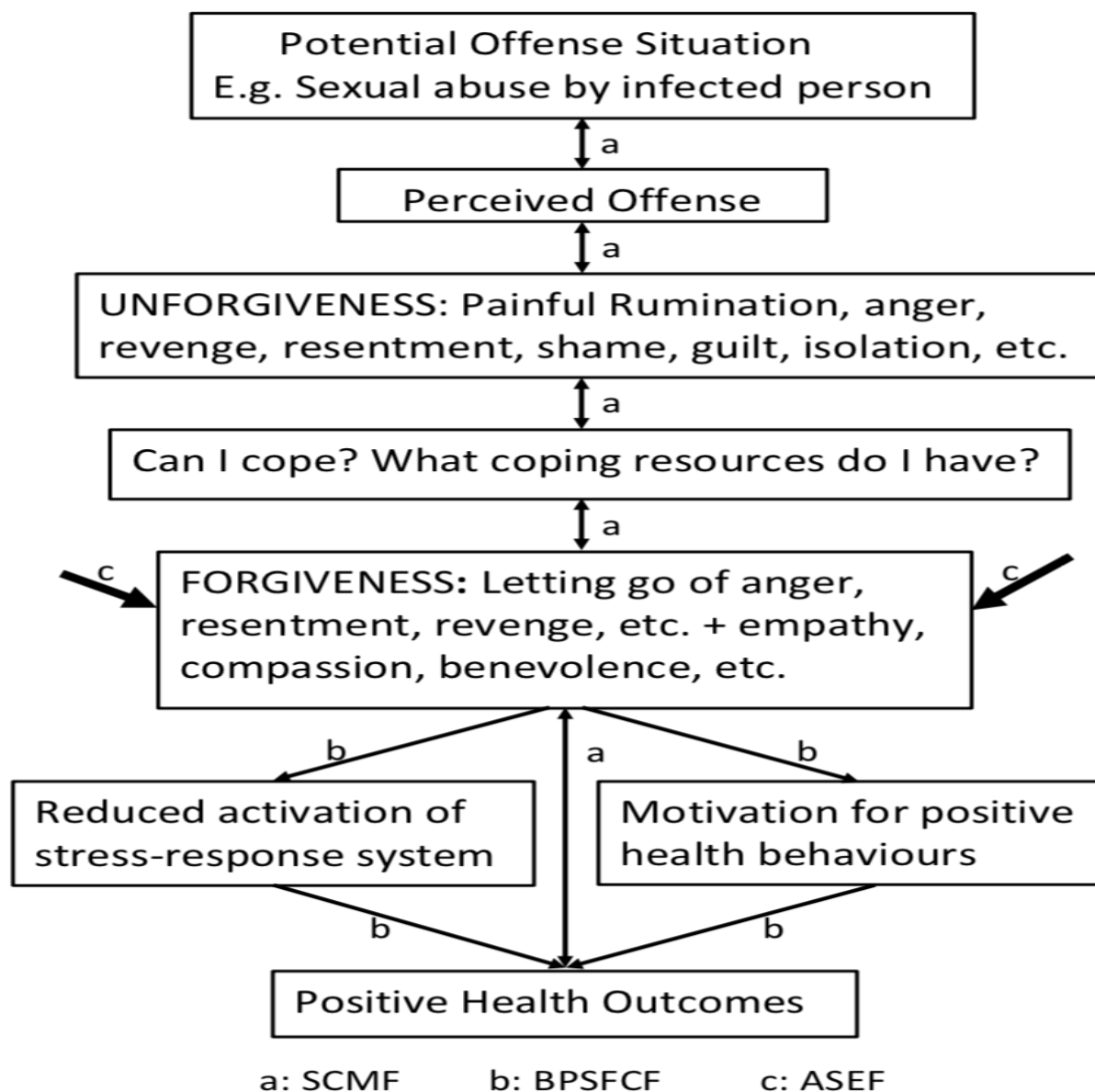


Figure 2.2: Application of the SCMF, BPSFCF, and ASEF to forgiveness in HIV/AIDS (adapted from Temoshok & Wald, 2005)

2.2 Review of Related Literature

This section of the thesis seeks to analyse and synthesize the literature on forgiveness and HIV/AIDS as related to health. Beginning with its definition and related theoretical constructs, an overview of findings on forgiveness and health in general is presented. This is followed by a brief overview of PHRQOL in HIV as well as immune functioning in HIV. Considering that forgiveness occurs within a complex interaction of biopsychosocial factors, key biological, psychological, and social factors in HIV are then

reviewed with particular focus on the study outcomes – PHRQOL and CD4 cell count. Finally, the section presents a systematic review of forgiveness studies in HIV, with a focus on studies reporting health outcomes in relation to this multifaceted construct.

2.2.1 Forgiveness and Related Constructs

Defining Forgiveness

The question of what forgiveness is, is one that has attracted much debate since the beginning of forgiveness research (Worthington, 2005). Generally, a consensus seems to have been reached on the various ways of coping with offenses that may reduce unforgiveness and promote forgiveness but which are distinguished from forgiveness (Worthington et al., 2007). These include excusing, condoning, denying, forbearing, and reconciliation (Enright & Fitzgibbons, 2000; Worthington, 2005; Worthington et al., 2007).

The varying definitions of forgiveness may be attributed to the various dimensions of forgiveness (cognitive, emotional, motivational, or behavioural) that researchers may consider to be most at play (Worthington, 2005). For instance, while some researchers may view the construct mainly in terms of a positive change in motivations (e.g., McCullough, Fincham, & Tsang, 2003), others (e.g., DiBlasio, 1998) emphasize primarily on the cognitions (e.g., decisions) involved in forgiving. Some researchers also seem to conceptualize forgiveness as a complex multidimensional concept that encompasses cognitive, emotional-motivational, and behavioural processes (e.g., Davis, Worthington, Hook, & Hill, 2013; Enright & Fitzgibbon, 2000; Harris & Thoresen, 2005; Enright, 1991). For example, Enright and Fitzgibbons (2000) define forgiveness as a freely made choice to forgo negative cognitive, emotional, and behavioural responses toward a person who caused a hurt, and work toward developing positive cognitive, emotional, and behavioural responses. Harris and Thoresen (2005, p. 322) also view forgiveness “not only

as the reduction of unforgiveness through reducing the negative thoughts, emotions, motivations, and behaviours toward the offender but also as the increase of positive emotions and perspectives, such as empathy, hope, or compassion.” In line with these latter views, Worthington and Scherer (2004) classify forgiveness into decisional and emotional forgiveness. They define decisional forgiveness as change in a person’s behavioural intentions toward a transgressor (e.g., intending not to take revenge against or avoid the offender). Whereas, emotional forgiveness is defined as replacement of negative unforgiving emotions (e.g., bitterness and anger) with positive other-oriented emotions (e.g., empathy and love) toward the transgressor (Worthington & Scherer, 2004; Worthington et al., 2007).

According to Worthington et al. (2007), decisional forgiveness may or may not lead to the more complete emotional forgiveness stage. Also, some researchers have contended that emotional forgiveness has more direct effects or benefits on health, as the replacement of more negative with more positive thoughts and emotions involves both peripheral and central nervous system changes (Harris & Toresen, 2005; Worthington et al., 2007; Toussaint et al., 2012; Griffin, Worthington, Lavelock, Wade, & Hoyt, 2015). By and large, researchers at least seem to share a core understanding of forgiveness as a prosocial change in people’s experiences following a transgression (McCullough, Pargament, & Thoresen, 2000; Worthington, 2005).

Critique of Decisional versus Emotional Forgiveness and Health Benefits

The multidimensional perspectives on forgiveness indeed appear to provide a more comprehensive description of this rather complex human phenomenon. In the least, they allow for exploration into questions such as; is a reduction in, or the removal/neutralization of unforgiveness, or the experience of emptiness synonymous with forgiveness (Davis et al., 2013; Worthington, 2005)? Or is forgiveness a reduction in, and

eventual neutralization/removal of negative experiences plus a development of more positive cognitions, emotions, and behaviours toward an offender (Worthington et al., 2007)? A closer consideration of the decisional and emotional forgiveness categorization in light of the multidimensional definitions of forgiveness (Harris & Thoresen, 2005; Enright & Fitzgibbons, 2000) seems to suggest that these two dimensions capture all these processes along a continuum. Although, Worthington et al.'s (2007) definition of decisional forgiveness seem not to wholly reflect some important processes/changes that may be inherent within this first stage of the forgiveness process. They define decisional forgiveness as an intention to forgo negative behavioural responses toward a transgressor over a perceived offense (Worthington & Scherer, 2004; Worthington et al., 2007). It is argued that this first stage of forgiveness may also encompass important psychological changes – reductions or removal– in the negative thoughts and emotions of unforgiveness that possibly culminate in a change in behavioural intentions toward an offender (Davis et al., 2013; Harris & Toresen, 2005). Again, it is argued that these possible changes (from a peak negative to a less negative state in thoughts, emotions and behaviour intentions) that may be inherent in the decisional forgiveness stage may mean that decisional forgiveness may also have important influences on health.

Offense-Dependent and Offense-Independent Forgiveness

Forgiveness always comes into play in the context of offenses. An offense has often times been described as a hurt, transgression, wrong doing, or injustice in the forgiveness literature (e.g., Worthington, 2005; Exline et al, 2003; Worthington et al., 2007, Woodyatt et al., 2017). Based on these descriptions, an offence may be defined as a wrong doing, whether by direct commission or omission, that causes physical and/or psychological suffering to the victim and for which the wrong doer may also in like manner suffer, especially if they acknowledge responsibility for the wrong deed.

Typically, the construct “forgiveness” is used in the forgiveness literature to refer to the state of forgiving a specific offense situation in which both the offense and offender have specific characteristics. These include the nature, intensity, duration, and potential consequences of the offense and how the offender may be related to the victim (Suwartono, Prawasti, & Mullet, 2007; Worthington et al, 2007). Where individuals have the disposition, trait, or tendency of forgiving offenses consistently across time, situations, and people, this overall disposition has been referred to as forgivingness (Suwartono et al.2007; Worthington et al., 2007; Thompson et al., 2005). Based on this distinction, forgiveness is often referred to in acute stress situations while forgivingness is made reference to in chronic stress situations (Worthington et al. 2007).

The effects of both state forgiveness and trait forgivingness on health outcomes have been studied. Research suggests that because chronic stress takes time to accumulate and to have its effects on health, forgivingness, when practiced for a long time across situations, tends to associate more often with health compared to forgiveness of particular situations (Lawler et al., 2003; Thompson et al., 2005; Worthington et al., 2007). Some studies have however, also found that whether as a predictor, criterion, or mechanism variable, forgiveness of specific offense situations is associated with health outcomes (Harris & Thoresen, 2005; Lawler-Row, 2010; Lawler et al., 2005; Lawler et al., 2003; Toussaint et al., 2015; Toussaint & Webb, 2005; Worthington & Scherer, 2004).

In HIV/AIDS, a number of situations specifically common to those with a positive diagnosis may arouse intense and prolonged feelings of anger, sorrow, fear, disappointment, resentment, guilt, blame, etc., characteristic of unforgiveness (Temoshok & Wald, 2005). As indicated earlier above, these situations include how an individual may have acquired the virus (e.g., rape, spouse’s infidelity, promiscuity), as well as post-acquisition experiences such as stigmatization and rejection by significant others

(Temoshok & Wald, 2005). Thus, a change from these negative to positive responses may likely have important influences on health.

Intrapersonal, Interpersonal, and Spiritual Contexts of Forgiveness

Forgiveness can occur in at least three major contexts; interpersonal, intrapersonal, and spiritual contexts (Worthington, 2005; Temoshok & Wald, 2005). The interpersonal context of forgiveness is a social/transactional context that involves at least two individuals; the offender and the victim, who may need to forgive the former (Hoyt & McCullough, 2005). Thus, interpersonal forgiveness involves other-oriented behavioural intentions and emotions following a transgression perpetrated by another (Worthington et al., 2007; Worthington & Scherer, 2004). The “other” may be an individual person, a group/out-group of persons, or a situation external to the individual self, although some have conceptualized forgiveness of situations separately from forgiveness of others (e.g., Temoshok & Wald, 2005).

Intrapersonal context of forgiveness is an individual-level context, where forgiveness is extended towards one’s own self – self-forgiveness. Extending forgiveness towards one’s own self over an offence perpetrated against another (e.g., passing on HIV knowingly to a partner) reflects self-forgiveness in interpersonal contexts. Whereas, extending forgiveness towards one’s own self for an injustice perpetrated by the individual against him/herself, constitute self-forgiveness in intrapersonal contexts (Woodyatt et al., 2017). Often, this intrapersonal context of self-forgiveness occurs where the hurtful situation is perceived to have resulted from violation of one’s personal values. For example, an individual who engages in promiscuity may perceive a diagnosis of HIV/AIDS as a gross injustice done to him/herself. Woodyatt and colleagues (2017) emphasize that whether in intrapersonal or interpersonal contexts, self-forgiveness is distinguished from letting one’s self off the hook of responsibility. Thus, they

conceptualize self-forgiveness to first include an experience of unforgiveness towards one's own self, which may manifest as internalized guilt, regret, self-hatred, self-condemnation, and thoughts of punishing one's self (Hall & Fincham, 2005; Temoshok & Wald, 2005; Toussaint & Worthington, 2017; Woodyatt et al., 2017). This is followed by accepting responsibility for the offense and then incorporating the offense into a new lifestyle via reaffirmation of one's values and a positive regard towards the self. The goal of self-forgiveness is to relieve the self-focused negative emotions and transform one's self-image (Woodyatt et al., 2017).

Another common context within which forgiveness of offenses has been explored is spirituality. Generally, forgiveness in the spiritual context has been conceptualized largely as feeling forgiven by God for one's own transgressions (e.g., Temoshok & Wald, 2005). Where perceived offensive situations have been thought of as a punishment from God, forgiveness has also been explored as changes in attitudes towards God (e.g., a current view of God as kind/benevolent/all-knowing rather than unkind/harsh/judgmental) (Ironson et al., 2006; 2011). Toussaint and Webb (2005) proposed that in addition to these main contexts of forgiveness, the construct can play out in four other contexts: "forgiveness of God", feeling others' forgiveness, seeking others' forgiveness; and seeking God's forgiveness. The authors however highlighted that feeling and seeking forgiveness from one's self has yet to be defined. Similarly, the context of "forgiveness of God" seems relatively under defined at present. In typically religious settings, where believe in an infallible sovereign God may be dominant, the context of "forgiveness of God" may warrant exceptional care in its conceptualisation and measurement.

Culture and Forgiveness

The individualism-collectivism categorization is one of the most common ways of conceptualizing culture in research studies (Markus & Kitayama, 1991; Oyserman, Coon,

& Kemmelmeier, 2002; Triandis, 1999). It is reported that how people understand and practice forgiveness may vary across cultures, when culture is broadly organized into individualistic and collectivistic societies (Hook et al., 2012). Indeed, as societies grow more and more diverse and cultures become more and more complex (Hook et al., 2012; Jehoda, 2012), the extent to which whole societies may be collectivistic or individualistic may be questionable (Cooper & Denner, 1998). However, as Dzokoto (2010) hinted, there is enough evidence to propose significant individualistic-collectivistic differences between typical Western and non-Western groups of samples in spite of any within-group differences due for example to differences in individual personality or ethnic groups. Further, studies comparing forgiveness and health across countries have reported differences between Western and non-Western countries that have largely been associated with cultural differences in personal and relational orientations (Leach & Parazak, 2015). In typical collectivistic countries (e.g., Ghana) it is reported that people may tend to prioritize group goals, social harmony, and relational repair above their individual interests and wellbeing (Markus & Kitayama, 1991; Oyserman et al., 2002; Triandis, 1999). It has also been found that people in such interdependent cultures may be less focused on their inner emotions and hence less expressive of such emotions (Dzokoto, 2010). In line with these patterns of cultural behaviour, reports further suggest that more of decisions to forgive than emotional forgiveness may be reported in generally collectivistic societies (Hook et al., 2009; Hook et al., 2012). It is worth exploring however, how such common reports of decisional forgiveness may relate to health compared to the potential lower reports of emotional forgiveness.

2.2.2 Forgiveness and General Health Outcomes

Toussaint and colleagues (2015) in their collection of empirical works on forgiveness point to important associations between this construct and various aspects of

health. These include physiological indicators of health as well as self-reported physical, psychological, relational, and spiritual health (Worthington et al., 2007). Physiologically, although the evidence is inconclusive, they point to an association between forgiveness and central nervous, peripheral nervous, endocrine, and immune system functioning (Larkin, Goulet, & Cavanagh, 2015). For example, cortisol reactivity, an indicator of stress response, appears to be lower in forgiving individuals and higher in those who ruminate about offenses (Larkin et al., 2015).

Increased reports of forgiveness have also been found to be associated with lower self-reported levels of perceived stress (e.g., Toussaint et al., 2016a; 2016b). Lower levels of perceived stress in turn associated with decreased mental health symptoms in the studies by Toussaint and colleagues (2016a; 2016b). The evidence for the forgiveness–mental health link has also been reported in reviews of several studies (e.g., Griffin et al., 2015). This include a recent systematic review and meta-analysis of the impact of forgiveness interventions on mental wellbeing (Akhtar & Barlow, 2016). The authors concluded that forgiving a variety of real-life interpersonal offenses was effective in reducing depression, anger, hostility, stress and distress.

Although the studies by Toussaint et al. (2016a; 2016b) found no association between forgiveness and physical health symptoms, other studies have reported this link both in healthy (Cheadle & Toussaint, 2015) and patient populations (Friedberg, Tuvia, & Cha, 2015). Among patient populations including those with chronic pain and fibromyalgia, cancer, and cardiovascular disorders, the evidence supports the benefits of forgiveness in relation to improved illness-related symptoms (Friedberg, et al., 2015; Lawler et al., 2003; Lawler et al., 2005; Offenbächer, Dezutter, Vallejo, & Toussaint, 2015).

Support has also been found for the benefits of forgiveness on health and wellbeing in the context of close relationships. These include married, unmarried, and general family relationships (Davis, Green, Reid, Moloney, & Burnette, 2013; Fincham, 2015; Rusbult, Hannon, Stocker, & Finkel, 2005). As well, some studies have found forgiveness in terms of views about God or deity as a mechanism for improving health and wellbeing (Ironson et al., 2006; Ironson et al., 2011).

Overall, across contexts, disciplines, and populations, the empirical evidence seems to provide support for an association between forgiveness and diverse correlates of health (Toussaint et al., 2015; Woodyatt et al., 2017; Worthington, 2005). These are besides the associations that have been found in the specific area of HIV and AIDS.

2.2.3 The Human Immuno-Deficiency Virus and Immune Functioning

The human immunodeficiency virus (HIV) is the virus that causes HIV infection and acquired immune deficiency syndrome (AIDS) – the most advanced stage of HIV infection (Kharsany & Karim, 2016). Once it enters the human body, the HIV virus acts by attacking the cluster of differentiation-4 (CD4) lymphocyte cells, also known as the T-helper cells. These are the immune or white blood cells responsible for protecting the body against infections (Resino et al., 2006). The attack of the virus on the CD4 cells suppresses or reduces the number of the cells from a mean normal value of 500 – 1,300 cells/ μ L to as low as <200 cells/ μ L over time (Resino et al., 2006). It has been established that PLWHA who initiate and strictly adhere to ART (before their CD4 level falls to <350 cells/ μ L) are likely to experience better preservation of or increases in their CD4 cell count (U.S. Department of Health and Human Services (USDHHS), 2017).

Generally, the goal of ART is to reduce the number of the HIV virus (viral load) in the body (WHO, 2013). Current treatment guidelines also recommend that all persons testing positive for HIV must be initiated on ART irrespective of baseline CD4 count

(WHO, 2017). However, the CD4 cell count is still widely used to assess patients' HIV stage and in some cases (e.g., Tuberculosis co-infection) to determine ART success or otherwise (WHO, 2013; 2017). It is also used to determine initiation of prophylaxis (preventive treatment) against opportunistic infections – infections more frequent and severe in people with weakened immune systems – as well as to determine HIV/AIDS prognosis (WHO, 2013, 2017). Therefore, CD4 cell count remains an important biomarker in HIV/AIDS care (WHO, 2017).

2.2.4 HIV/AIDS and Psychological Health-Related Quality of Life

One area in HIV/AIDS that seem to have gained much attention following the advent of new and effective classes of ART is quality of life (QOL). With the drastic change in HIV/AIDS prognosis from a fatal to a long-term manageable condition, QOL is currently one of the most important treatment endpoints for PLWHA on ART (Basavaraj, 2010; European Medicines Agency, 2014; Oguntibeju, 2012; Inungu, 2017; WHO/UNAIDS, 2000). Indeed, it is reported that QOL should be considered a primary health goal in HIV/AIDS care and research (WHO/UNAIDS, 2000).

Quality of life concerns the subjective ratings of individuals concerning a wide range of aspects of life including health, jobs, education, living conditions, relationships, finances, etc. According to the WHO (1998), it can be defined as “individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, standards, expectations and concerns.” On their WHOQOL-BREF measure, the WHO (2012) further classify QOL into four main domains – physical health, psychological health, social relationships, and environment. While most studies have investigated all or the health-related domains, it is possible that the effectiveness of the ART regimen may improve physical health, and hence, physical health-related QOL for the majority of PLWHA taking ART. However, how PLWHA cope with the typical

challenges and potential stressors associated with a positive HIV-status may still account for important differences in psychological health in this population. For instance, despite the advancements in ART, depression and other psychological disorders continue to be some of the most reported comorbidities in PLWHA in the region and beyond (Abas, Ali, Nakimuli-Mpungu, & Chibanda, 2014; Degroote, Vogelaers, & Vandijck, 2014; Tesfaye, & Bune, 2014). Therefore, a focus on the psychological health aspect of the lives of PLWHA in relation to forgiveness as a coping mechanism for offenses is in order.

2.2.5 Biopsychosocial Factors, Quality of Life, and Immune Health in HIV

In seeking to determine whether and how forgiveness may be associated with these two HIV/AIDS outcomes; PHRQOL and change in CD4 cell count, it is important that other factors capable of affecting the outcomes (and possibly forgiveness) are taken into consideration. Therefore, the following sections review key biological, psychological, and social factors relevant in HIV/AIDS.

Biological Factors and HIV/AIDS

Reports indicate that Beyond the age of 25 years, there is a general decline in the function of body organs by 1% each year (Cardoso et al., 2013), suggesting a decline in larger body systems such as the immune system. Unsurprisingly, older adults are well known to face myriad of health issues including cardiovascular, reproductive, bladder, and kidney problems amongst other chronic conditions (Cardoso et al., 2013; Gladyshev & Gladyshev, 2012; Strait & Lakatta, 2012). In HIV/AIDS, reports suggest that the biological mechanisms underlying the normal aging process may occur at higher rates (Oguntibeju, van den Heever, & Schalkwyk, 2007), probably due to the additional degrading effects of the virus on immune cells. This suggests that there may be individual

differences in health outcomes for older PLWHA (≥ 40 or 50 years) and those who are younger (< 40 or 50 years) (Cardoso et al., 2013; Kirk & Goetz, 2009; Wing, 2016).

Indeed, the evidence overwhelmingly suggests that older adults living with HIV/AIDS, although they may record lower viral loads, usually record lower levels or slower increases in CD4 cell counts, higher mortality rates, and poorer QOL of life domains compared to their younger counterparts. This pattern of findings has been reported in Western and other non-African countries (Asher et al., 2016; Dehghani et al., 2017; Monteiro, Canavarro, & Pereira, 2016; Navarro et al., 2008; Vance, Mugavero, Willig, Raper, & Saag, 2011; Wellons et al., 2002). Large longitudinal studies conducted across various African countries have also reported this finding (Eduardo et al., 2014; Fatti, Mothibi, Meintjes, & Grimwood, 2014; Greig, Casas, O'Brien, Mills, & Ford, 2012). Where studies controlled for baseline factors or compared younger and older adults with similar baseline CD4 and viral load, it remained that older adults recorded lower viral loads but also, lower CD4 cell counts/increases over time and higher mortality rates (e.g., Asher et al., 2016; Fatti et al., 2014).

Previous studies have explained that the lower CD4 cell counts, higher mortality rates, and poorer QOL in older adults with HIV, may be due to other biological factors. These include the natural aging process and its associated comorbidities as well as the toxicities of ART and other medications that may be harsh on the gradually weakening immune systems of older adults (Cardoso et al., 2013; Greig et al., 2012; Kirk & Goetz, 2009; Wing, 2016). For instance, some studies comparing younger and older adults with HIV/AIDS on comorbidities have found that the latter are more likely to have comorbidities including high blood pressure, hyperlipidemia, and depression (Tseng, 2013; Greene 2014). They are also more likely than younger adults with HIV (Tseng et al., 2013) and the general population (Greene et al., 2014) to be prescribed a greater number

of antiretrovirals (ARVs) as well as non-ARV drugs (e.g., gastrointestinal medications) for their likely comorbid conditions.

Another biological factor that may contribute to the poorer outcomes in older adults and perhaps the general differences in HIV/AIDS outcomes is sex. It is worth noting, that compared to younger adults, older adults in many of the age-related studies comprised of more males (e.g., Asher et al., 2016; Eduardo et al., 2014; Fatti et al., 2014; Greene et al., 2012; Greig et al., 2012; Navarro et al., 2008; Tseng et al., 2013; Vance et al., 2011). However, findings on gender differences in HIV outcomes seem to be equivocal. In some studies, no gender differences in CD4 counts were recorded although females were more likely to achieve virological suppression (reduced viral loads) (e.g., Chen et al., 2017; Kipp et al., 2010; Lee et al., 2015). In other studies, higher CD4 cell count for more females than males and viral suppression among fewer females compared to males were found (e.g., Cescon et al., 2013; Maskew et al., 2013; Rosin et al., 2013).

Previous studies have suggested that inherent biological differences between males and females (e.g., early menopause and pregnancy in women) may influence drug metabolism, leading to differences in health outcomes (Cardoso et al., 2013; Maskew et al., 2013). Yet, the equivocal results found across studies seem to suggest that beyond possible inherent biological differences, other social and psychological factors may be important in understanding patterns of health outcomes in HIV/AIDS. The subsequent section reviews some of these factors.

Social Factors and HIV/AIDS

Social factors such as educational level and marital status may be readily classified as non-modifiable determinants of health. However, they may reveal other important factors amenable to change. For example, a link between married (compared to non-married) status and better health outcomes may reflect the importance of social support in

the HIV care pathway. This seems logical, as married individuals may obtain support from their spouses against life's pressures. In HIV/AIDS, it may be expected that those with a married status may gain spousal support to effectively deal with the challenges that usually come with a positive diagnosis. These include the tendency to feel stigmatized and isolated by some family and friends and the financial burden involved in attending routine HIV clinics, undertaking relevant laboratory tests, and purchasing prescribed non-ARV medications. There is also the challenge of remembering to adhere to routine clinic schedules as well as to the ART regimen.

However, the few studies examining the link between marital status and outcomes in HIV/AIDS have found conflicting results. In a study that reviewed data of 762,727 HIV-infected individuals from the US National Longitudinal Mortality Study over a period of 11 years, an association was found between marital status and HIV/AIDS-related mortality (Kposowa, 2013). Compared to married persons, divorced and separated individuals were 4.3 times more likely to die of HIV/AIDS. The risk was much greater for single/never married persons, who were found to be over 23 times more likely to die of HIV/AIDS than their married counterparts. However, when analysed by gender, this association was significant among men but not in women, with men being over 7 times more likely at risk of mortality (Kposowa, 2013). In a study by Luguterah & Adams (2013) conducted among 90 HIV-positive patients in Ghana, it was found that CD4 counts rose steadily for all marital groups until after 2 years, when it seemed to consistently decline for single persons. Overall, no significant difference was found in CD4 changes over time as a function of marital status.

In relation to educational level, again though non-modifiable, several studies have identified educational level as an important social determinant of health status and outcomes both directly and indirectly. Directly, educational level may play a relevant role in how people understand illnesses and their management. Indirectly, it may impact on

health through access to other socioeconomic opportunities. Reports indicate that educational level may influence HIV/AIDS transmission risk behaviours (Yaya et al., 2014) and promote better understanding of important aspects of the infection including symptoms, role of ART in slowing the disease progression, and the importance of adherence in this process (Osei-Yeboah et al., 2017). Furthermore, educational level has been found to affect time of presentation for HIV diagnosis at care facilities (Mukolo et al., 2013). All these possible consequences of education are pertinent to achieving successful outcomes on ART (Mukolo et al., 2013). However, mixed findings have been reported by the few studies that have specifically considered the effect of educational level on HIV/AIDS outcomes following ART initiation (McMahon, Wanke, Terrin, Skinner, & Knox, 2011). In some studies, lower levels of education have been associated with lower CD4 counts, higher mortality (McMahon et al., 2011), increased risk of virologic failure (McMahon et al., 2011; Ribaud et al., 2013), and progression of HIV to AIDS (Poorolajal et al., 2015). In other studies, no association has been found between level of baseline educational attainment and mortality (Cohen, Werner, Gengiah, & Naidoo, 2014; Poorolajal et al., 2015). The study by Cohen and colleagues (2014) also found no differences in immunologic response, virologic response, or loss to follow-up after 6, 12, and 24 months on ART as a result of educational attainment. In Ghana, a retrospective data review study among 90 patients receiving ART at the Builsa District hospital considered the association between educational level and changes in CD4 cell count over time (Luguterah & Adams, 2013). It was found that among the 40 patients who had formal education, the average change in CD4 count decreased with increasing educational level over the study period. This is in contrast to the findings by McMahon et al. (2011) that CD4 counts reduced with lower educational levels.

Psychosocial Factors and HIV/AIDS

The management of chronic illnesses in general, has been found to centre around key psychosocial factors (Medved Kendrick, 2017; Simoni, Frick, & Huang, 2006). For instance, in HIV/AIDS, religiosity plays a vital role throughout the care pathway; from diagnosis to self-management of the condition and its treatment (Szaflarski, 2013). Depending on how religiosity is adopted – positively or negatively – it may respectively influence health outcomes positively or negatively (Medved Kendrick, 2017). Positive religious coping involves an increase in religiosity – overt faith-based practices such as reading the scriptures – following a challenging situation (Medved Kendrick, 2017). For example, individuals newly diagnosed with HIV may dwell on their belief in the power of God to develop a high treatment self-efficacy – the belief that one can effectively manage the demands of a treatment that he/she is on (Arrey et al., 2016; Simoni et al., 2006). On the other hand, negative religious coping reflects the experience of religious struggles (e.g., shame and guilt) over behaviours condemned by one’s religious group (e.g., risky sexual behaviours). It also includes attributing difficult life experiences to punishment from God and developing anger and other negative attitudes towards God (Medved Kendrick, 2017; Ironson et al., 2011). Furthermore, it concerns religiosity serving as barriers to the uptake of healthcare services such as voluntary testing for HIV and initiation on ART (Nunn et al., 2013; Parsons et al., 2006).

Indeed, research has shown that negative religious coping in PLWHA is associated with suboptimal health behaviours and outcomes including poor ART adherence and faster disease progression (e.g., Lee, Roberts, & Gibbons, 2013; Lyon et al., 2011; Pargament et al., 2005; Parsons et al., 2006). Majority of studies have also found that positive religious coping uniquely predicts or moderates better clinical and QOL outcomes throughout the HIV/AIDS care trajectory (e.g., Doolittle, Justice, & Fiellin, 2016; Ironson et al., 2006; Luguterah & Adams, 2013; Oji et al., 2017; Szaflarski, 2013; Trevino et al., 2010; Utley &

Wachholtz, 2011; Vyas, Limneos, Qin, & Mathews, 2014). Only a few studies have found no association between religiosity and health in PLWHA (e.g., Lorenz et al., 2005; Cotton et al., 2006).

Social support, similar to religiosity, is another fundamental coping mechanism in HIV/AIDS, particularly following a positive diagnosis (Ironson et al., 2006). A number of studies have actually found that social support influences (mediates, partially mediates, moderates) the relationship between religiosity and outcomes in HIV/AIDS (Dalmida, Koenig, Holstad, & Wirani, 2013; Medved Kendrick, 2017; Steglitz, Ng, Mosha, & Kershaw, 2012; Szaflarski, 2013). Other studies have found direct associations between social support and HIV/AIDS outcomes. These include psychological health (Asante, 2012; Seth et al., 2014; Yu et al., 2015), QOL (Abrefa-Gyan, Cornelius, & Okundaye, 2016; Charkhian et al., 2014), and clinical outcomes such as CD4 cell counts, mortality, and morbidity (Bateganya, Amanyewe, Roxo, & Dong, 2015; Forouzan et al., 2013; Sarfo, Vanderpuye, Addison, & Nyasulu, 2017). Overall, the evidence points to social support of varied kinds (material, instrumental, support groups) and from various sources (family, friends, other relatives) as an important psychosocial factor in HIV/AIDS. This includes evidence from Ghana (Abrefa-Gyan et al., 2016; Asante, 2012; Sarfo et al., 2017). Although, the magnitude of support reported, varied for different support sources across studies. This may be because, social support as a salutatory content of human relations, reliably varies with one's location in the social system (Turner & Turner, 2013). Thus, depending on participants' social status and/or relations with others, they may have perceived/received different levels of support. It may however, also reflect cross-cultural variations in perceptions of who is more likely to provide support with minimal risk of stigmatization and "broadcasting" of one's HIV-positive status.

Mental health or psychological wellbeing is another important psychosocial factor in HIV/AIDS management and outcomes. Unsurprisingly, a number of studies have correlated mental health of PLWHA with other psychosocial and clinical factors. These include QOL, perceived/received social support, ART adherence, and immunologic function (e.g., Abas et al., 2014; Asante, 2012; Braxton et al., 2007; Dalmida et al., 2009, 2013; Green, 2014; Ickovics et al., 2001; Tseng, 2013; Seth et al., 2014; Simoni et al., 2002; Simoni & Ortiz, 2003; Yu et al., 2015). For example, in a study of 59 men and 41 women initiating ART at a University Hospital in Spain, perceived stress significantly predicted CD4 cell count 6 months post ART initiation after baseline demographic and treatment factors (age, gender, education, income, duration of ART, ART adherence, CD4 cell count and viral load) were accounted for (Remor, Penedo, Shen, & Schneiderman, 2007).

In Ghana, the study by Asante (2012) of 107 PLWHA receiving treatment at the Fevers Unit of the KBTH also found that lower levels of depression and stress were significantly associated with higher levels of social support in both men and women with HIV/AIDS. It is reported that depression is about the most common mental illness prevalent in PLWHA (Bernard, Dabis, & de Rekeneire, 2017). According to Abas and colleagues (2014), an estimated 8% of PLWHA in SSA have depression, compared to 5.5% in the general population. Findings of a recent systematic review further suggest an increasing depression rate of 9% and 32% in PLWHA on ART and in untreated or mixed (treated and untreated) HIV-positive populations (Bernard et al., 2017). Overall, a systematic review of 104 studies on mental health in PLWHA in SSA has found that all studies reported $\geq 19\%$ prevalence of mental illnesses (Breuer, Myer, Struthers, & Joska, 2011).

Adherence to ART and sexual behaviours are also two other psychosocial factors that are critical in the treatment endpoints of HIV/AIDS (Du et al., 2015; Sikkema et al., 2010; USDVA, 2017). Reports indicate that although majority of PLWHA adopt safer practices following their HIV-positive diagnosis, some continue to consciously engage in high-risk behaviours. These include unprotected sex with HIV-negative persons as well as other HIV-positive persons (Du et al., 2015; Sikkema et al., 2010; USDVA, 2017). While unprotected sex with HIV-negative persons may facilitate the spread of the infection, unprotected sex with other HIV-positive persons, particularly those not on ART, may promote poor treatment outcomes via reinfection with different strains of the virus (Adedimeji et al., 2015; Molla & Gelagay, 2017). This may in turn promote viral resistance to ARVs (USDVA, 2017).

In Ghana, a cross-sectional survey conducted among 267 HIV-positive individuals attending Kumasi South Regional Hospital found high prevalence of sexual risk behaviours. Of the 175 who reported having a regular sexual partner, majority had HIV-negative partners (serodiscordant couples) or partners of unknown HIV status and more than half had unprotected anal or vaginal sex. Also, participants taking ARV were 80% less likely to have used condoms during their last sexual intercourse.

Reports similarly indicate that in spite of the current improved ARVs (Colvin, 2011), an important proportion of PLWHA continue to be non-adherent to ART (Elul et al., 2013; Kahana et al., 2015; Rangarajan et al., 2016; Robbins et al., 2014; USDHHS, 2017). Some studies have defined poor ART adherence as taking less than 95% of ART regimen (e.g., Olowookere, Fatiregun, Ladipo, Abioye-Kuteyi, & Adewole, 2016; Seyoum & Temesgen, 2017).

Indeed, there is much evidence to indicate that non-adherence to ART is associated with poorer CD4, viral load, and wellbeing outcomes for PLWHA across the globe (Bezabhe, Chalmers, Bereznicki, Gee, & Peterson, 2016; Bisson et al., 2008; Kahana et

al., 2015; Obirikorang, Selleh, Abledu, & Fofie, 2013; Olowookere, Fatiregun, Ladipo, Abioye-Kuteyi, & Adewole, 2016; Seyoum & Temesgen, 2017; Sikkema et al., 2010). The studies by Obirikorang et al. (2013) and Olowookere et al. (2016) were conducted among 201 PLWHA on ART in the Upper West Regional Hospital of Ghana and among 318 people initiating ART in Nigeria respectively. Adherence was defined as taking \geq 95% of ART within the last 7 days (Olowookere et al., 2016) and not missing a single dose (Obirikorang et al., 2013). Results of the studies showed a significant positive association between adherence to ART and immunological success (Obirikorang et al., 2013, Olowookere et al., 2016), with non-adherence increasing the risk of immunological failure (Obirikorang et al., 2013). Overall rates of adherence in the last seven days were 63% (Olowookere et al., 2016) and 82% (Obirikorang et al., 2013).

Whether through sexual risk or non-adherent behaviours, PLWHA who continuously record lower CD4 cell counts and higher viral loads, or who become resistant to ART are at an increased risk of passing on HIV infection to others. Therefore, these constitute a significant public health challenge (Robbins et al., 2014; Sikkema et al., 2010; USDHHS, 2017).

2.2.6 Summary and Critique of Biopsychosocial Factors in HIV/AIDS

In summary, a number of biological, social, and psychosocial factors have been found to influence treatment outcomes for PLWHA. These include age, gender, the ART regimen, education, social support, religiosity, ART adherence, sexual behaviours, and depression among other mental health problems. For some of these factors (e.g., age, ART adherence, religiosity, and mental health problems), there seem to be quite consistent evidence in support of their association with QOL and/or immune functioning. However, the evidence remains equivocal for many of these factors. Also, while a range of biological and behavioural factors have been investigated, these seem not to be in direct

relation to aspects of the HIV/AIDS experience that may involve emotional wounds. Even though mental health issues including depression have been explored quite extensively in this area, studies have often not linked this to specific HIV-experiences that may arouse these problems. At best, stigma has been explored as a potential source of psychological distress in PLWHA. Nonetheless, findings from these studies provide important directions concerning key factors to adjust for, in seeking to investigate the relationship between forgiveness of specific HIV-related offenses and the outcomes of PHRQOL and change in CD4 cell count. The following section reviews the literature on forgiveness as an adaptive coping mechanism that may help to offset the negative impact of HIV-related unforgiveness, and contribute to the health of PLWHA.

2.2.7 Forgiveness and Health Outcomes in HIV/AIDS: A Systematic Review

The three decades of empirical research in forgiveness has appropriately included this important population of public health interest – PLWHA. Yet, very few studies (Ironson et al., 2011; Owen et al., 2011; Wald & Temoshok, 2004a, b) have readily been identified in this area. Therefore, to ascertain the pattern of evidence for the forgiveness-health link in HIV and AIDS, a systematic review was carried out by the researcher of the extant published literature on forgiveness specifically in PLWHA.

Using the Medical Subject Headings (MeSH) search terms; “forgiv*” and “HIV/AIDS”, a search of the databases PsychINFO, MEDLINE, PsycARTICLES, and CINAHL Plus was conducted on February 3 2018. A total of 16 articles were retrieved from the four databases. A search of the PubMed database also conducted on February 3 2018 using same search terms extracted a total of 9 articles. A further search of the Journal of the International AIDS Society (JIAS), the AIDS and Behaviour Journal, and the Abstract Archive of the International AIDS Society (AAIAS) was conducted on February 7 2018. A total of 17, 33, and 14 papers respectively were retrieved. For all databases

searched, search periods were set to between 1985 (around which time empirical study of forgiveness began; Worthington, 2005) and 2018, except for MEDLINE (unidentifiable search period option), JIAS (fixed to last 6months), and the AAIAS (fixed to 2001 and 2016).

Due to the relatively few papers retrieved from these databases, the scope of the search was extended to include other databases and sources. Using the same search terms, the African Journal Online and the African Index Medicus databases were searched on June 22 2018. No paper was retrieved. Hand searches of the reference sections of retrieved articles as well as online searches via Google Scholar citation tool were also conducted. Finally, hand searches of the three available handbooks on forgiveness – Handbook of Forgiveness (Worthington, 2005), Forgiveness and Health Handbook (Toussaint et al., 2015), Handbook of the Psychology of Self-Forgiveness (Woodyatt et al., 2017) were conducted. Six (6) unique studies (non-duplicates with papers retrieved from the above searches) were retrieved from these additional searches.

Overall, 95 papers were retrieved from these searches. The titles and abstracts of all papers were thoroughly appraised for their relevance to the review. The full texts (where available) of papers that showed relevance in the abstracts were appraised. All levels of appraisal were done in line with a set inclusion criteria. The flowchart in Figure 3.0 details the number of papers excluded at these levels of the appraisal.

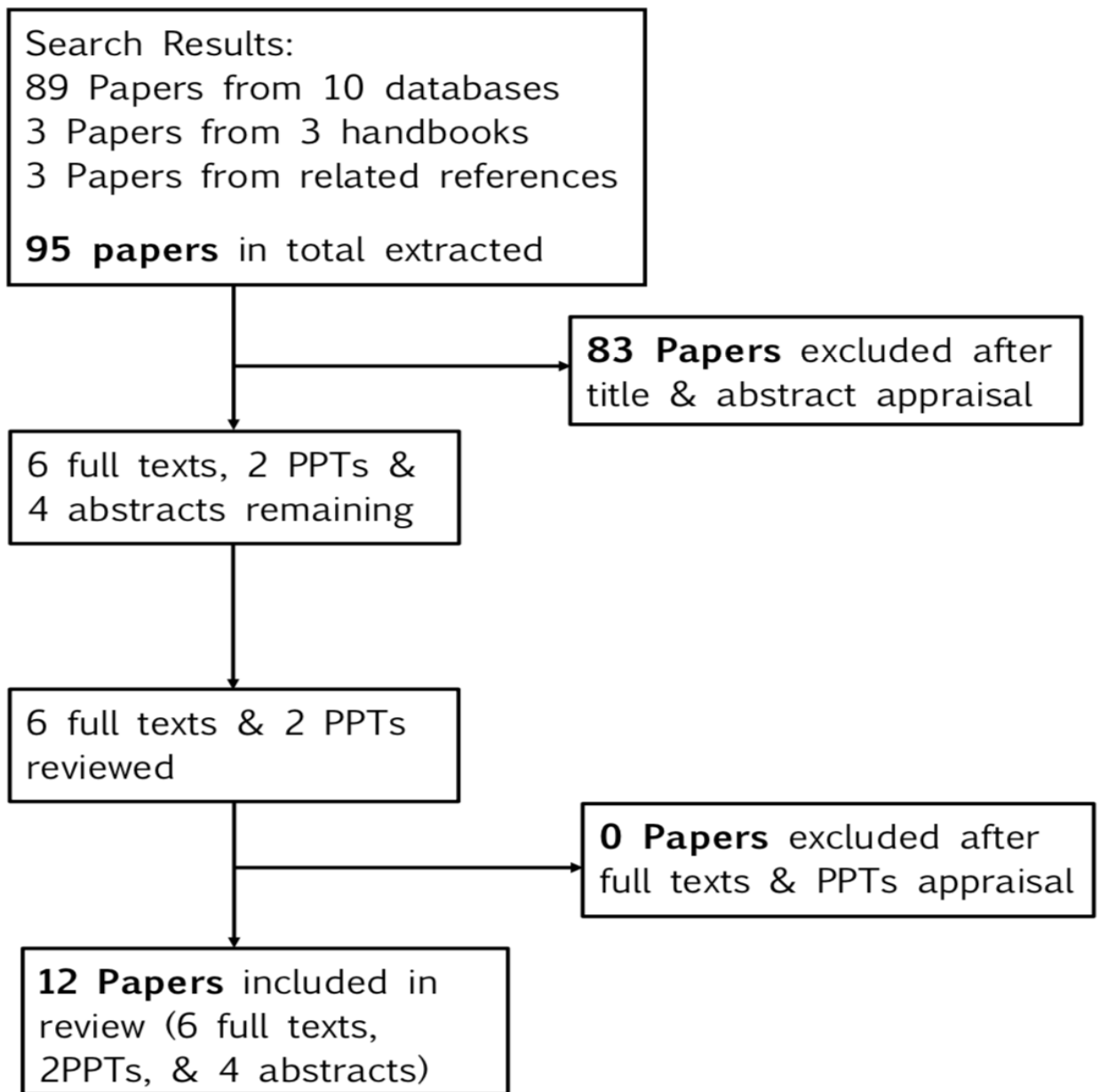


Figure 2.3: *Flow chart of search strategy, appraisal, and extraction of retrieved papers (PPT: PowerPoint)*

The illustration in Figure 3.0 indicates that following title and abstract appraisal, a total of 83 papers were excluded from the extracted 95 papers. No paper was excluded following full text appraisal. Papers were excluded if they were duplicate reports or participants were not PLWHA. Papers for which full texts could not be obtained and in which the abstracts provided insufficient information were also excluded. In line with a set inclusion criteria, papers were included in the review if the study assessed forgiveness as

an independent, dependent, or mechanism variable self-reported or as experienced by PLWHA. Studies were also included if participants were ≥ 15 years old, and if forgiveness was specifically assessed/explored in relation to at least one health/treatment outcome (assessed by standard scales or as experienced by participants). Health/treatment outcomes included wellbeing factors (e.g., QOL, life satisfaction), clinical factors (e.g., recovery, physical/mental symptoms, CD4 count, viral load), and critical health-related factors (e.g., ART-adherence, social support, and stigma).

The 12 papers included in the systematic review comprised 4 full text journal articles (Chandra et al., 2009; Ironson et al., 2011; Kaldjian, 1998; Martin et al., 2012), 2 full text dissertations (Gates, 2012; Hua, 2012), 2 conference abstracts (Wald & Temoshok, 2004a; Wald & Temoshok, 2004b, in Temoshok & Wald, 2005), 2 dissertation abstracts (De La Cruz, 2009; Muhomba, 2008) and 2 power point slides (Owen et al., 2011; Ridings et al., 2008), which were also conference presentations. Data from these studies was first collated into a spreadsheet (see APPENDIX K). The following sections review the included studies on forgiveness in PLWHA according to three broad themes; critical health-related factors, QOL, and physiological markers. These themes largely reflect the variables that forgiveness has been studied in relation to.

Forgiveness and Critical Health-Related Factors in HIV/AIDS

Seven of the 12 papers included in the review assessed forgiveness in relation to at least one critical health-related psychosocial factor. These were stigma, depression, life stressors, satisfaction with health, religious involvement, unprotected sex, medication adherence, contraception use and prior resuscitation discussions.

Muhomba (2008) investigated the relationship between trait forgiveness, HIV/AIDS-related stigma, and the state forgiveness process among 112 PLWHA in the US. Results of the cross-sectional survey showed that internal stigma, trait forgiveness,

and perceived family stigma predicted stage-one state forgiveness, with perceived family stigma emerging the strongest predictor of this stage of state forgiveness. The end stage of the state forgiveness process was also predicted by trait forgiveness, together with ethnicity and sexual orientation.

In a randomized clinical trial to examine the effects of a forgiveness intervention on perceived HIV-related stigma of 57 PLWHA in the US, Hua (2012) found that at six months post-intervention, treatment group men reported significantly higher levels of dispositional- and self-forgiveness than control group men. Self-forgiveness prior to and six months after the intervention significantly accounted for 34% and 28% respectively of the variance in HIV-related stigma. Overall, while the forgiveness intervention did not significantly reduce HIV-related stigma, self-forgiveness was found to be better than forgiveness of others in predicting HIV-related stigma.

Kaldjian (1998) conducted a study on the role of spiritual beliefs (including forgiveness) in end-of-life decisions of 90 hospitalized HIV+ patients. Of the 22 participants who had had prior resuscitation discussions with their physician, these discussions were significantly more likely among those who believed in God's forgiveness and less likely in those who perceived HIV as a punishment from God or in general. Furthermore, fear of death was more likely in those who perceived HIV as punishment or felt guilty about having HIV and less likely in those who read the Bible frequently or attended church regularly.

The association between forgiveness and contraception use as well as desires to have another child was examined in a cross-sectional survey of 96 HIV+ women in the US (De La Cruz, 2009). Results of the survey showed that a forgiving disposition was significantly associated with various indicators of contraception use for preventing pregnancy.

Two studies have investigated the role of forgiveness in depression among PLWHA. Drawing on the traditional stress and coping model, Ridings et al. (2008) examined the direct relationship between forgiveness and levels of depression as well as the moderating effect of forgiveness on stigma-depression relationship in PLWHA. It emerged that higher levels of perceived stigma associated with higher levels of depression. However, higher levels of forgiveness associated with lower levels of both depression and HIV-related stigma. Forgiveness did not moderate the stigma-depression relationship, a finding the authors attributed to their rather small sample size (n=30).

Wald and Temoshok (2004a) employed the Vignette Similarity Rating Method (Wald & Temoshok, 2004a, 2004b) to assess depression among other factors in relation to forgiveness across four contexts – self, others, God, and situations. Participants included 131 HIV+ adults in a US cross-sectional survey. The results indicate that forgiveness correlated with fewer depressive symptoms, life stressors, and greater health satisfaction more strongly than religious involvement did. Forgiveness remained significantly associated after controlling for religious involvement. Perhaps more importantly, the study found that forgiveness related to patients' HIV-infection was associated with decreased unprotected sex (Wald & Temoshok, 2004a). Furthermore, of the 91 participants who were on ART, feeling unforgiven by important others was associated with significantly more missed doses of medication in the previous week (Wald & Temoshok, 2004b).

Forgiveness and Quality of Life in HIV/AIDS

Four of the 12 studies included in the systematic review reported findings on QOL. Chandra and colleagues (2009) assessed forgiveness as a dimension of QOL in a cross-sectional survey study to validate the WHO QOL for people with HIV/AIDS-120 measure (WHOQOL-HIV 120). The results indicated that females scored significantly higher than males only on the forgiveness and blame facet and only on its corresponding religiosity

and personal beliefs domain. Compared to older and single women, younger and married women also reported higher scores on the forgiveness and blame facet of the WHOQOL-HIV 120.

The transactional model of stress and coping underpinned two QOL studies. First, Gates (2012) drew on the model to examine how dispositional forgiveness, maladaptive coping, and stigma interact to influence QOL. Findings of the cross-sectional correlational study indicated that maladaptive coping increased experience of stress-related stigma and reduced QOL. However, dispositional forgiveness was associated with lesser use of maladaptive coping, which was also associated with QOL.

Martin and colleagues (2012) also applied the model to study attachment style and forgiveness on indicators of QOL in 228 HIV+ adults (72% on ART) in US. Attachment anxiety and avoidance, and forgiveness of self and others were related to physical health-related QOL including pain experience. Among participants who reported attachment anxiety, forgiveness of self was associated with improved perceptions of health. Whereas, greater forgiveness of others (compared to lower forgiveness of others) was associated with more pain. According to the authors, when individuals high in attachment anxiety forgive others, they may continue to negatively re-appraise their interactions with offenders, due to their defective attachment style.

The cross-sectional vignette survey of 131 HIV+ US adults (Wald & Temoshok, 2004a) also assessed forgiveness in relation to QOL. Participants who rated themselves as more similar to forgiving vignette characters and less similar to unforgiving vignettes reported higher QOL. More importantly, the study found that the size of this association was larger than that between religious involvement and QOL.

Forgiveness and Immune Functioning Markers in HIV/AIDS

Finally, two studies were found that determined the association between forgiveness and immune functioning markers (preserved or increasing CD4 cell count and reducing viral load levels) in PLWHA on ART. While it is admitted that the specific mechanisms linking forgiveness to immunological markers in HIV remains to be fully understood (Temoshok & Wald, 2005), first, it has been explained that forgiveness can increase motivations to engage in positive health behaviours such as adhering to the ART regimen (Temoshok & Wald, 2005). Increased adherence to ART typically results in viral suppression, which in turn increases the amount of viral-free CD4 cells. Another explanation is that there is a direct link between forgiveness via parasympathetic nervous system processes that act to counteract chronic sympathetic nervous system mechanisms (in response to unforgiveness as a source of prolonged stress) and immunity (Lavelock et al., 2015). This latter explanation draws from the broader stress literature that has largely found chronic psychological stress such as depression as a neuroimmuno-modulator, independent of sociodemographic, behavioural, and disease factors (e.g., Amanor-Boadu et al., 2016; Rehm & Konkle-Parker, 2017; Remor, Penedo, Shen, & Schneiderman, 2007; Jeon & Kim, 2016). For instance, it has been reported that during autonomic nervous system activation, neurotransmitters released by the sympathetic nerve endings (e.g., epinephrine) and parasympathetic nerve endings (e.g., acetylcholine) bind to their respective receptors on the surface of immune cells, initiating neuroimmune processes (Jeon & Kim, 2016). According to Jeon and Kim (2016), chronic arousal of the sympathetic nervous system without the normal counteraction by the parasympathetic nervous system can activate the immune system with increased levels of pro-inflammatory cytokines. Accordingly, studies in HIV have reported significant associations between chronic stress situations (e.g., perceived prolonged stress, anxiety, depression, worry, and hopelessness) and suppression of immune system markers including decreased CD4 count,

T cell proportions, Natural Killer cell count, and lymphocyte proliferation responses independent of ART adherence and other biopsychosocial control factors (Amanor-Boadu et al., 2016; Rehm & Konkle-Parker; Remor et al., 2007).

In their study to determine the association between interpersonal forgiveness and CD4 cell percentage, Owen and colleagues (2011) found that among a sample of 65 adults with HIV/AIDS in the US, greater forgiveness was associated with higher CD4 cell percentages. The hierarchical linear regression model with 57 of the sample also revealed that forgiveness remained significantly associated with CD4 cell percentages when socio-demographic factors (age, gender, education, race, and years since HIV+ diagnosis), health behaviours (medication adherence, and substance use), and viral load were controlled for.

Ironson and colleagues (2011) studied the association between scores on the view of God Inventory and the outcomes of CD4 count and viral load changes. Data were collected on a total of 101 HIV+ persons (80% on ART) in the US every 6 months for 4 years. Results of the prospective longitudinal study showed that over the period of 4 years, a positive view of God as forgiving/merciful/benevolent predicted slower disease progression. Whereas, a negative view of God as harsh/judgmental/punishing was associated with significantly greater loss of CD4 cells, and increases in viral load. These results were noted after adjusting for baseline (CD4, viral load, education, ethnicity, age, gender, and ART medications) and also, psychosocial factors (church attendance, ART adherence, sexual risk behaviour, substance use, mood, coping, and social support). Controlling for the psychosocial variables, significant and substantial effects similar to or greater than the effect sizes recorded for depression and coping – two of the most predictive psychosocial variables of disease progression to date – were noted.

2.2.8 Summary and Critique of Forgiveness Studies in HIV/AIDS

In summary, the systematic review has revealed that so far, a number of variables, largely psychosocial, have been studied in relation to forgiveness in PLWHA. Overall, the studies reviewed suggest that first, forgiveness seems to play a positive role both in clinical (physiological) and patient-reported/behavioural outcomes.

Secondly, the significant associations found between forgiveness and health outcomes in PLWHA lend support to the SCMF and the BPSFCF. Specifically, associations were found between forgiveness and variables such as ART adherence, sexual risk behaviours, social support, depression, stigma, and QOL (Chandra et al., 2009; Gates, 2012; Martina et al., 2012; Muhomba, 2008; Ridings et al., 2008; Wald & Temoshok, 2004a, 2004b). These seem to provide support for the indirect behavioural pathway theorized between forgiveness and health outcomes (Temoshok & Wald, 2005). On the other hand, the findings that forgiveness predicted preserved/higher CD4 cell count (Ironson et al., 2011; Owen et al., 2011) and lower viral load levels (Ironson et al., 2011) even after controlling for key behavioural and other psychosocial factors seem to support the theorized direct link between these variables via the stress response system (Temoshok & Wald, 2005).

Thirdly, while some studies found that forgiveness moderated the relationship between stress-inducing phenomena (stigma and attachment anxiety) and health outcomes (Gates, 2012; Martina, 2012), others found no such mechanism effects (Ironson et al., 2011; Ridings et al., 2009). These mixed findings may be pointing to the fact forgiveness is a highly complex and multidimensional coping strategy with a wide range of biological, psychological, and social antecedents and consequences (Riek & Mania, 2012). Thus, depending on the factors at play (e.g., state vs. trait forgiveness, self, other, or spiritual context), forgiveness may possibly have direct effects and/or indirect effects.

Ironson and colleagues (2011) reported a finding worth noting; the effect sizes of the relationship between negative view of God and both CD4 and viral load changes were larger compared to those of the relationship between a positive view of God and the outcomes. The stronger effects of the negative versus positive view of God relationship with CD4 and viral load seems to suggest that while forgiveness may promote positive health outcomes, holding grudge, anger, and other negative attitudes towards God may be more debilitating. Secondly, that a negative view of God in particular, proved a stronger predictor of CD4 and viral load over and above depression, religiosity, social support, ART adherence, sexual risk behaviours, etc. suggest that greater attention may need to be paid to the initial stages of the forgiveness process. This is the stage, where negative unforgiving responses to a perceived offence may be at its peak, possibly causing the most havoc to health. Thus, forgiveness interventions at this stage may better help PLWHA to experience reductions in any negative views and feelings they may have about their perceived offenders. Furthermore, this finding raises the question of whether a change from more negative to less negative or to positive responses may be more influential on health outcomes compared to a steady state of positive thoughts and emotions (Harris & Thoresen, 2005). In turn, it highlights the benefits of studying forgiveness as a staged process. Although, majority of the forgiveness studies in HIV/AIDS have focused largely on global dispositional forgiveness.

The study by Muhomba (2008) was the only study that considered the differential impact of the initial and final stages of forgiveness. In support of the process models of forgiveness, different sets of predictors were found for each stage (Muhomba, 2008), lending support for the decisional forgiveness and emotional forgiveness stages. As emphasized by proponents of the process models, the intra-individual prosocial change toward a transgressor that ranges from letting go of the negative (decisional forgiveness)

to expressions of the positive (emotional forgiveness) is a foundational and undebated feature of forgiveness (Freedman et al., 2005; McCullough et al., 2000).

All three major contexts of forgiveness – intrapersonal, interpersonal, and spiritual – have been explored across the forgiveness studies conducted so far in PLWHA. Although, this was not clarified in some studies (Chandra et al., 2009; De La Cruz, 2009; Muhomba, 2008). Of the four studies that assessed multiple contexts (e.g., Hua, 2012; Martin et al., 2012; Wald & Temoshok, 2004a, 2004b), the differential impact of context was not examined in three of these studies. Ironson and colleagues (2011) similarly reported a limitation to their study over its lack of answer to the question of whether a positive or negative view of God is a stronger predictor of disease progression. Perhaps instead of being limitations of these studies, analysis within, rather than across contexts, may be in line with some propositions that each context of forgiveness entails different processes and may have different impacts on health (Hoyt & McCullough, 2005; Toussaint & Worthington, 2017). However, Hua (2012) reported that self-forgiveness was better than forgiveness of others in predicting HIV-related stigma following a forgiveness intervention. This finding may be due to the reason that where comparable, forgiveness of others may be more complex to attain, as it may be dependent on a host of idiosyncratic motives of the victim about the offender, the offense, and the relationship between offender and victim (Hoyt & McCullough, 2005). Self-forgiveness especially within intrapersonal contexts, may be dependent more on victim-related factors such as personality traits and self-image (Hoyt & McCullough, 2005; Ironson et al., 2011). Thus, while self-forgiveness may not be any easier to achieve than forgiveness of others (Woodyatt et al., 2017), the dynamics involved may be less complex.

A number of methodological shortcomings were noted in the studies reviewed. About half of the studies did not report whether, or the percentage of participants on treatment. The studies that linked forgiveness to physiological outcomes utilized small

sample sizes (e.g., 30 in Ridings et al., 2008 and 57 in Owen et al., 2011). Ironson and colleagues' study (2011) involved a fairly large sample of 101 HIV+ adults. It is not certain, the reasons for the small sample sizes. Although this could have accounted for some unexpected findings (e.g., Riding et al., 2008). The WHOQOL-HIV-120 and the Medical Outcomes Study QOL measure were common QOL measures used in some of the studies. While the WHOQOL-HIV-120 measure has been validated in PLWHA across cultures (Chandra et al., 2008), its long length (120 items) carries with it a potential burden on participants. This may especially be the case, where participants may have to complete other self-report measures. Also, none of the studies done so far in PLWHA has particularly considered how the typical cultural orientation of the study settings may have had bearings on the findings. Furthermore, with the exception of Ironson et al.'s (2011) prospective longitudinal design and the RCT by Hua (2012), the studies were predominantly cross-sectional. These may be because the scientific study of forgiveness is still relatively new. Therefore, in some populations, much of the available research may still be pioneering studies for which cross-sectional designs to first explore whether any relationships or effects exist, may be necessary. It is imperative that future studies, particularly among HIV/AIDS populations for which some evidence of the influence of forgiveness has been found, focus on building on this evidence via longitudinal and randomized controlled designs across cultures and for different stages and contexts of forgiveness.

Finally, it is readily noticeable that the extant evidence on the influence of forgiveness on HIV/AIDS health outcomes is hugely disproportionately centred in the West. Except for Chandra et al.'s (2009) study which was carried out in the largely collectivistic society of India, all 11 remaining studies were conducted in the US. This disproportion also implies that with the exception of Wald and Temoshok's (2004a, 2004b) vignettes, at present no measures of forgiveness may have been particularly

validated in PLWHA in non-Western societies. This has implications for future validation studies on forgiveness measures in non-Western societies.

2.2.9 Gaps in Forgiveness in HIV/AIDS Studies

First and foremost, there exists a huge gap in knowledge of the potential influence of forgiveness on health outcomes among PLWHA in generally collectivistic societies including Ghana. As unearthed from the systematic review, at present no study has been identified to the researcher's knowledge that has scientifically investigated forgiveness of the offenses that HIV-positive individuals in the region may typically experience. Whether a change in how PLWHA respond to perceived injustices would impact health outcomes has yet to be examined.

Secondly, research in the area seem not to have examined forgiveness as related to specific HIV-positive offenses experienced by PLWHA. The existing studies have largely based on typical offensive situations such as stigma. It is important to understand how forgiveness of actually experienced offenses may influence health outcomes for PLWHA.

Thirdly, not much is known about the relative influence on HIV/AIDS health outcomes of these two core stages/forms of the forgiveness process; decisional forgiveness and emotional forgiveness. In typically interdependent cultures like Ghana (Dzokoto, 2010), it has been reported that people may experience and report more of decisions to forgive possibly due to values for maintaining interpersonal harmony and also the less attention paid to emotions (Dzokoto, 2010; Hook et al., 2009; Hook et al., 2012). Thus, it is important to examine differences between the potential greater decisions to forgive and emotional forgiveness in relation to health of PLWHA. Furthermore, in such generally interdependent cultures, it may be important to understand how self-forgiveness manifests (or does not) in relation to self-inflicted offenses experienced within these societies (Woodyatt et al., 2017).

In addition, not much is known about the important factors that may influence the forgiveness–health link in PLWHA in generally collectivistic cultures. The evidence gathered in the West is inconclusive regarding the intervening mechanisms that may influence the forgiveness-health link. While studies have found quite strong associations between forgiveness and critical psychosocial factors (e.g., ART adherence, depression, sexual behaviours, social support; Wald & Temoshok, 2004a; 2004b), these have not had any interaction influence in the few studies that examined the forgiveness-health outcomes relationship (Ironson et al., 2011; Owen et al., 2011). As the studies that have examined these potential pathways and conditions have involved small sample sizes, replicating similar models among larger samples of PLWHA may help to clarify some of these inconsistencies in the HIV/AIDS literature.

Finally, all the studies conducted to date on forgiveness in PLWHA, have solely utilized quantitative designs to examine this complex multidimensional phenomenon. Indeed, in seeking to replicate the evidence for the forgiveness-health relationship, it is imperative to first examine this association using a quantitative approach. However, for at least two core reasons, it is crucial to follow the quantitative investigation with an in-depth qualitative study on forgiveness from the perspectives of PLWHA in Ghana. First, considering that the measures adopted for the quantitative study have largely been developed from Western data, triangulation of any findings with narrative data on the lived experiences of forgiveness and health among PLWHA in Ghana is in order. Secondly, that this may well be the first forgiveness study among PLWHA in Ghana (and probably the whole region), a follow-up qualitative study may allow for data-driven themes that may provide deeper contextual enhancement to the survey findings. Therefore, the present study sought to address the aims and objectives of the study using a mixed method study design.

2.3 Rationale for the Present Study

The present study may be the first to contribute to our knowledge of how forgiveness as an adaptive coping mechanism may manifest in the health outcomes of PLWHA in Ghana and perhaps the wider region of Africa. At present, no evidence base on this potential association is available in Ghana nor the wider region, despite the region bearing a disproportionate burden of the global HIV/AIDS pandemic.

Secondly, the study would add to the forgiveness literature on the relative importance of decisional and emotional forgiveness in PLWHA in Ghana's typical collectivistic society. Similarly, findings of the study would provide more understanding of key behavioural factors that may interact with the potential forgiveness-health association.

In addition, the study would help to address key methodological shortcomings in existing studies such as some samples not being on ART. Finally, it may contribute to improving treatment experiences for PLWHA in Ghana by informing culturally-sensitive forgiveness interventions. At present, PLWHA in the country receive counselling soon after a positive HIV diagnosis. However, this is largely focused on encouraging post-diagnosis self-management behaviours particularly, adherence to ARVs and practice of protective behaviours. It appears that not much focus is placed on assessing and addressing psychological responses to the potential trauma of receiving a lifelong, highly stigmatized, and daily managed condition, coupled with the range of painful modes by which individuals may perceive to have acquired the condition.

Overall, this research was carried out for its potential significant contributions to theory and knowledge, and for its possible implications for clinicians, counsellors, public health and health psychology practitioners, policy makers, and researchers.

2.4 Operational Definition of Terms

Adherence: Not missing a single ART dose within the last 7 days of completing the survey.

AIDS: Acquired Immune Deficiency Syndrome is the end stage of HIV infection.

ART: Antiretroviral therapy refers to the management of HIV/AIDS using antiretroviral drugs.

ARV: Antiretrovirals (ARVs) are the medications/drugs used to treat HIV/AIDS infection.

CD4 cells: The cluster of differentiation-4 cells are the immune cells attacked by the HIV virus when the virus enters the human body. The higher the CD4 count, the healthier the immune system.

Change in CD4 cell count: Difference between first recorded CD4 count and CD4 count taken concurrently with forgiveness questionnaire completion at the time of study.

Decisional forgiveness: Change in a person's behavioural intentions toward an offender (e.g., deciding not to retaliate).

Disease: An objective description of whether an individual is well or unwell via medical/clinical indicators such as CD4 cell levels and viral load levels.

Emotional forgiveness: Eventual replacement of negative unforgiving emotions (e.g., bitterness and anger) with positive emotions (e.g., empathy) toward an offender.

Forgiveness: forgiveness in this study is defined a freely made choice to forgo negative cognitive, emotional, and behavioural responses (e.g., anger, guilt, resentment) toward a person who caused a hurt, and work toward developing positive cognitive, emotional, and behavioural responses (e.g., empathy, benevolence) (Enright & Fitzgibbon, 2000; Toussaint et al., 2012).

HIV: The human immunodeficiency virus is the virus that causes the HIV infection.

Health: A complete state of physical, psychological, and social (including spiritual) wellbeing, not merely the absence of disease.

Illness: An individual's subjective perception of whether he/she is well or unwell.

Interpersonal forgiveness: forgiveness of another person who has caused an offense.

Intrapersonal forgiveness: forgiveness of one's own self for a perceived self-inflicted offense.

Negative attitudes toward God: These constitute views of God such unkind, due to an offense perceived to be a result of the will, permission, or punishment of God.

Perceived offense: an individual's consideration of a behaviour as a wrong doing or injustice whether perpetrated by self or others and for which the individual feels negative painful thoughts, emotions, and behaviour motivations.

Positive attitudes toward God: These constitute views of God such as caring, regardless of an offense perceived to be a result of the will, permission, or punishment of God

Psychological distress: signs of depression and anxiety indicated by low scores on the Kessler Psychological Distress Scale.

Psychological health-related quality of life: Individuals' perception of their psychological wellbeing as indicated by scores on the psychological health domain of the WHOQOL-BREF.

QOL: Individuals' perception of their wellbeing largely across four life domains – physical health, psychological health, social relationships, and their environment.

Sexual behaviours: Behaviours including multiple sexual partners, condom use, and anal sex.

Spiritual forgiveness context: In this study, positive attitudes toward God constitutes forgiveness in the spiritual context.

Unforgiveness: The delayed negative thoughts, emotions, and behaviours (e.g., retaliatory thoughts, hatred, avoidance) experienced toward an offender in response to an offense he/she is perceived to have caused.

CHAPTER THREE

GENERAL METHODOLOGY

3.0 Introduction

This section of the thesis outlines the strategy or plan of action that lies behind the selection and use of the methods that were adopted to collect, analyse, and interpret the data for this study. It begins with a brief overview of the philosophical underpinnings of the mixed methods approach to this study, narrowing in on the rationale for an explanatory mixed methods design. This is followed by a description of the research settings used in the study. The chapter closes by highlighting the ethical principles duly considered in carrying out this study.

3.1 Research Approaches: A Brief Overview of Philosophical Assumptions

A research approach concerns the plans, procedures, and underlying assumptions that guide a piece of research through the formulation of the research problem to the detailed methods utilized in collecting, analysing, and interpreting data (Creswell, 2014). For many decades now, philosophical assumptions about the nature of being or reality (ontology) and about how we know what we know and whether what we know is trustworthy (epistemology), have guided which research approaches and methods researchers have employed in seeking answers to formulated questions. Traditionally, researchers have worked either within the quantitative or qualitative research approach as two distinct paradigms with incommensurable sets of beliefs and dictates about how social reality should be studied (Bryman, 2012).

Researchers with worldviews of absolute knowledge and a single reality that can be studied objectively and independently of the researcher may align their research processes within the positivist scientific paradigm. Accordingly, they may seek to establish relationships and/or causality through correlational and experimental

methodologies consistent with the quantitative approach (Bryman, 2012; Creswell, 2014). On the other hand, researchers may be of the view that reality is subjectively constructed and thus multiple, acknowledging the unique experiences of individuals and groups of people within a range of contextual factors (e.g., race, gender, politics, culture, historical background). Researchers identifying with this worldview may adopt the interpretive/relative and/or critical paradigms of the qualitative approach (Bryman, 2012; Creswell, 2014). These paradigms include critical constructivism, hermeneutics, feminism, and phenomenology. Typical methodological approaches here may include exploring and interpreting meanings via interviews, written narratives, participant observations, etc., while acknowledging researchers' own backgrounds as likely influences on the interpretation of participants' meanings of social phenomena.

Bryman (2012) has noted that these seemingly parallel paradigmatic approaches may suggest that research designs that combine methodologies across both approaches are impossible. However, beyond the fact these two approaches each has strengths and weaknesses that may be complementary to the other, researchers may actually hold both worldviews depending on the nature, aims, and focus of a specific research problem they may seek to investigate (Bryman, 2012; Creswell, 2014). Thus, the mixing of methods is not only a possible approach, but one recognized over the years as another major research approach within the social sciences (Bilinski, Duggleby, Rennie, & 2013; Bryman, 2012; Creswell, 2014).

3.1.1 The Mixed Method Approach: Philosophical Underpinnings of the Study

The mixed method is an approach to research, where elements of both quantitative and qualitative approaches are combined to address different components of a research problem. Specifically, Creswell (2014) defines mixed method research as an approach to inquiry that involves collecting both quantitative and qualitative data, integrating the two

forms of data, and using distinct designs, each of which may involve philosophical assumptions and theoretical frameworks. This approach therefore bothers on a family of paradigms within the quantitative-qualitative continuum (e.g., post-modernism, critical realism, and pragmatism), with a primary assumption being that either approach in isolation is insufficient to unearth comprehensive understanding of the research problem in question (Bilinski et al., 2013; Creswell, 2014; Creswell & Plano Clark, 2007).

The ontological position of the researcher in light of the present study is that first of all, HIV/AIDS is a health phenomenon that exists, and which is associated with consequences for one's health outcomes independent of subjective perceptions about the disease and its effects. Secondly, the researcher is of the view that notwithstanding its objective existence and potential impact, the extent of impact that HIV/AIDS may have on health outcomes may be influenced by individuals' subjective experiences related to the infection and its treatment. These include their illness beliefs (e.g., how they contracted HIV), treatment beliefs (e.g., whether ARVs are safe), self-management behaviours (adherence to ART), and the cultural experiences that shape their perceptions of offenses, forgiveness, unforgiveness, health, and wellbeing. Accordingly, the researcher is of the epistemological views that first, correlational and other inferential analyses of closed-ended data from a sample of PLWHA are required to obtain knowledge of the influence of forgiveness of HIV-specific offenses on health outcomes. Secondly, to understand the possible influence of subjective experiences of HIV/AIDS on the forgiveness-health association, it is important to explore and interpret interview data on how PLWHA in Ghana experience and make meaning of forgiveness and health.

These philosophical positions tie in particularly with the pragmatic worldviews, which emphasize on the research problem and what works to provide the best understanding of the problem (Creswell, 2014). Thus, rather than being committed to any one philosophical stance, pragmatism draws on pluralistic methods, techniques, and

procedures across the quantitative-qualitative continuum in support of the mixed method research approach (Bilinski et al., 2013; Cameron, 2011; Creswell, 2014).

3.2 Research Design: Explanatory Sequential Mixed Methods Design

The present study employed the explanatory sequential mixed methods design. It is characterized by the collection and analysis of quantitative data (Study 1) followed by the collection and analysis of qualitative data (Study 2). Data from the two stages are then integrated using findings from the qualitative study mainly to explain that from the quantitative study. In the present study, the quantitative phase involved collection of cross-sectional survey data to explore the forgiveness-health relationship. The subsequent phase involved collection of phenomenological interview data to understand how PLWHA experienced and made meaning of forgiveness as pertaining to various aspects of their lives. Findings from the two phases were then integrated.

This design was adopted because the main aim of the present study was to ascertain the association between forgiveness of HIV-specific offenses and the outcomes of PHRQOL and immune markers. Thus, the quantitative method was appropriately adopted as the primary and weightier method of inquiry (indicated by the uppercase letters, “QUANT”). The complementary qualitative method (indicated by the lowercase letters, “qual”) aided the ability of the study to meet its overall aims. Namely, to understand any forgiveness-health associations that were uncovered in Study 1 from the lived perspective of PLWHA in Ghana’s generally collectivistic cultural societies. Thus, it best suited the central aim of the study as a follow up to the primary quantitative method to help triangulate, enhance, and most of all, provide cultural contextual explains and illustrations of the quantitative findings.

Figure 4.0 graphically illustrates the explanatory sequential mixed method design employed in the present study. The figure indicates that following completion of Study 1 and Study 2 respectively, findings from the two studies were integrated in a number of ways. According to Bryman (2012), quantitative and qualitative research can be combined in at least sixteen different ways depending on the purpose for which a mixed methods study is undertaken. The present study integrated the two datasets in five main ways: sampling, triangulation, illustration, enhancement, and most importantly, explanation.

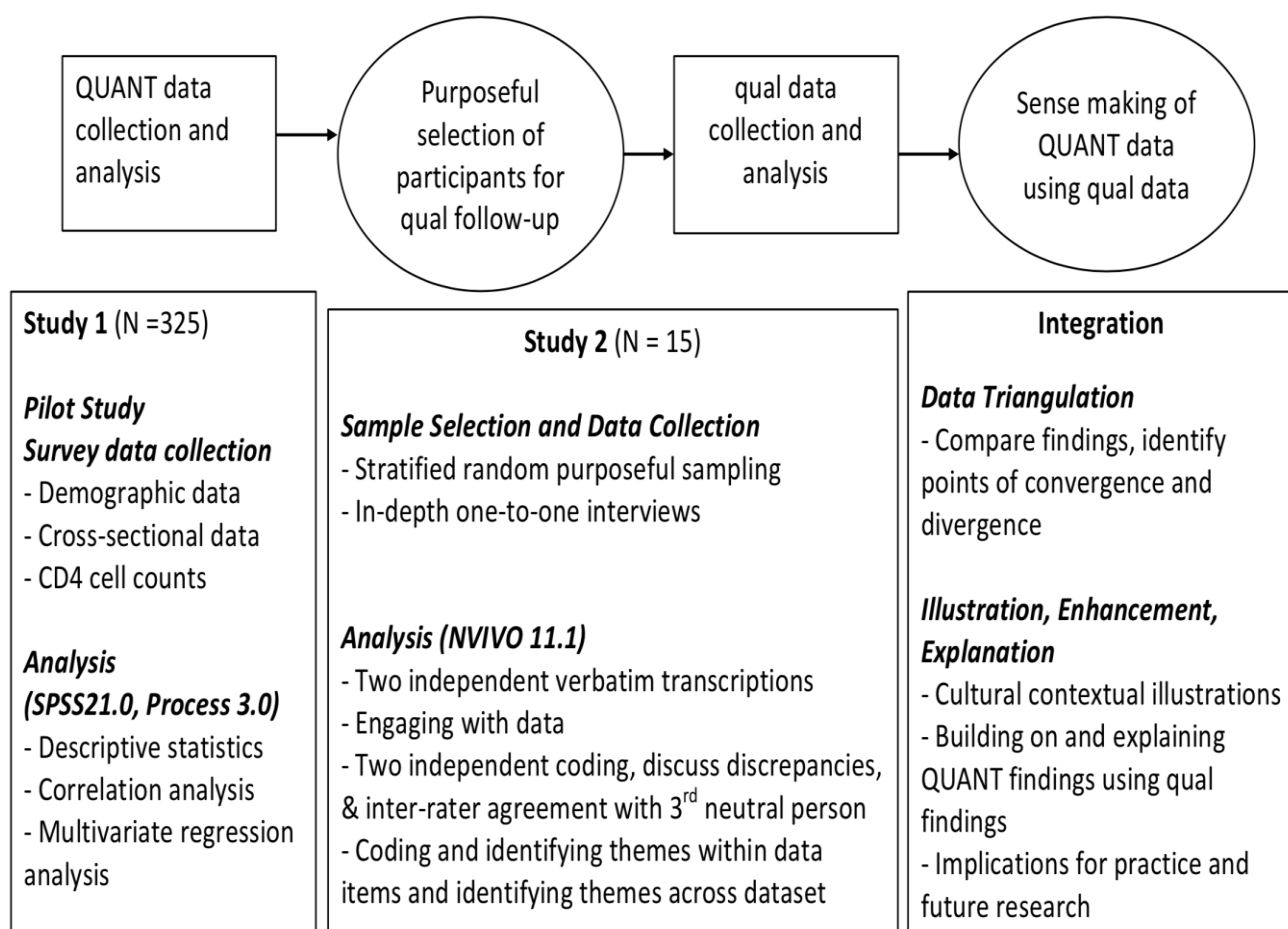


Figure 3.1: Research process for the two-phase study design adapted from Bilinski et al., 2013

In terms of sampling, the study first connected the two sources of data by purposefully selecting participants for the qualitative study according to the age categories identified in the quantitative survey. Triangulation involved comparing findings from both

stages to identify points of convergence and divergence. The qualitative study was also used to illustrate – situate the quantitative findings within a cultural context – or as described by Bryman (2012), to put flesh on the bones of the dry survey findings. The complementary data further helped to augment, build on, or make more sense of the survey findings in general, i.e. to enhance the quantitative study. Finally, evidence gathered from the qualitative study was drawn on to help explain the nature and directions of the associations identified in the survey study.

3.3 Research Setting

The study was conducted across the three largest teaching hospitals in Ghana – Korle-Bu Teaching Hospital (KBTH), Komfo Anokye Teaching Hospital (KATH), and Tamale Teaching Hospital (TTH). These are respectively located in the capital cities of the Greater Accra region, Ashanti region, and the Northern region. Thus, although there may be some differences across these regions (e.g., slightly more Islamic religion in Tamale), they are particularly similar in their diversity of local languages and subcultures as the capital cities of their respective regions. At each of these hospitals, there is a unit dedicated to the care of PLWHA (KBTH) or to people with sexually transmitted infections in general (KATH and TTH). For ethical reasons, the names of the specific units are withheld. There is also a more enclosed waiting room at each of these settings, where patients who may not be particularly comfortable waiting at the usual out-patient areas may wait till their turn is up to be seen by the healthcare personnel.

Reports indicate that although HIV/AIDS services have been decentralized across district hospitals and clinics in the country, the majority of HIV/AIDS cases are seen in the three selected teaching hospitals. This may be because the teaching hospitals expectedly have larger diagnostic, treatment, and logistic facilities. However, other reports suggest that many HIV-positive individuals in Ghana prefer to be treated at the teaching hospitals,

which are not only larger, but may be located farther away from their areas of residence. Perhaps, this may be to avoid the possibility and risk of being easily identified by known others, who may also be visiting the local hospitals. Thus, these hospitals were selected as the settings for this study because of the possible access to PLWHA with diverse biographic, psychological, and social (including religious and cultural) backgrounds.

3.4 Ethical Considerations

The study protocol for the two-phase study was first reviewed by recognized research ethics institutions; Ethics Committee for Humanities of the University of Ghana and the Research and Development Units of all three teaching hospitals and the 37-Military hospital. All participants were informed about the voluntary nature of and procedures involved in the study. Written informed consent to voluntarily participate in the study were obtained from participants prior to their enrolment in the study. At the quantitative phase of the study, confidentiality of responses and participants' identity were ensured by first of all not indicating any personally identifiable information such as names on the questionnaires. For participants who consented to follow-up and as such had their telephone numbers written at the back of the questionnaires, data confidentiality and identity protection were ensured by the researcher by securely storing the questionnaires in a safe place away from the reach of any third parties. Again, to protect participants' identity, majority of the data collection personnel were healthcare professionals already working with participants. The few non-healthcare personnel signed an undertaken to not disclose participants' identity under any given circumstance.

It was proposed in the protocol that confidentiality and privacy of interview data and participants will be ensured by excluding any participant that the researcher may happen to know outside of the present study. However, no such situation was encountered by the researcher, who conducted all the interviews across the three teaching hospitals.

Although, the interview session was cancelled for one participant at the Tamale Teaching Hospital. This was because the participant appeared extremely emotional while sharing her views on the opening questions, shedding tears a few minutes into the interview. The researcher thought it wise to cancel the interview and offered to connect her to a clinical psychologist. However, she insisted that she did not need to see the psychologist. The researcher nonetheless reminded the participant that she could contact her in case she later decided to see the clinical psychologist. The participant was informed that such services were highly confidential and would come at no cost to her.

Both the survey and interview participants were informed that they could withdraw from the study at any time and for any reason without any penalty whatsoever to them. They were also given the option of omitting questions they were uncomfortable answering. Participants were rewarded for their time in completing the survey measures and in participating in the interviews. The risks for participating in this study were no greater than the risks associated with daily living. However, participants were advised to contact the investigator for the appropriate support in the event that they experience any distress related to participating in this study. The findings and implications of the study will be communicated with the heads of the Research and HIV/AIDS units of the participating hospitals. Any necessary HIV/AIDS care-promoting actions may then be followed up by the institutions. This is to further give back to participants for availing themselves for the study.

CHAPTER FOUR

METHODOLOGY AND RESULTS FOR STUDY ONE

STUDY 1: ASSOCIATION BETWEEN FORGIVENESS, PSYCHOLOGICAL HEALTH-RELATED QUALITY OF LIFE, AND IMMUNE FUNCTIONING IN PEOPLE LIVING WITH HIV/AIDS IN GHANA

4.0 Introduction

This section of the thesis presents details of the methodology and findings of Study 1, titled; “Association between forgiveness, psychological health-related quality of life, and immune functioning in people living with HIV/AIDS in Ghana”. It also presents a summary and brief discussion of the findings.

4.1 Research Questions

Four main research questions were explored:

1. What are the differences in scores between decisional and emotional forgiveness and between positive and negative attitudes toward God?
2. What is the relationship between forgiveness (intrapersonal, interpersonal, and spiritual) and the outcomes of psychological health-related quality of life (PHRQOL) and change in CD4 cell count in PLWHA in Ghana?
3. How do these key psychosocial factors – ART adherence and sexual risk behaviours – influence the relationships in question 2?
4. What is the relative importance of the forms/stages of each context of forgiveness in predicting PHRQOL and change in CD4 when related socio-demographic, clinical, and psychosocial factors are controlled for? Specifically, question four seeks to investigate:

- a) What is the relative importance of decisional forgiveness of self and emotional forgiveness of self in predicting PHRQOL and change in CD4 count, accounting for related control factors?
- b) What is the relative importance of decisional forgiveness of others and emotional forgiveness of others, in predicting PHRQOL and change in CD4 count, accounting for related control factors?
- c) What is the relative importance of positive attitudes towards God and negative attitudes towards God in predicting PHRQOL and change in CD4 count, accounting for related control factors?

The sociodemographic, clinical, and psychosocial factors that were controlled for (depending on whether they significantly correlated with forgiveness and/or the outcomes) included age, gender, educational level, marital status, ART regimen, social support, psychological distress, health behaviours, religiosity, and initial CD4 count in the case of PHRQOL.

4.2 Research Hypotheses

Drawing on the conceptual models underpinning the present study and the empirical literature reviewed, the following hypotheses were formulated and tested to answer the core research questions of Study 1:

Hypothesis 1: It is hypothesized that participants would report greater decisions to forgive self and others than emotional forgiveness of self and others based on some propositions and findings by Hook and colleagues (2009; 2012) and also Dzokoto (2010). It is also hypothesized that greater positive attitudes towards God than negative attitudes towards God would be reported, based on reports that Ghanaians are particularly religious (Anderson, 2013).

Hypothesis 2: Forgiveness would significantly predict each of the two outcomes:

- a. Intrapersonal forgiveness (decision to forgive self and emotional forgiveness of self) would significantly positively predict PHRQOL and change in CD4 count.
- b. Interpersonal forgiveness (decision to forgive other and emotional forgiveness of other) would significantly positively predict PHRQOL and change in CD4 count.
- c. Spiritual forgiveness (positive attitudes toward God and negative attitudes toward God) would significantly predict PHRQOL and change in CD4 count positively and negatively respectively.

Hypothesis 3: Health behaviours (Adherence to ART, number of sexual partners, and frequency of condom use) will each have a significant moderating effect on the relationship between:

- a. Intrapersonal forgiveness and each of the outcomes of PHRQOL and CD4 cell count
- b. Interpersonal forgiveness and each of the outcomes of PHRQOL and CD4 cell count
- c. Spiritual forgiveness and each of the outcomes of PHRQOL and CD4
- d. The strength of the moderation effect will be strongest for ART adherence in all cases.

Hypothesis 4: In line with the studies by Ironson et al. (2011) and Owen et al. (2011), it is hypothesized that intrapersonal, interpersonal, & spiritual contexts of forgiveness will significantly predict PHRQOL & Δ CD4 count controlling for key biopsychosocial factors.

Specifically, adjusting for related control factors,

- a. Intrapersonal forgiveness would remain a significant positive predictor of PHRQOL and change in CD4 count, with decision to forgive self, accounting for a

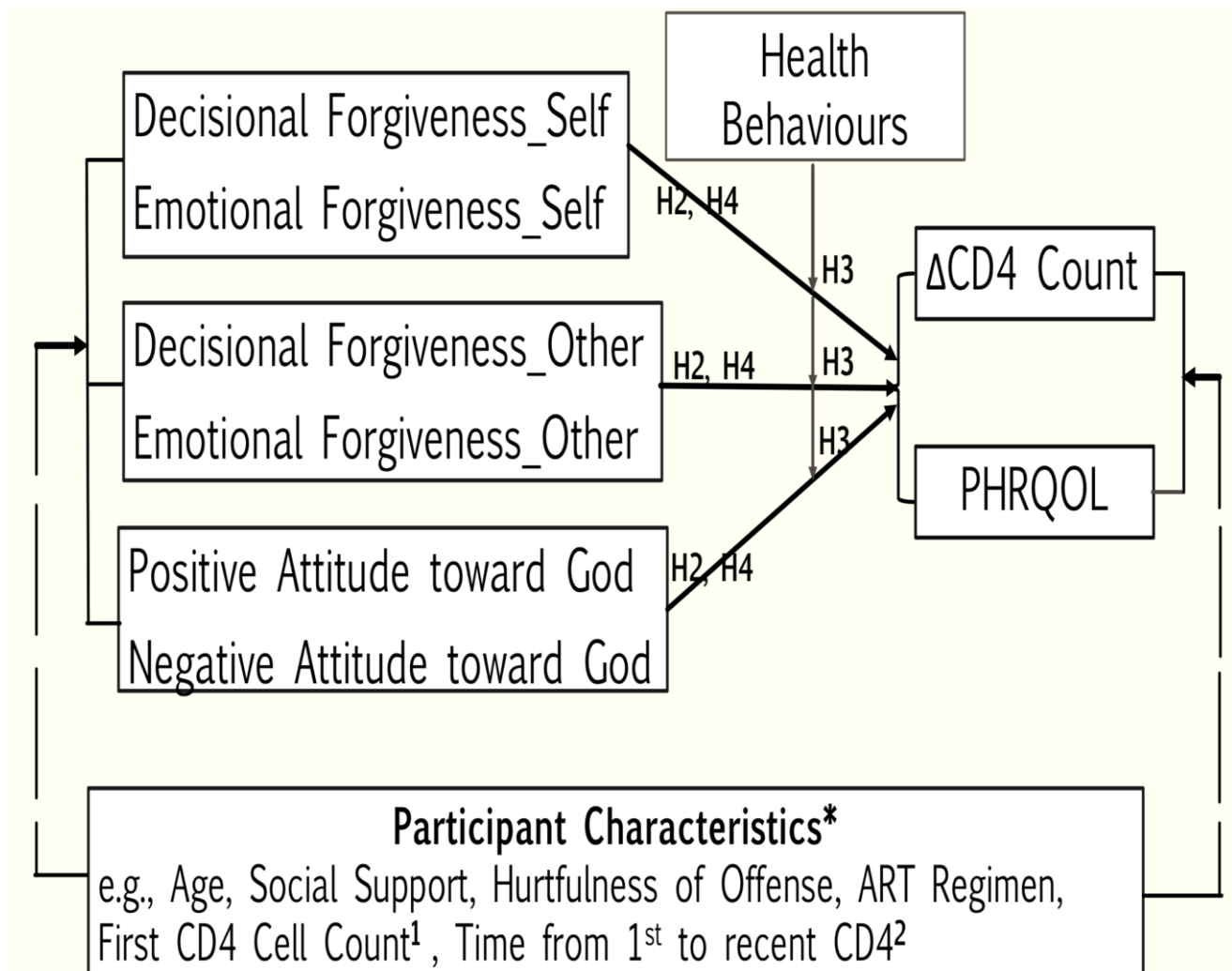
- greater proportion of the variance in the outcomes than emotional forgiveness of self.
- b. Interpersonal forgiveness would remain a significant positive predictor of PHRQOL and change in CD4 count, with decision to forgive others accounting for a greater proportion of the variance in the outcomes than emotional forgiveness of others.
 - c. Spiritual forgiveness would remain a significant predictor of PHRQOL and change in CD4 count, with positive attitudes toward God positively accounting for a greater proportion of the variance in the outcomes than negative attitudes toward God.

4.3 Conceptual Framework Depicting the Hypothesized Model of the Study

Variables

Figure 4.1 depicts the hypothesized model of the relationships between decisional forgiveness, emotional forgiveness, attitudes towards God, PHRQOL and change in CD4 cell count, taking key biopsychosocial control factors into account. The model indicates that across all three contexts (self, other, spiritual), a total of 6 predictors/independent variables (A) and a total of two outcomes/dependent variables (C) were investigated. Each of the moderator variables (B) was expected to influence the conditions under which the predictors may have associated with the outcomes. They could strengthen, weaken, or reverse the respective IV-DV relationships. As an example, it was expected that adherence to the ART regimen would enhance the predicted associations between each of the IVs and each of the DVs. That means, increasing adherence would increase the strength (or effect size) of the respective associations. Whereas, it was anticipated that there would be a buffering interaction effect of sexual risk behaviours on the predicted associations. That is, higher sexual risk behaviours would decrease the effect or strength of association of the

IVs with the DVs. Finally, the model indicates that a number of sociodemographic, clinical, and psychosocial covariates (D) may influence the predictor and/or outcome variables.



*May correlate with a forgiveness or outcome variable; 1: To Adjust in PHRQOL analysis; 2: To Adjust in ΔCD4 analysis

Figure 4.1: *Conceptual framework of the association between forgiveness, psychological health-related quality of life, and immune function marker.*

A: Predictors. B: Moderators. C: Outcomes. D: Control variables. ¹To be controlled only in PHRQOL analyses. ²To be controlled in CD4 cell count analyses.

4.4 Study Design – Cross-Sectional Survey Design

Study 1 employed a cross-sectional survey design, which involves measuring both the outcomes and attributes/exposures of a phenomenon in a sample of a population at the

same time (Setia, 2016). This design allows for descriptive, correlational, and predictive inferences to be drawn from existing differences among participants in relation to the study phenomenon (Creswell, 2014; Rovai, Baker, & Ponton, 2014; Setia, 2016). Thus, participants are often purposely (rather than randomly) selected based on the inclusion and exclusion criteria set for the study (Rovai et al., 2014; Setia, 2016). Although they do not establish cause and effect relationships, cross-sectional survey designs can be used to collect data from a large number of participants across geographic areas, allowing for cross-cultural comparisons of a phenomenon and snapshots of the target population (Setia, 2016). Thus, this study employed a cross-sectional survey design because it sought to examine differences in the outcomes of PHRQOL and CD4 cell counts as a result of possible differences in levels of forgiveness among a purposive sample of PLWHA, who have ever experienced an offence directly due to their HIV-positive diagnosis. Participants were also selected and examined from across three regions in Ghana at approximately the same time.

4.4.1 Study Population – People Living with HIV/AIDS

People living with HIV/AIDS (PLWHA) receiving ART treatment in Ghana constituted the target population for the present study. Since the Korle-Bu, Komfo Anokye, and Tamale Teaching Hospitals make up the three largest teaching hospitals in Ghana, and treat PLWHA from across the country rather than just within the regions in which they are located, participants were selected from the population of PLWHA receiving ART from these hospitals.

4.4.2 Sampling Strategy – Maximum Variation Purposive Sampling Technique

Participants included in this study needed to possess some unique characteristics and experiences to be eligible to participate in the study. These were offenses/injustices

they have experienced as a result of their HIV-positive status. Thus, a purposive non-probability sampling technique was used to select participants based on a set of inclusion criteria (Setia, 2016). Purposive sampling is the deliberate choosing of participants on the basis of a researcher's knowledge/judgment of the characteristics of the participants as relevant to the purpose of the study (Etikan, Musa, & Alkassim, 2016; Rovai et al., 2014). It involves a decision by the researcher about what needs to be known concerning a phenomenon, who has the knowledge or experience about it, and who, in addition to the knowledge or experience, is available and willing to proficiently provide information about the phenomenon (Etikan et al., 2016).

Although this technique is limited in terms of generalizations to the whole population (Etikan et al., 2016; Rovia et al., 2014), adopting a random sample for this study would have made generalizations about the sample difficult. Not all participants may have for example, experienced an offense as a result of their HIV-positive status. Purposive sampling makes such generalizations to the study sample possible. Also, it allows researchers to appropriately target limited resources and workforce at the "information-rich cases" (Etikan et al., 2016, p. 2). This was the situation in the present study in which both survey and clinical (CD4) data from a large cross-cultural sample was collected with limited workforce. Considering that participants in the study differed in age, gender, religion, and other socio-demographic variables capable of varying perspectives on forgiveness, the sampling technique employed was specifically a maximum variation (heterogeneous) purposive sampling method (Etikan et al., 2016).

4.4.3 Inclusion and Exclusion Criteria

Setia and Panda (2017) have highlighted that the inclusion and exclusion criteria of any research study are mutually exclusive, rather than negative images of the other. Thus, while some PLWHA were included in the study for meeting the eligibility criteria, those

who met the exclusion criteria were excluded. To be eligible to participate in the present study, PLWHA receiving treatment from any of the three research settings met the following inclusion criteria. Potential participants who met the exclusion criteria were excluded.

Inclusion criteria:

- People living with HIV/AIDS aged 18years and above
- Have received ART for at least 12 months prior to the study start date
- Agree to have clinical data (e.g., ART regimen) collected from their folders
- Agree, where possible, to undertake (free) CD4 count concurrently with survey completion.

Exclusion Criteria

- Patients with HIV/AIDS on admission
- People living with HIV/AIDS with apparent impairments in cognition.
- Outpatients with severe physical symptoms including TB

4.4.4 Sample Size – Three-Hundred and Twenty-Five People Living with HIV/AIDS

The sample size of a study, much like the sampling strategy, is one of the most fundamental elements of any research design (Setia & Panda, 2017). Based on the 2016 estimated number of PWLHA receiving ART in Ghana, and using an electronic sample size estimator software (G-Power), the study estimated that 380 PLWHA were needed to be included in the study to achieve a medium effect size. A total of 325 PLWHA from across the three teaching hospitals participated in the present study, reflecting 86% response rate. Of these, 94 were receiving treatment at the Korle-Bu Teaching Hospital, 105 at the Tamale Teaching Hospital, and 126 at the Komfo Anokye Teaching Hospital.

4.4.5 Survey Instruments

The present study measured a total of 7 independent variables, 2 outcome variables, 2 moderating variables, 7 socio-demographic control variables, and 3 clinical control variables. Decision to forgive-self, emotional forgiveness-self, Decision to forgive-other, Emotional forgiveness-other, positive attitudes toward God, and negative attitudes toward God constituted the independent variables. The outcome variables included QOL (physical health-related QOL and mental health-related QOL) and CD4-cell count. The potential intervening variables were ART adherence and sexual behaviours. The socio-demographic control variables included age, ethnicity, gender, marital status, educational status, religiosity/spirituality, and self-construal. Date diagnosed with HIV, time on ART, ART regimen, and comorbidity (as well as CD4 for QOL analyses) were the clinical control variables. The following instruments were utilized to measure the key variables in the study.

Sociodemographic and Clinical Questionnaire: A sociodemographic and clinical questionnaire was developed to assess these variables: age, gender, marital status, highest education, ethnicity, comorbidities, ART regimen, and CD4 cell count results not more than three months old from date of questionnaire administration.

Decision to Forgive (Other): The decision to forgive (other) scale (Davis, Hook, Van Tongeren, DeBlare, Rice, & Worthington, 2015) is a six-item measure that evaluates interpersonal forgiveness of a specific offense. Participants rate their agreement with each of the items on a 5-point rating scale ranging from 1 = strongly disagree to 5 = strongly agree. Higher scores reflect higher decisions to forgive an interpersonal offender. Four items directly ask participants if they have forgiven the offender (e.g., I have decided to forgive him or her). Two items indirectly ask about decision to release negative emotions experienced towards the offender (e.g., I have chosen not to intentionally harbor

resentment towards him or her). In line with the definition of forgiveness adopted in this study, two items were added by the researcher to indirectly assess forgiveness in terms of forgoing negative thoughts (My choice is to release any negative ideas or thoughts I have about him or her) and behaviours (I have decided not to take revenge against him or her). Thus, the adapted 8-item measure was used to assess participants' decision to forgive others (DTFO). Three studies that examined the psychometric properties of the 6-item DTF scale found that scores on the scale showed evidence of reliability, with Cronbach's alpha coefficients ranging from .92 to .94, and a 1-week temporal stability coefficient of .68 (Davies et al., 2015). Cronbach's alpha coefficient and exploratory factor analysis were assessed for this adapted 8-item DTFO scale. Results of the reliability analysis and the factor structure of this scale are reported under the results section of this Chapter.

Decision to Forgive (Self): The decision to forgive (self) scale was adapted from the 8-item DTFO scale to assess decision to forgive one's self by replacing "him or her" with myself (e.g., I have decided to forgive myself; I have decided not to do anything bad to myself; My choice is to release any negative ideas or thoughts I have about myself). Participants rate their agreement with each of the items on a 5-point rating scale ranging from 1 = strongly disagree to 5 = strongly agree. Higher scores reflect higher decisions to forgive an interpersonal offender.

Emotional Forgiveness (Other): The EF (other) scale (Worthington et al., 2007) is an 8-item scale that assess participants' emotions towards an offender due to a specific interpersonal offense (e.g., I feel love toward him or her; I no longer feel upset when I think of him or her). Participants rate their agreement with each of the items on a 5-point rating scale ranging from 1 = strongly disagree to 5 = strongly agree. Higher scores reflect higher emotional forgiveness. Cronbach's alpha reliability coefficients have ranged from .78 to .81. (Worthington et al., 2007). In a cross-cultural comparison study in China (as a

typical collectivistic society) and New Zealand (as a typical individualistic society), Hook et al. (2010) found internal consistency reliability to be .61 in China and .83 in New Zealand.

Emotional Forgiveness (Self): The 8-item EFO scale was adapted to assess emotional forgiveness of self (e.g., I feel love toward myself; I no longer feel upset when I think of what I did in the situation). Cronbach's coefficient and exploratory factor analysis were assessed for this 8-item adapted EFS-self and results reported in detail under the results section.

Attitudes towards God Scale: The Attitudes toward God scale (Wood et al., 2010) is a two-factor 9-item scale. A 5-item factor assesses Positive Attitudes toward God (e.g., I feel supported by God). The second four-item factor, referred to as negative attitudes toward God (NATG) in this study, assesses Disappointment and Anger with God (e.g., I feel angry at God). On each factor, participants rate their responses on a scale of 0 (Not at all) to 10 (Extremely), the extent to which they currently experience these attitudes. Cronbach's alpha of .64 to .93 have been reported across six studies (Wood et al., 2010).

Religious Background and Behaviour Questionnaire: Participants' religiosity/spirituality was measured using the Religious Background and Behaviour Questionnaire (RBBQ). It is a 13-item measure developed by Connors and Miller (1993). It consists of one item – which of the following best describes you at the present time – that assesses the religious/spiritual background/affiliation of participants. The remaining 12 items make up two subscales. The God consciousness subscale comprise 6 items that assess how often participants have engaged in 6 spiritual/religious behaviours (e.g., thought about God, prayed, meditated) in the last one year. Items are scored on an 8-point (0 – 7) Likert scale. The remaining 6 items measure whether or not participants currently engage in the 6

behaviours on a 3-point (0 – 2) Likert scale. A Cronbach alpha of .82 has been reported on the RBBQ (Connors & Miller, 1993).

World Health Organization Quality of Life-BREF: The WHOQOL-BREF (WHO, 1996; 2012) assesses individuals' perceptions of their quality of life (QOL). It comprises 26 items; two single items that measure overall satisfaction with QOL and general health and four domains. The four domains measure physical health (7 items, e.g., do you have enough energy for everyday life?); psychological health (6 items, e.g., how well are you able to concentrate); social relationships (3 items, e.g., how satisfied are you with your personal relationships?); and environment (8 items, e.g., how healthy is your physical environment?). Responses on each domain are scored on a five-point Likert scale following reversal of items 3, 4, and 26. Scores are transformed to a 0 to 100 range through summation and calculation of mean scores for each domain in line with the WHOQOL-Bref transformation table (WHO, 1996). A higher total score reflects higher QOL across domains. Studies conducted among chronic illness populations including those in Ghana, have reported Cronbach alpha scores between 0.81 (Ganu, Boima, Adjei, Yendork, Dey, Yorke, et al., 2018) and 0.92 (Skevington & McCrate, 2012) on the 26-item scale.

Kessler Psychological Distress Scale:The 10-item KPDS measures global psychological distress (comprising depression and anxiety symptoms) including significant pathology which does not meet formal criteria for a psychiatric illness. It measures symptoms over the last 30 days (e.g., in the last 30 days how often did you feel nervous?) Responses are rated on a five-point Likert scale ranging from 1 (none of the time) to 5 (all of the time). In a study to assess the prevalence and predictors of psychological distress among a sample

of patients with tuberculosis, 60% of whom were co-infected with HIV, Cronbach alpha was reported to be .92. (Peltzer et al., 2012).

Perceived Social Support-HIV: The PSS-HIV scale (Cortes, Hunt, & McHale, 2014) measures the perception of supportive social interaction of PLWHA. It Consists of 12 items with three subscales; Belonging (e.g., I feel emotionally sheltered by my family), Esteem (I can freely express my opinion to my partner or group of friends), and Self-Development (I think that my friends give me possibility for growth). Responses are rated on a five-point Likert scale with higher scores reflecting higher perceived social support. Cronbach alpha on the overall scale was reported to be .89 (Cortes et al., 2014).

Adherence Behaviour: Adherence was measured with the single question: “In the last seven days, how many times did you miss your HIV medications” (Obirikorang et al., 2013; Olowookere et al., 2016).

Sexual Risk Behaviours: The Sexual Behaviours subscale of the HIV Risk Behaviour Scale (Petry, 2001) was employed to assess sexual risk behaviours in this study. It comprises of five items that measure multiple sexual partners behaviour, condom use behaviours, and anal sex behaviour within a specified time period (in this study, since HIV-related offense was perceived). The multiple sexual partner behaviour item (Approximately how many people have you had sex with?) and the anal sex behaviour item (How many times have you had anal sex?) are continuous items. Whereas, the condom use behaviours (e.g., How often have you used condoms when having sex with your regular partners?) are scored on a scale of 0 (None of the time) to 5 (Always). These items are reversed and summed up so that higher scores indicate high risk behaviours and vice versa. Cronbach’s alpha on the SRBS have ranged from .75 to .80.

4.4.6 Pilot Study

Following institutional approval from the 37-Military Hospital and the three Teaching Hospitals, a pilot study was conducted to examine the reliability, content validity, and how well the survey instruments would be understood. The preliminary study was also intended to help the researcher identify appropriate and standard procedures for collecting survey data and following participants up for the qualitative study, while ensuring protection of their personal identities. A total of 50 purposively sampled PLWHA participated in the pilot study. Participants were selected from across the three teaching hospitals as well as the 37-Military Hospital in Accra.

It emerged at the beginning of the pilot exercise that the instruments should be administered either by the researcher or by trained personnel. This was because, participants had to complete only the forgiveness questionnaires that were applicable to their specific HIV-related offense situation, which could have been confusing for some. Also, feedback at the HIV/AIDS units of the hospitals indicated that quite a number of the patients had low educational levels, and hence may not be able to fully engage with the questions on their own. Thus, particularly at KATH and TTH, personnel were selected and thoroughly trained to administer the survey (including the Twi-translated version) in the form of an interviewer administered questionnaire. First, selected personnel completed the survey. This was followed by a thorough training on how they would explain the instructions and administer the questions to participants to ensure standard data collection across all settings. Issues of how to approach, recruit, establish rapport, and observe ethical principles with potential participants were also addressed during the training. These were particularly emphasized and thoroughly explained to the non-health personnel. The personnel included HIV/AIDS nurses, counsellors, and a trained psychology graduate. Overall, the pilot study allowed the researcher to achieve the following:

- Realize the need for and translated the survey instruments and instructions into Twi. This was done by a professional who holds a Masters in Ghanaian Language (Twi).
- Modify culturally unpopular word choices on some items (e.g., replacing “blue mood” with “feel sad”) based on feedback from both field test participants and trained data collection personnel. This was carefully done in order not to compromise the meaning of the items or the content of their respective subscales/questionnaires.
- Develop a study procedure that ensured that participants who engaged in the main study did not have to queue much longer than other out-patients not involved in the study.
- Develop a follow-up procedure based only on participant’s folder and telephone numbers, ensuring confidentiality of responses as well as protection of participants’ identity.
- Establish the reliability of the study variables prior to data collection. The Cronbach alpha reliabilities recorded on the pilot data were: .84 for DTFO; .81 for DTFS; .70 for EFO; .57 for EFS; .74 for ATG, .61 for SRB; .76 for SS; .71 for RBBQ; and .84 for PHRQOL. It was observed on the SRB scale that the anal sex item was negatively correlating. This item was dropped, increasing reliability to .72. Thus, the SRB had a summed score for the 3 condom use behaviours and a single multiple sexual partner behaviour item.

4.4.7 Study Procedure and Data Collection

Subsequent to ethical and institutional approval for the study, the researcher and trained data collection personnel recruited PLWHA who met the survey study inclusion criteria during their routine outpatient visits to the study sites/clinics. Routine clinics at

each of the three study sites, were typically held on Mondays, Wednesdays, and Fridays but also Thursdays at the KBTH.

Recruited patients were first informed about the nature and requirements of the study. Those who gave written informed consent voluntarily participated in the study. The researcher and trained personnel administered the survey and collected clinical data from participants' folders using an average of 1 hour per patient. One-on-one administration of the survey was carried out in HIV counselling rooms at each of the study site. Participants also underwent laboratory tests for their concurrent CD4 test results. In some cases, obtaining current CD4 tests were not possible due to the CD4 machines having often broken down at the study sites. Participants whose CD4 count could not be taken concurrently with the survey due to these challenges on the ground, were excluded from the CD4 analysis. For these patients, only PHRQOL was considered as the outcome variable.

Test reports for participants who had their CD4 test done during survey data collection were later obtained by their respective survey administrator and matched to their survey responses. This was achieved with the help of participants' folder numbers and date the survey was completed, which were recorded on their questionnaires and also, blood samples. No other personally identifiable information such as names were recorded on the questionnaires. Furthermore, the folder numbers were developed such that they could not be identified by third parties as belonging to PLWHA receiving care at any of the participating hospitals. Participants were rewarded for their time in the study with fast-tracked routine care procedures, drinks, and/or transportation.

4.4.8 Data Analysis and Underlying Assumptions

The researcher drew on both descriptive and inferential statistics to analyse the survey data using SPSS version 21 for Windows (IBM SPSS Inc., Chicago IL, USA). The

descriptive statistics were employed to uncover the sociodemographic, clinical, offense and forgiveness characteristics of the study participants as well as establish prevalence rates of variables such as ART adherence. The inferential statistics were performed to test the study hypotheses. They included dependent t-test to test the difference between participants' engagement in decisional versus emotional forgiveness and positive versus negative attitudes toward God. Correlational analysis was carried out to identify the inter-relationships between the study variables. To determine the predictiveness of the types and contexts of forgiveness, multivariate regression analyses were conducted. Finally, using Hayes (2013) PROCESS moderation model, moderation analyses were conducted to examine the moderation effects of three health behaviours on the forgiveness-health outcomes associations. Prior to the hypotheses testing, assumptions underlying each of the inferential statistics were tested. In general, the assumptions of normality and homogeneity of variance of the distribution of the scores were tested to ensure that the study sample were similar to the population of PLWHA receiving treatment in Ghana. All analyses were considered statistically significant at $p \leq .05$.

4.5 Results

4.5.1 Preliminary Analysis

This section of Chapter Four presents findings from Study 1. It begins with a factor analysis of the study scales to establish the validity of the scales. This is followed by descriptive findings on the sociodemographic, clinical, and HIV-specific offense characteristics of the survey participants. The next section presents a report of the inter-correlations between the core study variables. The final section of this chapter presents findings from the hypotheses testing for each of the three contexts – intrapersonal/self, interpersonal/other, spiritual/God – within which forgiveness was investigated.

4.5.1.1 Factor Analysis

Factor analysis was first carried out to validate the scales that were used to measure the predictor and outcome variables. Particularly for the forgiveness measures, which to the best of the researcher's knowledge have not been used in PLWHA in African settings, this preliminary exercise was necessary to ascertain how well the scales employed in this study measure their respective constructs. Using principal components analysis (PCA, with fixed number of factors and varimax rotation solution), items that loaded above .32 were retained. According to Tabachnick and Fidell (2001), a good rule of thumb for retaining items is a minimum loading value of .32. Prior to running the PCA, underlying assumptions were first checked and met for all scales. First, variables were multiple and continuous, and linearly related (confirmed by a significant Bartlett's Test of Sphericity). Sampling was adequate as each analysis involved at least 8 cases per variable/item (confirmed by a Kaiser-Meyer-Olkin Measure of Sampling Adequacy value of .7 and above) and showed no significant outliers.

Decision to Forgive (Other) Scale

The decision to forgive scale (DTF, Davis et al., 2015), referred to as decision to forgive other (DTFO) in this study, is originally a six-item unidimensional scale that measures intentions to forgive another person who has caused a hurt. The first four items employ the word "forgive" (e.g., I have made up my mind to forgive him or her). However, as well documented in the forgiveness literature that merely using the word "forgive" may not necessarily indicate that forgiveness has taken place (Worthington, 2005; Worthington et al., 2007). The last two items ("My choice is to release any negative feelings I have" and "I have chosen not to intentionally harbor resentment towards him or her) appropriately assess change in emotions indirectly, which is a constituent of the internal actions that usually take place to suggest that one may have actually experienced

some form of forgiveness. Considering the definition of forgiveness employed in this study as changes from a more negative to a more positive state in cognitions, emotions, and behaviours toward an offender (e.g., Enright & Fitzgibbons, 2000). The researcher added two additional items to indirectly assess forgiveness in terms of change in cognitions (My choice is to release any negative ideas or thoughts I have about him or her) and behaviour intentions (I have decided not to take revenge against him or her). The goal was to ascertain whether participants' responses to the first four items with the word "forgive", would be consistent with their responses to these indirect measures of forgiveness. This was in consideration of the fact that at present, very little is known about how PLWHA in Ghana may conceptualize, understand, and use the word "forgive".

Table 4.01 details the factor loadings on the DTFO scale. The table shows that all items loaded above 0.5. Similar to the original unidimensional structure of the DTF scale, a single factor was extracted suggesting that the additional items fitted well with the scale. Also, this may suggest that the items that used the word "forgive" were likely understood to mean a decision to forgo negative thoughts, emotions, and behaviours toward another offender. The scale also had excellent internal consistency reliability in this study (0.92).

Table 4.1: Item Loadings on the Decision to Forgive Other Scale

Item Number	Item Content	Item Loading
Factor: Decision to Forgive Other		
1	I have decided to Forgive him or her	.83
2	I made a commitment to forgive him or her	.89
3	I have made up my mind to forgive him or her.	.88
4	My choice is to forgive him or her.	.79
5	My choice is to release any negative feelings I have	.69
6	I have chosen not to intentionally harbor hatred towards him or her.	.68
7	My choice is to release any negative ideas or thoughts I have about him or her*	.76
8	I have decided not to take revenge against him or her*	.57

*additional items added

Decision to Forgive (Self) Scale

The DTFO scale was adapted to assess decision to forgive self (DTFS) by replacing the words “him or her” with “myself” (e.g., “I have made up my mind to forgive myself”). Item 7 on the DTFO scale (I have decided not to take revenge against him or her) was also carefully modified to be more relevant to the context of self-forgiveness based on the self-forgiveness literature (Woodyatt et al., 2017). This item was adapted to read as; “I have decided not to do anything bad to myself”. The DTFS scale, which also showed high item loadings (.51 to .84) on the extracted single-factor, recorded a high internal consistency reliability of 0.85. Table 4.02 presents the factor loadings of the items on the DTFS scale.

Table 4.2: Item Loadings on the Decision to Forgive Self Scale

Item Number	Item Content	Item Loading
Factor: Decision to Forgive Self		
1	I have decided to Forgive myself	.57
2	I made a commitment to forgive myself	.76
3	I have made up my mind to forgive myself.	.84
4	My choice is to forgive myself.	.68
5	My choice is to release any negative feelings I have about myself	.71
8	I have chosen not to intentionally harbor hatred towards myself	.51
6	My choice is to release any negative ideas or thoughts I have about myself	.63
7	I have decided not to do anything bad to myself	.51

Emotional Forgiveness (Other) Scale

Table 4.3 presents the factor loadings on the 8-item emotional forgiveness (of other) scale (Worthington et al., 2007). Originally, items 1, 4, 6, and 8 constitute the Presence of Positive Emotions subscale (e.g., “I care about him/her”). Whereas, items 2, 3, 5, and 7 constitute the Reduction in Negative Emotions subscale (e.g., “I no longer feel upset about the situation”). A rotated solution showed a two-factor structure with items 1, 4, 6, 8, and also 2, loading onto factor one. Items 3, 5, and 7 loaded onto factor two. The scale had a high Cronbach alpha of 0.74, with all items loading above 0.6.

Table 4.3: Item Loadings on the Emotional Forgiveness of Other Scale

Item Number	Item Content	Factor 1 Loadings	Factor 2 Loadings
Factor 1: Presence of Positive Emotions			
1	I care about him/her/them.	.83	
4	I feel sympathy toward him/her/them.	.86	
6	I like him/her/them.	.81	
8	I feel love toward him/her/them.	.74	
2	I no longer feel upset when I think of him/her/them.	.69	
Factor 2: Reduction in Negative Emotions subscale			
3	I'm so annoyed about what he/her/they did to me.		.74
5	I'm angry about what happened.		.80
7	I hate what he/she/they did to me.		.78

Emotional Forgiveness (Self) Scale

The EFO scale was adapted to assess emotional forgiveness of self (EFS) by carefully replacing the words “him or her” with “myself” (e.g., “I care about myself”), so that the meaning of the items were retained. The rotated factor solution on the EFS showed a two-factor structure same as the original structure: items 1, 4, 6, and 8 loaded onto factor one, while items 2, 3, 5, and 7 loaded onto factor two. As indicated in Table 4.4, all items loaded above .32 on the scale, which recorded a good internal consistency reliability of 0.60. According to Taris, de Lange, and Kompier (2010), alpha should be a minimum of .60 when items are summed up to measure a construct at the group level.

Table 4.4: Item Loadings on the Emotional Forgiveness of Self Scale

Item Number	Item Content	Factor 1 Loadings	Factor 2 Loadings
Factor 1: Emotional Forgiveness of Self			
1	I care about myself	.57	
4	I feel sympathy toward myself	.35	
6	I like myself	.91	
8	I feel love toward myself	.79	
Factor 2: Reduction in Negative Emotions subscale			
2	I no longer feel upset when I think of what I did in the situation		.38
3	I feel guilt and regret for the things I did in the situation		.86
5	I'm angry at myself for what happened.		.67
7	I hate what I did		.78

Attitudes Toward God Scale

Table 4.5 presents the item loadings on the 5-item Positive Attitudes toward God scale (PATG) scale and the four-item Disappointment and Anger with God scale (or the Negative Attitudes toward God scale, NATG). All PATG items (PA1 to PA5) loaded above .60 on the extracted single factor scale. The PATG scale also recorded excellent Cronbach alpha reliability of 0.9. Similarly, all NATG items (NA 1 to NA 4) loaded above .70 on the extracted single factor scale and recorded a high Cronbach alpha of .83.

Table 4.5: Item Loadings on the PATG and the NATG Scales

Item Number	Item Content	Factor 1 Loadings	Factor 2 Loadings
Factor 1: Attitudes Toward God Scale			
PA 1	Trust God to protect and care for you	.62	
PA 2	View God as all-powerful and all-knowing	.85	
PA 3	Feel loved by God	.95	
PA 4	Feel supported by God	.91	
PA 5	Feel nurtured or cared for by God	.99	
Factor 1: Negative Attitudes Toward God Scale			
NA 1	Feel angry at God		.86
NA 2	Feel that God has let you down		.81
NA 3	View God as unkind		.76
NA 4	Feel abandoned by God		.84

Psychological Health-Related Quality of Life Domain

Table 4.6 shows the factor loadings on the six-item (5, 6, 7, 11, 19, and 26) psychological health-related quality of life (PHRQOL) domain of the WHOQOL-BREF. All items loaded onto the extracted single factor between .34 on item 26 and .73 on item 5. Item 26 was originally culturally-loaded, as it included descriptions such as “blue mood”. Specifically, the item read as: “How often do you have negative feelings such as blue mood, despair, anxiety, depression?” This item was carefully rephrased in the main study to read “How often do you feel sad, disturbed, lose hope, have no interest in things you usually enjoy? The scale recorded a good internal consistency reliability of .66 in this study.

Table 4.6: Item Loadings on the WHOQOL-BREF Psychological Health Domain

Item Number	Item content	Item Loadings
Factor: Psychological-Health Domain		
5	How much do you enjoy life?	.73
6	To what extent do you feel your life to be meaningful	.66
7	How well are you able to concentrate?	.67
11	Are you able to accept your bodily appearance?	.60
19	How satisfied are you with yourself?	.64
26	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	.34

Overall, the results of the factor analyses indicate that the scales adopted in the present study had similar factor structures to the original scales, with items loading well onto these scales. Having established the validity of these scales, descriptive and inferential statistics were further tested on the scores obtained on these scales.

4.5.1.2 Descriptive Analysis

Respondent Background Characteristics

Following the factor analyses, means, standard deviations, and frequencies were calculated to obtain an overview of participants' background characteristics. Results of the descriptive analysis showed that of the 325 PLWHA who responded to the survey, 105 (32.3%), 94 (28.9%), and 126 (38.8%) respectively, were receiving routine HIV/AIDS care at the TTH, KBTH, and KATH. The descriptive analysis also provided an overview of Participants' sociodemographic, clinical, and HIV-related offense characteristics. These are respectively reported in Table 4.7, Table 4.8, and Table 4.9.

Table 4.7: Sociodemographic characteristics of survey respondents

Characteristic	Categories	N	%	M	SD
Age (yrs)		325	100	42.33	10.34
	Young adults (18 – 29)	38	11.7	23.63	3.28
	Middle adults (30 – 49)	210	64.6	40.87	4.87
	Older adults (>50)	77	23.7	55.53	5.26
Gender	Male	99	30.5		
	Female	226	69.5		
Educational level	No education	32	9.8		
	Primary	61	18.8		
	Secondary	137	42.2		
	Post-secondary qualification	95	29.2		
Marital status	Single	98	30.2		
	Married/Living as married	147	45.2		
	Separated/Divorced	27	8.0		
	Widowed	54	16.6		
Religion	Christian	264	81.2		
	Islam	53	116.3		
	Others	8	2.4		

Table 4.7 indicates that respondents comprised largely of females (69.5%) compared to their male counterparts (30.5%), and recorded a mean age of 42.3years. There were more (64.6%) middle aged adults (30-49years) compared to younger (18-29years) and older adults (\geq 50years). Majority of respondents were married (43.7%), had a secondary education (42.2%), and identified with the Christian religion (81.2%).

Table 4.8: Clinical characteristics of survey respondents

Characteristic	Categories	N	%	M	SD
Duration on ART (m)		325		82.94	(43.75)
Duration with HIV (m)		325		91.10	(45.63)
Pre-ART CD4 count		310		286.04	266.80
Concurrent CD4 count		197		573.12	300.76
HIV TYPE					
	Type I	305	93.8		
	Type II	6	1.8		
	Type I and II	14	4.3		
Missed ART dose					
	None of the time in past week	255	78.5		
	Only one time in past week	36	11.1		
	Two-three times in past week	22	6.8		
	More than three times	12	3.7		
Medication regimen					
	TDF+3TC+EFV	150	46.2		
	AZT+3TC+NVP	80	24.6		
	AZT+3TC+EFV	61	18.8		
	Others	34	10.4		
Comorbidities					
		325			
	No comorbidities	289	88.9		
	High blood pressure	18	5.5		
	Diabetes	5	1.5		
	Asthma	3	.9		
	Hepatitis B	3	.9		
	Other	7	2.2		

Table 4.8 presents the clinical background of the survey respondents. A greater proportion (93.8%) of the respondents had HIV Type I infection. A total of 289 (88.9%) respondents reported no known comorbidities. High blood pressure was the most frequently reported comorbidity, although this was reported among only 18 (5.5%) of the respondents. Close to half (46.2%) of the respondents were taking a first line regimen with

the combination; tenofovir (TDF), lamivudine (3TC), and efavirenz (EFV). Adherence – not missing any ART dose in the last 7 days prior to completing the survey – was reported by 78.5% of participants. An average of 286.04cells/ μ L was recorded as respondent’s pre-ART CD4 cell count. The average CD4 cell count concurrently recorded during survey completion, was substantially higher than the average pre-ART CD4 count (573.12cells/ μ L: $t = -11.23$, $p < .001$).

Table 4.9: HIV-specific offense characteristics of survey respondents

Characteristic	Categories	N	%
Offense context			
	Intrapersonal	91	28.0
	Interpersonal	191	58.8
	Spiritual	43	13.2
Most offensive situation			
	Perceived cause of HIV	171	92.0
	Experience of HIV	26	8.0
Offense hurtfulness			
	Very little hurt	23	7.1
	Little hurt	22	6.8
	Moderate hurt	31	9.5
	Large amount of hurt	43	13.2
	Extreme amount of hurt	206	63.4

Table 4.9 depicts the HIV-specific offense characteristics of the survey respondents. Across the three hospitals, a total of 191 (58.8%) PLWAH perceived an HIV-related offence committed against them by others and hence responded to the interpersonal (other) forgiveness survey measures. Ninety-one respondents (28%) perceived that their most offensive HIV-related situation was a wrong doing they had committed against themselves and hence, completed the self-forgiveness measures. Respondents who

reported anger and other negative attitudes toward God over their HIV-positive status totalled 43 (13.2%).

The vast majority (98%) of the respondents indicated that their most offensive HIV-related situation had to do with the cause of their HIV-infection. These included self-emanating causes (intrapersonal offenses) such as previous ungodly lifestyles, unfaithfulness to spouse/partner, and not observing protective work habits. Sources of interpersonal offenses chiefly related to unfaithfulness of and/or deliberate infection by spouses/partners. A few perceived hospital procedures and sodomy/rape as causes of their positive status. Family members were also perceived by some respondents as the cause of their HIV-infection via witchcraft or post-diagnosis stigmatization and discrimination. In the spiritual context, respondents' most offensive situations concerned God allowing their HIV-infection, dealing unfairly with them, or having forsaken them. Experiences surrounding the HIV itself, were also perceived by 26% of respondents as their most offensive HIV-related situations. These included the symptoms of the illness and also, the time of diagnosis (e.g., at pregnancy, delivery, or death of spouse). A total of 76.6% of respondents reported that the hurtfulness of their perceived HIV-offense was large or an extreme amount.

4.5.1.3 Means, Normality, and Reliability of Study Variables

As part of the preliminary analysis, means, skewness and kurtosis, and internal consistency reliabilities of the scales employed in the present study were also tested on the main study data. The results of this analysis are summarized in table 4.10.

Table 4.10: Summary of means, normality, and reliability of study variables

Variable	N	Min	Max	Mean	SD	Skewness	Kurtosis	α
Decision to forgive self	91	21.0	40.0	32.99	3.25	-1.13	4.51	.85
Emotional forgiveness of self	91	14.0	36.0	28.25	3.72	-.694	1.70	.60
Decision to forgive other	191	8.0	40.0	31.21	5.21	-1.68	4.93	.92
Emotional forgiveness of other	191	8.0	40.0	25.72	5.13	-.84	.87	.74
Positive attitudes toward God	43	5.2	10.0	9.14	1.40	-1.50	.96	.90
Negative attitudes toward God	43	1.0	10.0	3.89	2.03	1.48	2.28	.83
Perceived social support	325	27.0	60.0	43.10	5.80	.16	.21	.79
Psychological distress	325	10.0	50.0	18.04	7.20	1.52	2.45	.87
Religiosity	325	7.0	58.0	44.88	8.78	-1.01	1.43	.75
Condom use behaviour	325	0.0	13.0	3.38	4.69	1.70	2.10	.84
Quality of life	325	25.0	100.0	71.78	13.42	-.97	1.36	.88

Table 4.10 indicates that all scales employed to measure forgiveness and the psychosocial variables in the study showed good to high reliability (0.60 to 0.92). The 26-item QOL scale also showed high internal consistency of .88. On the individual domains, α levels of 0.76, 0.74, 0.66, and 0.46 were respectively recorded for the environment, physical, psychological, and social relationship domains respectively. The table also shows acceptable skewness statistics of less than 2 (.16 - 1.68) for each scale, indicating a normal distribution of scores on these scales in relation to the +/-1 to +/-3 range (Field, 2009; Tabachnick & Fidell, 2007). With the exception of two variables – DTFS and DTFO – the kurtosis statistic for scores on the study variables also fell within the recognized range of +/-1 to +/-3 (between .21 and 2.45). Regarding the DTFS and DTFO variables, which had kurtosis statistics greater than 3, the violations of normality were considered to be negligible due to the large sample sizes on these scales (Field, 2009; Hair et al., 2010). Thus overall, the assumption of normality for use of parametric tests was considered to have been met for the study variables.

4.5.1.4 Correlation Matrices

Correlations between socio-demographic, clinical, and study variables

Table 4.11 presents the Pearson product moment correlation coefficients (r) between the background sociodemographic and clinical variables, the forgiveness variables (independent variables), and the two outcome or dependent variables in the present study; psychological health-related quality of life (PHRQOL) and change in CD4 count. Prior to the correlation analysis, categorical variables (e.g., gender, marital status, educational level, ART regimen, hurtfulness of offense, and condom use behaviours) were dummy-coded (see Appendix I).

Table 4. 11: Summary of correlations between sociodemographic, clinical, independent, and dependent study variables

Variable	1 _a	2 _a	3 _a	4 _a	5 _a	6 _a	7 _a	8 _b	9 _a	10 _c	11 _c	12 _d	13 _d	14 _e	15 _e	16 _a	17 _f
1 Age	-																
2 Gender	-.23**	-															
3 EducP	.03	.11*	-														
4 EducS	-.23**	.06	-.41**	-													
5 EducPS	.06	-.21**	-.31**	-.55**	-												
6 MStatus	.20**	-.23**	-.06	.00	.08	-											
7 ARTReg	.00	.02	.08	.10	-.19**	.01	-										
8 1 st CD4	-.14*	.10	.05	.08	-.06	-.07	.01	-									
9 Hurt	.03	.20**	.15**	.00	-.20**	-.20**	-.03	.05	-								
10 DTFS	.05	-.17	.11	-.05	-.05	.01	.19	-.17	.05	-							
11 EFS	-.08	.01	.24*	-.06	-.16	.11	.26*	.02	.03	.27**	-						
12 DTFO	.07	-.17*	.06	-.15	.13	.06	-.02	-.02	.23**	---	---	-					
13 EFO	.13	-.20**	-.08	-.06	.12	.20**	-.07	-.02	-.23	---	---	.59**	-				
14 PATG	-.04	-.25	.07	-.15	.05	-.05	.10	-.09	-.07	---	---	---	---	-			
15 NATG	-.25	.12	-.05	-.07	.09	-.13	.05	.05	-.06	---	---	---	---	-.15	-		
16 PHRQOL	.06	-.08	.00	-.05	.04	.13*	.08	-.14*	-.12	.30**	.29**	.24*	.23**	.31*	-.28	-	
17 ΔCD4	.25**	.04	.11	-.14	.03	.05	.07	-.56**	.07	.34**	-.16	.05	-.08	.06	.18	.10	-

a: N=325; b: N=310, c: N= 91, d: N=191, e: N= 43, f: N=190 * $p < .05$; ** $p < .01$; ---correlations across forgiveness contexts not applicable; DTFS=decision to forgive self; EFS=emotional forgiveness of self; DTFO=decision to forgive other; EFO=emotional forgiveness of other; PATG=positive attitudes toward God; NATG=negative attitudes towards God; EducP=primary education; EducS=Sec. education; EducPS=Postsec. education; Mstatus=Married/cohabiting status; ARTReg=ART regimen; Hurt=hurtfulness of offense; PHRQOL= psychological health-related quality of life; 1st CD4 = first CD4 count; ΔCD4 = change in CD4 cell count.

Table 4.11 shows significant correlations between PHRQOL and these two background variables; married/cohabiting status ($r = .11$, $N=325$, $p < .05$) and first CD4 result ($r = -.12$, $N=310$, $p < .05$). Change in CD4 correlated significantly with age ($r = .25$, $N=276$, $p < .01$) and as expected, first CD4 count ($r = -.52$, $N=276$, $p < .001$). Having a primary education and being on the TDF, 3TC, EFV regimen correlated significantly with emotional forgiveness of self (EFS: $r = .24$, $N=91$, $p < .05$ and $r = .26$, $N=91$, $p < .05$). Other significant associations included being female and DTFO ($r = -.17$, $N=191$, $p < .05$) and also, (EFO: $r = -.20$, $N=191$, $p < .01$). Furthermore, hurtfulness of offense and being married significantly correlated with DTFO ($r = .23$, $N=191$, $p < .01$) and EFO ($r = .20$, $N=191$, $p < .01$) respectively.

Correlations between psychosocial variables and study variables

The Pearson product moment correlation coefficient (r) test was conducted to check for associations between respondents' psychosocial factors and the independent and dependent variables. It was also to check for multicollinearity, that is, very strong correlations of $>.9$ among the variables (Field, 2009). Table 4.12 indicates the correlation test output/matrix. The table shows that first of all, there is no extreme multi-collinearity among the predictor variables (as well as among all other variables). The largest correlation co-efficient of $.59$ (between DTFO and EFO) confirms that extreme multicollinearity was not an issue in the present study.

Table 4.12: Summary of correlations among psychosocial, independent, and dependent study variables

Variable	1 _a	2 _a	3 _b	4 _b	5 _c	6 _c	7 _d	8 _d	9 _d	10 _d	11 _d	12 _d	13 _d	14 _e
1 DTFS	-													
2 EFS	.27**	-												
3 DTFO	---	---	-											
4 EFO	---	---	.59**	-										
5 PATG	---	---	---	---	-									
6 NATG	---	---	---	---	-.15*	-								
7 S. support	.12	-.11	.26**	.19**	-.07	-.25	-							
8 P. Distress	-.09	-.06	-.14	-.09	-.01	.31*	.06	-						
9 Religiosity	.07	.15	.04	.07	-.14	-.03	.21**	-.08	-					
10 MissART	.12	.17	-.02	.03	.13	.10	-.13*	.02	-.03	-				
11 MSP Bhv	-.02	.20	-.17*	-.12	.09	.01	-.17**	-.15**	-.07	.02	-			
12 CU Bhv	-.07	-.09	-.14	-.14	.19	-.11	-.11**	-.08	-.02	.01	.53**	-		
13 PHRQOL	.30**	.29*	.24*	.23**	.31*	-.28	.12*	-.36**	.06	-.05	.13	-.07	-	
14 ΔCD4	.34**	-.16	.05	-.08	.06	.18	.02	-.05	-.09	-.08	.03	.18*	.09	-

a: N= 91; b: N=191, c: N= 43, d: N=325, ea: N=45, eb = 118, ec=27 **p*<.05; ***p*<.01; ---correlations across forgiveness contexts not applicable; DTFS=decision to forgive self; EFS=emotional forgiveness of self; DTFO=decision to forgive other; EFO=emotional forgiveness of other; PATG=positive attitudes toward God; NATG=negative attitudes towards God; RS=religiosity/spirituality; MissART=Number of times ART was missed in the last 7days; SexPple=no. of sexual partners since offence; SexCon=frequency of condom use; PHRQOL= psychological health-related quality of life; ΔCD4 = change in CD4 cell count (first CD4 result – CD4 result concurrently taken at time of survey).

It can also be observed from Table 4.12 that there was a significant and positive correlation between PHRQOL and all the intrapersonal and interpersonal forgiveness variables, but only with the positive attitudes toward God (PATG) variable. Specifically, there were significant correlations between PHRQOL and decision to forgive self (DTFS, $r = .30$, $N=91$, $p < .01$), EFS ($r = .29$, $N=91$, $p < .05$), DTFO ($r = .24$, $N=191$, $p < .05$), EFO ($r = .23$, $N=191$, $p < .01$), and PATG ($r = .31$, $N=43$, $p < .05$). Decision to forgive self was the only main independent variable that significantly positively correlated with change in CD4 cell count ($r = .34$, $N=91$, $p < .01$).

Again, the table indicates that although social support and religiosity/spirituality (RS) are also types of coping, only social support correlated significantly positively with PHRQOL ($r = .12$, $N=325$, $p < .05$). A closer observation of the results further shows that except for DTFO ($r = .19$), the strength of the correlations between PHRQOL and all forgiveness variables were larger ($r = .23$ to $.31$) compared to the strength of the PHRQOL-social support correlation ($r = .12$).

Psychological distress as was expected, significantly negatively correlated with PHRQOL ($r = -.36$; $N=325$, $p < .01$). Finally, an examination of the correlation matrix in Table 4.12 shows that there was a positive correlation between social support and both forms of interpersonal forgiveness (DTFO: $r = .26$, $p < .01$, and EFO: $r = .19$, $p < .01$). However, there was no correlation between social support and scores on any of the intrapersonal forgiveness scales.

4.5.2 Hypotheses Testing

To further investigate whether forgiveness of HIV-specific offenses would predict the criterion variables (PHRQOL and CD4), four main hypotheses were tested for each of the three contexts of forgiveness – intrapersonal, interpersonal, and spiritual – using simple, multiple, and hierarchical regression analyses.

The first hypothesis tested the differences in scores between the forms of forgiveness in each context using dependent t-tests. The assumption of normality of difference scores was checked prior to carrying out the t-tests, using the Kolmogorov-Smirnov test and was found tenable. Hypotheses 2, 3, and 4 assessed the importance of the forms/stages of forgiveness in predicting the criterion variables. The assumption of multicollinearity was examined using the Tolerance and VIF (variance inflation factor) values. All Tolerance values were greater than .2 and VIF values were less than 3, suggesting that the multicollinearity assumption was met for each regression analysis (Rovai et al., 2014). The assumption of independence of observation was also met as the Durbin-Watson statistic was between 1.5 and 2.5 (Field, 2009; Rovai et al., 2014) for all the regression analyses conducted. Other assumptions for regression analysis including normal distribution of residuals, absence of extreme outliers, and linearity were examined using the Kolmogorov-Smirnov test with Lillifors significance correction, inspection of boxplots, and inspection of scatter plots respectively. All assumptions were duly met.

4.5.2.1 Hypotheses Testing for Intrapersonal Forgiveness

H1: Participants would report more decisions to forgive self than emotional forgiveness of self.

To test H1a, a dependent t-test was conducted to evaluate the differences in scores on DTFS and EFS among participants, who reported self-forgiveness (N= 91). Results of the test indicated that DTFS (M = 32.99, SD = 3.25) was higher than emotional forgiveness of the self (M = 28.25, SD = 3.72), $t(90) = 10.68$, $p < .001$. The 95% confidence interval for the difference in means ranged from 3.86 to 5.62. Thus, hypothesis H1a was supported.

Cohen’s d was further calculated to determine the magnitude of the difference between DTFS scores and EFS scores. Using the Cohen’s d online calculator, information on the mean scores, standard deviations, and sample size (n=91) for each group were entered (Social Science Statistics, 2018). The results indicated a large effect of 1.36.

H2: Intrapersonal forgiveness (DTFS and EFS) will significantly positively predict the criterion variables (PHRQOL and change in CD4 cell count).

Standard multiple linear regression was used to test the significance of DTFS and EFS in predicting PHRQOL. Whereas, simple linear regression was used to test the predictiveness of change in CD4 count from DTFS as the correlation matrix in Table 4.12 indicates that only DTFS correlated significantly with change in CD4 cell count. Tables 4.13 and 4.14 respectively present the regression models for intrapersonal forgiveness regressed on PHRQOL and change in CD4 cell count.

Table 4.13: Summary Coefficients of Self-Forgiveness Predicting Psychological Health-Related Quality of life

Model	Unstandardized		Standardized Coefficient	t	Sig
	Coefficients				
	B	Std. Error	Beta		
Constant	20.54	14.28			
Emotional forgiveness of self	0.76	0.35	.22	2.17	.033
Decision to forgive self	0.94	0.40	.24	2.34	.022

F =6.957, R² = .137 p<.01

The regression output presented in Table 4.13 indicates that in support of hypothesis 2, the model significantly accounted for 13.7% of variance in PHRQOL (F(2,88) =6.96, p<.01), with both DTFS (β = .24, p<.05) and EFS (β = .22, p<.05) making significant and positive unique contributions to the variation in PHRQOL.

Table 4.14: Summary Coefficients of Decision to Forgive Self Predicting Change in CD4 Cell Count

Model	Unstandardized		Standardized	t	Sig
	Coefficients		Coefficient		
	B	Std. Error	Beta		
Constant	-604.65	325.73			
Decision to forgive of self	27.18	9.82	.30	2.77	.007

N = 43, $F(1, 41) = 7.66$, $R^2 = .093$, $p < .01$

The results of the simple linear regression model presented in Table 4.14 further supported hypothesis 2; DTFS significantly and positively predicted change in CD4 cell count ($\beta = .30$, $p < .01$). Overall, the model significantly accounted for 9.3% of the variance in this outcome ($F(1, 41) = 7.66$, $p < .01$).

H3: Adherence to ART (number of missed doses in the last 7 days) and sexual risk behaviours (number of people you have had sex with and frequency of condom use since perceived offense) would moderate the relationship between intrapersonal forgiveness (DTFS and EFS) and the criterion variables (PHRQOL and CD4 cell change).

Hayes (2013) PROCESS model 3.0 was used to test the moderating effects of ART nonadherence and sexual risk behaviours on the relationship between intrapersonal forgiveness and the outcomes. At this stage, multiple sexual partner behaviour was also dummy coded into low (0) and high (1) risk behaviours for ease of interpreting any significant interaction effect (see Appendix I). Results of the moderation analysis in relation to PHRQOL are reported in Table 4.15 whereas the results in relation to change in CD4 count are reported in Table 4.16.

Table 4.15: Summary Results of Moderation Analysis on the Intrapersonal Forgiveness–Psychological Health-Related Quality of Life Relationship.

Model	B	t	Sig
EFS * ART Adherence	2.09	1.93	.06
EFS * Sex No. of People	-.28	-.38	.70
EFS * Condom Use	-1.17	-1.62	.10
DTFS * ART Adherence	.66	.49	.63
DTFS * Sex No. of People	.14	.16	.87
DTFS * Condom Use	-.35	-.43	.66

N=91, *p<.05

Table 4.15 presents results of the moderation analysis on the main effects of EFS and DTFS on PHRQOL as the criterion variable. Results of the analysis indicates that contrary to H3, health behaviours (number of times ART was missed in the last week, number of people one has had sex with since HIV-specific offence occurred, and frequency of condom use) had no interaction effect on the relationship between the predictors and PHRQOL.

Table 4.16: Summary Result of Moderation Analysis on the Decision to Forgive Self–Change in CD4 Cell Count Relationship.

Model	B	t	Sig
DTFS * ART Adherence	33.09	.60	.55
DTFS * Sex No. of People	-16.48	-.57	.57
DTFS * Condom Use	-40.83	-1.53	.13

N = 43, *p<.05

Table 4.16 presents results of the moderation analysis on the main effect of DTFS on change in CD4 cell count as the criterion variable. Results of the analysis indicates that contrary to H3, health behaviours (number of times ART was missed in the 7days, number of people one has had sex with since HIV-specific offence occurred, and frequency of condom use since offense) had no interaction effect on the relationship between DTFS and change in CD4 count.

H4: Controlling for related sociodemographic, clinical, and psychosocial factors, intrapersonal forgiveness (DTFS and EFS) will remain a significant predictor of PHRQOL

and change in CD4 count, with DTFS accounting for a greater proportion of variance in the outcomes than EFS.

A two-step hierarchical multiple linear regression model was employed to test *H4*. Key sociodemographic, clinical, and psychosocial factors that correlated with DTFS, EFS, PHRQOL, and/or change in CD4 count (see Tables 4.11 and 4.12) were entered in the first step of the model. The predictors were entered in step two to determine whether they would remain significant predictors of the outcomes, having ascertained their uncontrolled predictive power in *H2*. Table 4.17 summarizes results for *H4* in relation to PHRQOL, controlling for marital status, primary education, ART regimen, first CD4 count, social support, and psychological distress. These were the factors that significantly correlated with EFS and/or PHRQOL.

Table 4.17: Summary of Final Model of Psychological Health-Related Quality of Life Regressed on Self Forgiveness Controlling for Covariates

Model	Unstandardized		Standardized Coefficient	t	Sig
	Coefficients				
	B	Std. Error	Beta		
Step 2					
Constant	27.01	16.76		1.61	.11
Primary education	5.46	3.05	.18	1.79	.08
ART regimen	2.62	2.50	.10	1.05	.30
Marital status	1.41	2.44	.06	.58	.56
First CD4 cell count	-.00	.01	-.05	-.46	.65
Social support	.50	.22	.22	2.24	.03
Psychological distress	-.82	.23	-.34	-3.61	.00
Emotional forgiveness of Self	.60	.36	.18	1.70	.09
Decision to forgive Self	.57	.40	.25	1.45	.15

N=88; F = 4.719, R² = .259, p=.000 for step 1; ΔF = 3.269, ΔR² = .057, p=.043 for step 2

Table 4.17 presents the final model of the hierarchical multiple regression for the association between intrapersonal forgiveness and PHRQOL, controlling for related background variables. The control variables were entered first, followed by EFS and DTFS in step 2. Results of the regression analysis supports H4; taking all these covariates into account, intrapersonal forgiveness remained a significant predictor of PHRQOL ($\Delta R^2 = .057$, $\Delta F(2, 79) = 3.27$, $p < .05$). However, neither DTFS ($\beta = .15$, $p > .05$, n.s.) nor EFS ($\beta = .13$, $p = .233$, n.s.) made unique significant contributions to the variation in PHRQOL. The first model explained approximately 26% of the variation in PHRQOL ($R^2 = .26$, $F(6, 81) = 4.72$, $p < .001$). The introduction of the intrapersonal forgiveness stages in step 2 increased the predictive power of the final model to 31.6% ($R^2 = .316$, $F(8, 79) = 4.55$, $p < .001$). Only social support ($\beta = .22$, $p < .05$) and psychological distress ($\beta = -.34$, $p < .01$) uniquely contributed to the variance in PHRQOL. It was explored further, whether entering intrapersonal forgiveness in the first step and the covariates in the second step would modify the outcomes. However, results of the final model ($R^2 = .316$, $F(8, 79) = 4.55$, $p < .001$) and the β values remained unchanged.

Table 4.18 summarizes results for H4 in relation to change in CD4 cell count, controlling for age and condom use, which were the variables that significantly correlated with change in CD4 count (none of the background factors correlated significantly with DTFS). Time in months between first and recent CD4 count collection was also controlled for.

Table 4.18: Summary of Final Model of Change in CD4 cell Count Regressed on Decision to Forgive Self Controlling for Covariates

Model	Unstandardized		Standardized Coefficient	t	Sig
	Coefficients				
	B	Std. Error			
Step 2					
Constant	-1118.61	357.71		-3.31	.00
Age	10.69	3.83	.36	2.79	.01
Condom use	192.89	90.54	.24	2.13	.04
Time from first CD4 collection	2.31	1.02	.29	2.28	.03
Decision to forgive self	23.89	10.53	.26	2.27	.03

N= 43, F = 9.718, p=.000, R² = .416, for step 1; ΔF = 5.141, ΔR² = .067, p=.029 for step 2.

The summary model in Table 4.18 is the final hierarchical linear regression model of DTFS on change in CD4 count. The table indicates that taking these covariates into account, DTFS remained a significant predictor of change in CD4 count ($\Delta R^2 = .07$ F(1, 40) = 5.14, p < .05). The first model explained 42% of the variation in PHRQOL (R² = .42, F(3, 41) = 9.72, p < .001). The introduction of DTFS in step 2 increased the predictive power of the final model to 48% (R² = .48, F(4, 40) = 9.31, p < .001). All variables in the final model made significant unique contributions to the variation in PHRQOL (age: $\beta = .36$, p < .01; condom use behaviour: $\beta = .24$, p < .05; time between first and second CD4 counts: $\beta = .29$, p < .05; DTFS: $\beta = .26$, p < .05). Overall, H4 was partially supported: controlling for covariates, DTFS and EFS together remained a significant predictor of PHRQOL, although not unique contributors to the variation in PHRQOL. Only DTFS remained a significant and unique predictor of CD4 count change.

4.5.2.2 Hypotheses Testing for Interpersonal Forgiveness

The four hypotheses for the present study were tested in relation to interpersonal forgiveness (DTFO and EFO). It was posited that:

H1: Participants will report more decisions to forgive others than emotional forgiveness of others.

To test H1 in this context, dependent t-tests were similarly conducted to evaluate the differences in scores between DTFO and EFO (N= 191). The results of the dependent t-tests indicated that DTFO (M = 31.21, SD = 5.21) was higher than emotional forgiveness of others (M = 25.72, SD = 5.13), $t(190) = 16.27, p < .001$. The 95% confidence interval for the difference in means ranged from 4.83 to 6.16.

Cohen’s d was further calculated to determine the magnitude of the difference between DTFO scores and EFO scores. Using Cohen’s d online calculator, information on the mean scores, standard deviations, and sample size (n = 191) for each group were entered (Social Science Statistics, 2018). The results indicated a large effect of 1.06.

H2: Interpersonal forgiveness (DTFO and EFO) will significantly positively predict PHRQOL and change in CD4 cell count.

The correlation matrix in Table 4.12 shows no significant correlations between any of the forms/stages of interpersonal forgiveness and change in CD4 cell count. Thus, hypothesis two was investigated in relation to only interpersonal forgiveness (DTFO and EFO) and PHRQOL. Table 4.19 summarizes the results of the standard multiple linear regression model.

Table 4.19: Summary Results of Coefficients for Interpersonal Forgiveness Regressed on Psychological Health-Related Quality of life

Model	Unstandardized Coefficients		Standardized Coefficient	t	Sig
	B	Std. Error	Beta		
Step 1					
Constant	47.51	6.35		7.48	.000
Emotional forgiveness of other	0.38	.24	.14	1.58	.116
Decision to forgive other	0.42	.24	.15	1.76	.079

N = 191, $R^2 = .068, F = 6.858, p = .001$

Table 4.19 indicates that in support of hypothesis 2, the model significantly predicted PHRQOL ($F(2,188) = 6.86, p < .01$), accounting for 6.8% of the variance in this outcome. Although, individually, neither DTFO ($\beta = .15, p > .05, n.s.$) nor EFO ($\beta = .14, p > .05, n.s.$) made significant unique contributions to the variation in PHRQOL when the other was held constant.

H3: Adherence to ART (number of missed doses in the last 7 days) and sexual risk behaviours (number of people you have had sex with and frequency of condom use) would moderate the relationship between interpersonal forgiveness (DTFO, EFO) and PHRQOL.

Hayes PROCESS v3.0 was used to test the moderating effects of ART nonadherence and sexual risk behaviours on the relationship between interpersonal forgiveness and PHRQOL. Results of the moderation analysis are reported in Table 4.20

Table 4. 20: Summary Results of Moderation Analysis on the Interpersonal Forgiveness–Psychological Health-Related Quality of Life Relationship.

Model	B	T	Sig
EFO * ART Adherence	-.41	-.86	.39
EFO * Sex No. of People	-.11	-.26	.79
EFO * Condom Use	-.45	-1.12	.26
DTFO * ART Adherence	-.83	-1.74	.08
DTFO * Sex No. of People	-.35	-.77	.44
DTFO * Condom Use	-.71	-1.82	.07

N = 191, * $p < .05$

The moderation results presented in Table 4.20 shows that contrary to H3 there was no significant moderation effect of adherence or any of the sexual risk behaviours on the association between interpersonal forgiveness (DTFO and EFO) and PHRQOL.

H4: Controlling for related sociodemographic, clinical, and psychosocial variables, interpersonal forgiveness (DTFO and EFO) would remain a significant predictor of the criterion variables (PHRQOL and change in CD4 cell count), with DTFO accounting for a larger proportion of the variance in the outcomes than EFO.

The correlation matrix in Table 4.12 shows no significant correlations between any of the forms/stages of interpersonal forgiveness and change in CD4 cell count. Thus, hypothesis four was investigated in relation to only interpersonal forgiveness (DTFO and EFO) and PHRQOL. Using a two-step hierarchical linear regression model, background factors that correlated with interpersonal forgiveness and/or PHRQOL (see Table 4.11 and 4.12) were entered in step one. These were gender, marital status, first CD4 count, hurtfulness of offense, multiple sexual partner behaviour, social support, and psychological distress. The predictors – DTFO and EFO – were entered in step two to determine whether they would remain significant predictors of the outcomes, having ascertained their uncontrolled predictive power in H2. Table 4.21 summarizes results for H4 in relation to interpersonal forgiveness.

Table 4.21: Summary of Final Model Results of Relationship between Interpersonal Forgiveness and Psychological Health-Related Quality of Life Controlling for Covariates

Model	Unstandardized		Standardized	t	Sig
	Coefficients		Coefficient		
	B	Std. Error	Beta		
Step 2					
Constant	57.00	10.73		5.31	.00
Female gender	1.86	2.18	.06	.85	.34
Married or cohabiting	3.28	2.18	.12	1.51	.13
Large/extreme hurt	.68	2.41	.02	.28	.78
First CD4 results	-.01	.00	-.13	-2.01	.05
Social support	.14	2.41	.17	2.08	.04
Psychological distress	-.66	.12	-.37	-5.38	.00
Multiple sex. partner behaviour	2.91	2.16	.10	1.34	.18
Emotional forgiveness of other	.19	.23	.07	.82	.42
Decision to forgive other	.39	.22	.15	1.02	.08

N = 180; F =7.765 R² = .240, p=.000 for model 1; $\Delta R^2 = .032$, $\Delta F=3.733$, p=.026 for model 2

The results of the multiple linear regression model reported in Table 4.21 indicates that H4 was also partially supported in the interpersonal context. Adjusting for related sociodemographic, clinical, and psychosocial covariates, interpersonal forgiveness (DTFO and EFO) significantly predicted PHRQOL ($\Delta F(2, 170) = 3.73, p < .05$), although it accounted for only 3.2% of the variance in this outcome. The first model explained 24% ($R^2 = .24, F(7, 172) = 7.77, p < .001$) of the variation in PHRQOL. The introduction of DTFO and EFO in step 2 increased the predictive power of the final model to 27% ($R^2 = .27, F(9, 170) = 7.06, p < .001$). Neither DTFO ($\beta = .15, p > .05$) nor EFO ($\beta = .07, p > .05$) made significant unique contributions to the variance in PHRQOL. Significant predictors in the final model were participants' first recorded CD4 count ($\beta = -.13, p < .05$), social support ($\beta = .17, p < .05$), and psychological distress ($\beta = -.37, p < .001$). Overall, H4 was partially supported in the interpersonal context: controlling for covariates, DTFS and EFS together remained a significant predictor of PHRQOL. However, neither of these variables uniquely associated with PHRQOL nor remained significant predictors of CD4 count change.

4.5.2.3 Hypotheses Testing for Spiritual Context of Forgiveness

The four study hypotheses were tested for the spiritual forgiveness context (attitudes toward God), to examine the predictive associations of positive attitudes toward God (PATG) and negative attitudes toward God (NATG) with the criterion variables – PHRQOL and change in CD4 cell count. It was posited that:

H1: Respondents will report more of positive attitudes toward God (PATG) than negative attitudes toward God (NATG).

To test H1, a dependent t-test was conducted to evaluate the differences in scores on PATG and NATG among participants, who reported changes in attitudes towards God (N= 43). The results of the dependent t-test indicated that PATG (M = 9.14, SD = 1.40) were significantly higher than NATG (M = 3.89, SD = 2.03), $t(42) = 14.16, p < .001$. The 95% confidence interval for the difference in means ranged from 3.86 to 5.62. Therefore, hypothesis 1 was supported for the spiritual forgiveness context.

Cohen’s d was calculated to further determine the magnitude of the difference between PATG scores and NATG scores. Using Cohen’s d online calculator, information on the mean scores, standard deviations, and sample size (n=43) for each group were entered (Social Science Statistics, 2018). The results indicated a large effect size of 3.01

H2: Positive attitudes toward God (PATG) and negative attitudes toward God (NATG) will significantly predict the criterion variables (PHRQOL and change in CD4 cell count).

The Pearson correlation (r) results in Table 4.12 shows that there was no significant correlation between NATG and both PHRQOL and change in CD4 count. Only PATG significantly correlated with PHRQOL but not change in CD4 count. Therefore, H2 was tested in relation to PATG and PHRQOL. Table 4.22 summarizes the results of the standard multiple linear regression model.

Table 4. 22: Summary Results of Positive Attitudes toward God Regressed on Psychological Health-Related Quality of Life

Model	Unstandardized Coefficients		Standardized Coefficient	t	Sig
	B	Std. Error	Beta		
Constant	53.70	10.23			
Positive attitudes towards God	2.34	1.11	.31	2.12	.041

N= 43, F =4.471, p=.041; R² = .098

The results presented in Table 4.22 indicates that in support of H2, PATG significantly predicted PHRQOL ($F(1, 41) = 4.47, p < .05$). The model accounted for approximately 10% of the variance in the outcome. There was a significant and positive predictive association between PATG and PHRQOL ($\beta = .31, p < .05$).

H3: Adherence to ART (number of missed doses in the last 7days) and sexual risk behaviours (multiple sexual partner behaviours and frequency of condom use) would moderate the relationship between spiritual forgiveness (PATG, NATG) and PHRQOL.

Hayes PROCESS v3.0 was used to test the moderating effects of ART adherence and sexual risk behaviours on the relationship between PATG and PHRQOL, considering that only PATG significantly predicted PHRQOL (see Table 4.12).

Table 4.23: Summary Results of Moderation Analysis on the PATG–Psychological Health-Related Quality of Life Relationship.

Model	B	t	Sig
PATG * ART Adherence	1.92	.75	.45
PATG * MSP Behaviour	-2.31	-1.03	.31
PATG * Condom Use Behaviour	-1.41	-.64	.52

N = 43, * $p < .05$ *MSP = multiple sexual partner

The moderation results presented in Table 4.23 shows that contrary to H3 there was no moderation effect of adherence or any of the sexual risk behaviours on the association between PATG and PHRQOL.

H4: Controlling for related covariates, spiritual forgiveness (PATG and NATG) would remain a significant predictor of the criterion variables (PHRQOL and change in CD4 cell count), with PATG accounting for a larger proportion of the variance in the outcomes than NATG.

The correlation matrix in Table 4.12 shows no significant correlations between NATG and both outcomes. Thus, hypothesis four was investigated for PATG in relation to only PHRQOL, as PATG did not significantly correlate with change in CD4 count. Using a two-step hierarchical linear regression model, background factors that correlated with PHRQOL were entered in step one (see Table 4.11 and 4.12). These were marital status, first CD4 count, social support, and psychological distress. There were no correlations between the background factors and PATG. The predictor variable – PATG – was entered in step two to determine whether it would remain a significant predictor of PHRQOL, having ascertained its uncontrolled predictive power in H2. Table 4.24 summarizes results for H4 in relation to PATG.

Table 4.24: Summary of Final Model Results of Relationship between Positive Attitudes Toward God and Psychological Health-Related Quality of Life Controlling for Covariates

Model	Unstandardized		Standardized Coefficient	t	Sig
	Coefficients				
	B	Std. Error			
Step 2					
Constant	35.93	10.73		2.21	.03
Married or cohabiting	-2.38	3.29	-.12	-.73	.47
First CD4 results	.00	.01	.00	.03	.98
Social support	.51	.26	.31	1.97	.06
Psychological distress	-.22	.25	-.14	-.86	.40
PATG	2.38	1.13	.32	2.11	.04

N = 42; F = .870 R² = .086, p=.491 for model 1; ΔF=4.470 ΔR² = .101, p=.041 for model 2

The results of the hierarchical multiple linear regression model reported in Table 4.24 indicates that H4 was also partially supported in the spiritual context: adjusting for related covariates, PATG (but not NATG) significantly predicted PHRQOL ($\Delta F(1, 36) = 4.47, p < .05$), accounting for approximately 10% of the variance in this outcome. Both the first and second models failed to significantly explain the variation in PHRQOL ($R^2 = .09$,

$F = .87$, $p >.05$ and $R^2 = .19$, $F=1.66$, $p>.05$ respectively). Although, PATG made significant and positive unique contributions to the variance in PHRQOL ($\beta = .32$, $p<.05$), providing the only unique significant explanation of the variation in PHRQOL in the final model ($\Delta F=4.470$, $\Delta R^2 = .101$, $p=.041$).

4.5.3 Additional Analysis and Findings

The main focus and premise of the present study was to ascertain the predictive association between forgiveness (across the three contexts) and the outcomes of PHRQOL and change in CD4 count controlling for key related background factors. However, first, considering that social support significantly correlated with the interpersonal forgiveness predictors (DTFO: $r=.26$, $N=191$, $p<.01$ and EFO: $r=.12$, $N=191$, $p<.05$) as well as the outcome variable, PHRQOL ($r=.12$, $N=191$, $p<.05$), an additional mediation analysis was conducted. The purpose was to determine whether social support would mediate the relationship between interpersonal forgiveness and PHRQOL. Using Hayes Process Model 3.0, and model number 4 for mediation analysis, the results showed that social support did not significantly mediate the DTFO–PHRQOL relationship nor the EFO–PHRQOL relationship. The confidence intervals in each of the indirect associations changed from a negative to a positive value between the lower and upper bound limits (see Appendix G).

Second, taking into consideration the close links that PHRQOL may have with the other domains of QOL, an additional analysis was further carried out to answer the questions:

1. What is the predictive association between forgiveness (in the three contexts) and physical health–related QOL (PHYSQOL)?
2. What is the predictive association between forgiveness (in the three contexts) and environment–related quality of life (ENQOL)?

It is worthy of mention that due to the very low internal consistency reliability recorded on the social relationships domain (.46), this domain was not considered for statistical analysis.

Psychometric properties of Physical Health and Environment domains of WHOQOL-BREF

A single factor was extracted on the 8-item Environment domain (ENQOL) using principal components analysis. All items (8, 9, 12, 13, 14, 23, 24, and 25) loaded above .4 on the unidimensional scale, which also showed good internal consistency reliability of 0.76. On the physical health domain (PHYSQOL), the varimax rotated solution showed that all but one of the items (item 4: “How much do you need any medical treatment to function in your daily life?”) loaded onto one factor. Cronbach alpha was 0.65 on the 7-item scale. Almost all participants selected “strongly agree” on this item, making reference to their ART regimen. Thus, this item was dropped as it showed almost no variation in its responses. The final solution showed a single factor scale onto which all 6 remaining items (3, 10, 15, 16, 17, and 18) loaded above 0.32. Cronbach alpha on the 6-item PHYSQOL was 0.74.

Additional Findings

Intrapersonal Forgiveness, Physical Health, and Environment Domains of Quality of Life

Intrapersonal forgiveness failed to significantly predict physical health-related quality of life ($F(2, 88) = 2.07, p > .05$). There was no significant association between PHYSQOL and DTFS ($\beta = .19, p > .05$) nor EFS ($\beta = .06, p > .05$).

Also, intrapersonal forgiveness failed to significantly explain the variance in environment-related quality of life ($F(2, 88) = .38, p > .05$). There was no significant

association between ENQOL and DTFS ($\beta = .04$, $p > .05$) nor EFS ($\beta = .07$, $p > .05$). (See Appendix G)

Interpersonal Forgiveness, Physical Health and Environment Domains of Quality of Life

Findings of the standard multiple regression analysis showed that together, interpersonal forgiveness (DTFO and EFO) marginally significantly explained 3.2% of the variance in physical health-related quality of life ($F(2, 188) = 3.25$, $p = .05$). There were no significant and unique associations between PHYSQOL and DTFS ($\beta = .19$, $p > .05$) nor EFS ($\beta = .06$, $p > .05$).

Interpersonal forgiveness also failed to significantly explain the variance in ENQOL ($F(2, 188) = 2.06$, $p > .05$). There was no significant association between ENQOL and DTFO ($\beta = .09$, $p > .05$) nor EFO ($\beta = .07$, $p > .05$). (see APPENDIX G)

Spiritual Forgiveness and Physical Health and Environment Domains of Quality of Life

In the spiritual forgiveness context, PATG and NATG together did not explain any significant variance in physical health related quality of life ($F(2, 40) = 1.50$, $p > .05$). There was no significant unique association between PHYSQOL and DTFS ($\beta = .19$, $p > .05$) or EFS ($\beta = .06$, $p > .05$). Similarly, spiritual forgiveness did not explain any significant variance in environment-related quality of life ($F(2, 40) = .09$, $p > .05$). There was no significant association between ENQOL and PATG ($\beta = .01$, $p > .05$) nor EFO ($\beta = -.07$, $p > .05$). (See Appendix G)

Overall, these additional results indicate that there was no predictive association between forgiveness and the Physical or Environment domains of the WHOQOL-BREF.

4.6 Summary of Study One Findings

Study one primarily aimed at investigating the association between forgiveness of HIV-specific offenses (as a predictor/independent variable) and two main outcome variables across three contexts – self, other, and spiritual. The outcome variables were psychological health-related quality of life (PHRQOL) and change in CD4 cell count. Following preliminary analyses, the main objective of the study to determine whether forgiveness would significantly predict the two outcomes in both unadjusted and adjusted analyses was tested. In unadjusted analyses, covariates were not controlled for. Whereas in adjusted analyses covariates that significantly correlated with a predictor and/or outcome variable were controlled for. The mediation effect of social support on the interpersonal forgiveness-PHRQOL relationship as well as the association between forgiveness and other QOL domains were additionally investigated.

Results of the preliminary analyses showed that over a third of the respondents experienced large to extreme amounts of hurt over their perceived most offensive situation. The most offensive situation for the majority of the participants was who/what they believed caused their HIV infection. These included themselves and other people, particularly sexual partners. Some also attributed their perceived offense to God as having allowed it. Five of the six predictor variables examined across the three forgiveness contexts significantly correlated with PHRQOL. These were decision to forgive self (DTFS), emotional forgiveness of self (EFS), decision to forgive other (DTFO), emotional forgiveness of other (EFO), and positive attitudes toward God (PATG). Only DTFS correlated significantly with change in CD4 cell count.

Regression analyses further revealed associations between forgiveness and the two outcome variables, with important differences in the nature of the associations between the different forms/stages and contexts of forgiveness and the two outcomes. In particular, DTFS significantly uniquely predicted change in CD4 cell count. Together, DTFS and

EFS explained a significant proportion of variance in PHRQOL, although neither made unique significant predictions of this outcome when covariates were controlled for. Also, PATG significantly uniquely predicted PHRQOL. Both DTFO and EFO together explained a significant proportion of the variance in PHRQOL, although neither made unique significant predictions of this outcome. The following sections present a brief discussion of the findings from Study 1.

4.7 Brief Discussion of Study 1 Findings

Decisional versus Emotional Forgiveness

The first finding of this study was that participants reported more of decisions to forgive the self than emotional forgiveness of self (in the intrapersonal context) and more of decisions to forgive another offender than emotional forgiveness of another (in the interpersonal context). In the interpersonal context, this finding may indicate that PLWHA may be more ready to decide to forgive perceived offenders than they may be to experience positive emotions. Hook and colleagues (2009; 2011) found that individuals high on collectivistic worldviews seem to show a greater tendency to respond to (interpersonal) offenses with decisional forgiveness than emotional forgiveness. According to them, the priority that individuals in collectivistic cultures seem to place on maintaining interpersonal/social harmony may explain why they may be quick to decide to let go of offenses. On the other hand, as noted by Worthington (2005), some researchers have reported that decisional forgiveness may be easier to experience and attain than emotional forgiveness. However, the findings may also support the proposition that indeed, decisional forgiveness precedes emotional forgiveness in the process of forgiveness coping with offenses (Worthington & Scherer, 2004; Worthington et al., 2007). Hence, while PLWHA may have fully or strongly decided to forgive, it is possible

that they may not yet have completely replaced their negative emotions with more positive emotions toward the perceived offender.

More interestingly, that these differences were observed in the intrapersonal context may suggest the possibility of deciding to forgive one's self and eventually experiencing positive emotions toward the self. For example, in line with the definition of self-forgiveness by Hall and Fincham (2005), it may be possible that people who perceive self-inflicted offenses may decide not to retaliate against the self via active self-punishing or passive self-neglecting behaviours. They define self-forgiveness to include decreased motivation to retaliate against the self, including punishing the self, engaging in self-destructive behaviours, etc., and increased motivation to act benevolently towards the self. Indeed, the terms “decisional forgiveness of self” and “emotional forgiveness of self” may not have been explicitly expressed in the self-forgiveness literature. However, that self-forgiveness has been recognized to entail release of negative self-directed emotions and behavioural motivations and fostering of positive ones (Woodyatt et al., 2017), seem to provide some support for the significant difference found between DTFS and EFS in this study.

Decision to Forgive self and Immune Functioning

One of the major findings of the present study was that decision to forgive the self, predicted immune function – change in CD4 cell count. Controlling for related covariates, DTFS remained a significant predictor of immune functioning, whereas, there was no significant association between EFS and this outcome. This finding is in contradiction to reports in favour of emotional forgiveness as more beneficial to health outcomes (e.g., Worthington et al., 2007; Worthington & Scherer, 2004; Toussaint & Worthington, 2017). However, it lends support to the proposition that although there may be additional health benefits of developing positive emotional states, “the health benefits of forgiveness should

include the health benefits of unforgiveness reduction” (Harris & Thoresen, 2005, p. 322). As initially argued above, decisional forgiveness may involve more than making a decision not to retaliate in response to an offense. It may also involve some level of changes from a higher to a lower state of unforgiveness, possibly leading to that decision to forgo any negative behaviours toward the offender (Worthington et al., 2007).

Indeed, a closer consideration of the items on the DTFS scale (e.g., “I have decided not to intentionally harbor hatred towards myself” and “My choice is to release any negative ideas or thoughts I have about myself”), seem to lend some support to this argument. These items suggest that deciding to forgive includes a decision not only to forgo retaliatory/avoidant behaviours, but also, the negative feelings and thoughts that may lend unforgiveness its negative link to health (Harris & Thoresen, 2005). Therefore, while these findings are in no way suggestive of a causal link between decisional forgiveness of self and immune functioning, they suggest the possibility that the processes inherent in letting go at the decisional forgiveness stage, may entail important links to immune health.

Intrapersonal Forgiveness, Interpersonal Forgiveness, and Psychological Health-Related Quality of Life

The present study found that self-forgiveness (DTFS and EFS) and other-forgiveness (DTFO and EFO) explained significant proportions of the variance in psychological health-related quality of life even after controlling for important sociodemographic, clinical, and psychosocial factors including social support and psychological distress. This finding supports the myriad of studies that have found support for the association between forgiveness and health across illness populations (e.g., Akhtar & Barlow, 2016; Harris & Toressen, 2005; Lawler et al., 2005; Toussaint & Web, 2005; Woodyatt et al., 2017; Toussaint & Worthington, 2017). In the intrapersonal context, both DTFS and EFS also made unique significant contributions to the variation in PHRQOL in

unadjusted analysis. Decision to forgive others (DTFO) and EFO were however, not uniquely associated with PHRQOL even in the unadjusted analysis. This inconsistency rather seems to underscore previous findings in HIV/AIDS and other patient populations that have found support for intrapersonal forgiveness as a better predictor of health than interpersonal forgiveness (e.g., Bassett et al., 2016; Hua, 2012).

Another finding was that adjusting for background factors, health behaviours, and other psychosocial factors, the different stages of intrapersonal and interpersonal forgiveness did not uniquely predict PHRQOL. Although, social support and psychological distress largely remained significant predictors. This finding may be attributed to the fact, PHRQOL is a complex experience that aside forgiveness, could be affected by various inter-related factors. For instance, the inter-correlations in Table 4.12 indicate that higher levels of forgiveness were associated with higher social support for PLWHA who had experienced interpersonal offenses. Thus, clearly distinct associations between forgiveness and PHRQOL may require for example, experimental methods to ascertain. A number of methodological differences between the present study and similar previous studies (e.g., Owen et al., 2011; Wald & Temoshok, 2004a) may also have accounted for the absence of unique associations that were noted in this study.

First of all, it is worth noting that the factors controlled in the studies by Owen and colleagues (2011) and Temoshok and Wald (2004a) excluded these two important HIV-related factors – social support and psychological distress. Secondly, forgiveness has largely been considered in the few HIV studies and majority of other forgiveness-health studies as a global construct (Harris & Thoresen, 2005). The present study investigated forgiveness as a process that may occur in two main stages – decisional and emotional stages. Furthermore, reports indicate that state forgiveness of specific offenses may be less predictive of health than dispositional forgiveness (Lawler et al., 2003; Lawler, et al., 2005; Thompson et al., 2005; Worthington et al., 2007). In the present study, it was

pertinent to assess state forgiveness, considering the specific nature of the offense in question. It is possible that among participants who self-reported unforgiveness, this negative stress response may not yet have fully manifested across different aspects of their lives (Toussaint et al., 2016a, b). Finally, it may also be that the adapted forgiveness measures employed in this study may have contributed to the unique contributions of the forgiveness stages not showing significant associations with PHRQOL. However, since no studies have yet been identified that employed the original versions of the scales with PLWHA, it may be difficult to compare and ascertain this assumption. Besides, the validation procedures showed good construct validity and internal consistency reliability of the scales. For example, internal consistency reliability was excellent (.92) on the DTFO scale and even slightly higher than on the original 6-item scale (.90). Furthermore, similar other- to self-forgiveness definitions and measures have been previously reported (Woodyatt et al., 2017). Nonetheless, it is important that any findings at this stage remain exceptionally tentative.

Positive Attitudes toward God and Psychological Health-Related Quality of Life

The present study found that in the spiritual context, positive attitudes toward God were reported significantly more than negative attitudes toward God. Similar results were found in the study by Ironson and colleagues (2011) in which participants reported more positive than negative views of God. When examined in relation to PHRQOL, the study found that PATG (but not NATG) significantly predicted PHRQOL and remained a significant predictor after variances from related covariates were removed. Again, this finding is in support of that by Ironson et al. (2011) and suggests that viewing God as benevolent, all knowing, all powerful, caring, and nurturing, may have important bearings on how PLWHA perceive their psychological health. In line with the theorization by Temoshok and Wald (2005), it is possible that participants' PATG may have offered them

with strength to accept their HIV status and to engage in positive health promoting behaviours essential to psychological health (e.g., maintaining social relationships, and seeking/accepting social support). As mentioned above, both DTFO and EFO positively correlated with social support in the interpersonal context. It may also be that PATG allows PLWHA to reframe their HIV positive status as an opportunity for growth and a greater God-given purpose in life (Ironson et al., 2011).

That NATG failed to significantly correlate with health outcomes in the present study may be that the generally religious nature of Ghanaians (Anderson, 2013) and the study sample for that matter, may have influenced the extent to which participants expressed their negative emotions and thoughts about God. It may be that participants, who reported NATG did so with some reservations or caution to avoid a situation of charging God with wrongdoing. Thus, participants' responses about their NATG may not have been a true reflection of their perceived health status. Nonetheless, very few participants actually reported any negative attitudes toward God. This may also have accounted for the no association between NATG and the outcomes.

Conclusion to Study 1

In conclusion, Study 1, which sought to determine the association between forgiveness across three contexts and psychological and immune health in PLWHA has found support particularly for PATG and DTFS as unique predictors of psychological health and immune health respectively. These findings in a number of ways correspond with existing findings and theorizations on forgiveness. In addition, findings from the present study highlight other interesting insights into this complex phenomenon such as decisional forgiveness not only being more reported, but also, being more predictive than emotional forgiveness in the self-context.

CHAPTER FIVE

METHODOLOGY AND RESULTS FOR STUDY TWO

STUDY 2: LIVED EXPERIENCES OF FORGIVENESS OF HIV-RELATED OFFENCES AMONG PEOPLE LIVING WITH HIV/AIDS IN GHANA

5.0 Introduction

This section of the thesis presents details of the methodology and findings of Study 2 titled; “Lived Experiences of Forgiveness of HIV-Related Offences among People Living with HIV/AIDS in Ghana”. It also presents a summary and brief discussion of the findings.

5.1 Research Questions

Following Study 1, an in-depth qualitative phenomenology study, which adopted interpretative phenomenological analysis (IPA) was employed to answer two main research questions:

1. What are the lived experiences of forgiveness of HIV-specific offenses among PLWHA in Ghana?
 - a. How do PLWHA in Ghana conceptualize and relate to the constructs of self-forgiveness, other-forgiveness, and change in attitudes towards God?
 - b. What is it like, to forgive an offence specifically due to one’s HIV-positive status?
 - c. What factors facilitate or hinder forgiveness of perceived HIV-specific offenses?

2. What does it mean to PLWHA in Ghana to have been diagnosed with HIV, experience an offence specifically due to their positive status, and to have forgiven (or not forgiven) the offender?
 - a. How do PLWHA in Ghana perceive the influence of forgiveness (or its converse) of HIV-specific offenses on their health?
 - b. What are PLWHA's perceived role of forgiveness (or unforgiveness) on other aspects of their lives including social relationships?

5.2 Study Design – Interpretative Phenomenology

Study 2 employed an interpretative phenomenological design to basically understand two main issues: 1) the perceptions of PLWHA in Ghana regarding their forgiveness (or otherwise) of offenses experienced directly in relation to their HIV-positive status and 2) the meaning participants make of their HIV-specific forgiveness experiences (Creswell, 2014; Smith & Osborn, 2004; Tuffour, 2017).

Phenomenology is a qualitative research design concerned with the essence (structure and meaning) of lived human experiences about a phenomenon (Creswell, 2014; Eatough & Smith, 2008; Smith & Osborn, 2004; Tuffour, 2017). Its goal is to examine in detail, the personal and social world experiences of phenomena that people have lived through and the meaning they make of these experiences (Creswell, 2014; Smith & Osborn, 2004). While there are purely descriptive types of phenomenology, in this study, the double-hermeneutic approach that distinguishes the IPA method was employed (Creswell, 2014; Eatough & Smith, 2008; Smith & Osborn, 2004; Tuffour, 2017). The concept of double-hermeneutics describes the role of the researcher in skilfully drawing out a second deeper meaning or interpretation of participants' own sense-making of their lived-through experiences (Eatough & Smith, 2008; Smith & Osborn, 2004; Tuffour, 2017). It has been argued that it is impossible for researchers to report participants'

descriptions without describing or expressing them from their interpretative lens (Tuffour, 2017) – the perspective informed among other things, by researchers’ experiences, knowledge, beliefs, and historical backgrounds and from which they may interpret any given phenomenon. Thus, phenomenology, specifically the IPA method, was adopted in Study 2 to guide the data collection and analysis to be able to bring out not only participants’ descriptions of their lived experiences, but also, the meaning they make of these experiences as well as what these could mean from the researcher’s interpretative lens in line with the overall study goals.

5.2.1 Rationale for Study 2

The purpose of study 2 was first of all to understand in further detail, how forgiveness of HIV-specific offenses impact health and wellbeing from the perspectives and interpretations of PLWHA in Ghana. At present, a thorough review of the forgiveness and HIV literature suggests that the existential accounts of this population in Ghana and most likely the whole region have yet to be systematically explored. Secondly, Study 2 was intended to identify and extend culturally-relevant contexts of meaning/explanations to the findings from Study 1. Finally, Study 2 was carried out for purposes of triangulation as the theories, literature, and measures that informed Study 1 have largely been developed based on Western literature and data.

5.2.2 Participants and Sampling Procedure –Purposive sampling

Fifteen participants from Study 1 were selected again using the purposive sampling technique (Bilinski et al., 2013). The purpose of this sampling technique was to allow for an in-depth exploration of forgiveness from PLWHA across all the adult age groups that were represented in the survey (young adults: 18-30years, middle adults: 31-49years, and older adults: \geq 50years). This was also to increase the chances that information on the

phenomenon in focus would be elicited from perinatally infected PLWHA. These are PLWHA who acquired the HIV infection from an infected mother during the perinatal period. It was anticipated that they may have unique experiences from those who may have been infected via external factors/behaviours. Thus, this sampling method, which combined purposeful and probability sampling techniques was not only appropriate, but also, informationally representative (Bilinski et al., 2013).

Participants from each of the study sites, who had agreed to the follow-up qualitative study, were first stratified by age. Stratification was achieved by writing participants' folder numbers on sheets of paper and placing each paper in a respective age category-labelled box by hospital. Participants were then purposively selected to allow for gaining rich descriptions necessary to throw more light on the quantitative findings. Of the 15 participants selected, 3 were receiving treatment from the Korle-Bu Teaching Hospital, 7 from the Tamale Teaching Hospital, and 5 from the Komfo-Anokye Teaching Hospital. This sample size is in support of the views of Pietkiewicz and Smith (2012). They emphasize that sample size in descriptive-interpretive studies may range from 1 to 15 or more depending on a number of factors such as the depth of analysis a researcher intends to do both within and across cases in line with the objectives of the study.

5.2.3 Inclusion and Exclusion Criteria

As all participants in Study 2 had participated in Study 1, they automatically fulfilled the following inclusion and exclusion criteria:

1. Adults with HIV/AIDS aged 18 years and above
2. Ever experienced an offense directly related to their HIV-positive status
3. Have been taking ART for at least one year.
4. Participants were excluded if they showed any signs of distress related to the interview questions.

5.2.4 Data Collection Instruments – Semi-structured Interview Schedule

This phenomenology study relied on semi-structured interviews to obtain descriptions necessary to answer the research questions for Study 2. A semi-structured interview schedule (Appendix G) was developed that focused on eliciting participants' descriptions and sense making of the phenomenon under investigation from their own thoughts, emotions, and behaviours (Smith & Osborn, 2004).

The purpose of the interview schedule was to serve as a guide for the researcher to gather as much in-depth information as possible and to flexibly dialogue with participants, asking interview questions and prompts in a way that made the conversation flow. That is, the researcher did not ask the interview questions strictly in the order in which it was drafted but rather flexibly in accordance with how individual participants narrated their responses to each question. Furthermore, while it provided some standard structure to the questions asked of participants, it allowed the researcher to probe further into arising issues as the interviews progressed, resulting in deeper descriptions of the phenomenon under investigation and their sense making of it (Harding, 2013).

Essentially, the interview schedule asked participants to describe their HIV-related offense experiences. This was necessary to situate the forgiveness questions in the appropriate context. Participants were also asked to describe their forgiveness experiences and what these experiences meant to them. Well-structured prompts were used to guide the conversation to generate descriptions of all aspects of their experiences. The interview questions were revised as appropriate for participants who reported unforgiveness of any HIV-specific offense they had experienced.

5.2.5 Pilot Study

A small number of 4 participants were selected separate from those included in the main qualitative study to test the appropriateness and level of understanding of the

interview questions. The pilot study was also conducted to test the suitability of the order in which the interview schedule had been designed to allow for a good flow of the interaction between the researcher and participants during the main study (Harding, 2013). Pilot participants included PLWHA receiving care at the Tamale (n=2) and Komfo Anokye (n=2) Teaching Hospitals. The researcher's observations about the pilot interviews as well as participants' feedback highlighted the need for a translation of the schedule into the most common local language – Twi. This was done by a professional with Master's degree in Ghanaian languages. Also, the pilot phone interviews greatly equipped the researcher with knowledge about how to handle any phone interviews that became necessary in the main study.

5.2.6 Study Procedure

Following analysis of data from Study 1, participants who consented to follow-up were selected from each of the hospitals to participate in Study 2. Participants were contacted through the telephone numbers they consensually provided during the survey. Prior to commencing each interview, participants' questions and concerns (e.g., whether the recordings included a video recording) were thoroughly addressed. All participants gave written informed consent to participate in the study and also gave permission for the interviews to be audio recorded prior to the interviews.

With the exception of two participants in Tamale and one in Kumasi, all interviews were conducted face-to-face by the researcher, using the interview schedule as a guide. The other three interviews were conducted by the researcher by phone. Verbal informed consent was recorded for phone interview participants. The primary reasons for the phone interviews were participants' inability to travel to the study site/hospital during the period of the study. One of the participants however indicated a reluctance, fear, and lack of confidence in going into public ever since she was diagnosed with HIV, and as such, was

reluctant to come to the study site for a face-to-face interview. To ensure similar interview experiences irrespective of the interview mode, the researcher conducted the phone interviews in a quiet and locked office at each of the sites, in order to minimize disruptions. The researcher also used careful listening, frequent repetitions, and summaries of participants' narratives to ensure that no details were lost over the phone (and also with face-to-face participants). The face-to-face interviews were conducted at the study sites, also in offices that helped to ensure that participants' narratives remained confidential. Field notes were taken during both face-to-face and phone interviews for cross-checking of participants' narratives during the analysis. Each interview lasted between approximately 30-60minutes. Each participant received a token of appreciation for their time in participating in the interview.

5.2.7 Analytic Strategy –Interpretative Phenomenological Analysis

Following the interview data collection, the audio recordings in Twi were first translated and transcribed verbatim in English by a professional translator, who holds a Master's degree in Ghanaian Language. These transcripts were reviewed along with the audio recordings by the researcher and a second independent person to ensure that the transcripts were accurate within the context of participants' narratives. The second independent person was a PhD candidate outside of the area of psychology who received training in the area under investigation. All other audio recordings were also transcribed verbatim by the researcher and the second independent person. The verbatim transcription helped to capture as much as possible, every single description of participants' experiences.

Interpretative phenomenological analysis (IPA) was used to analyse the data. The core tenets of IPA is that researchers interpret how participants make sense of their lived experiences of a phenomenon (Smith & Osborn, 2004; Eatough & Smith, 2008).

Typically, IPA is characterized by data-driven inductive process of coding. This type of coding emphasizes detailed ideographic study of people through the generation of codes on the direct basis of the emerging information from participants. This means, without prior hypotheses or predetermined codes (Pietkiewicz & Smith, 2012). This bottom-up method of analysis is suitably oriented to the goals of phenomenology (Tuffour, 2017). Indeed, that Study 2 was conducted to help explain the Study 1 findings means that the objectives and hence research questions of Study 2, may have reflected that of Study 1. However, these data analysis steps directed by Smith and Osborn (2004) were followed to stay close to the strengths of the IPA method:

1. Each transcript was thoroughly read and reread several times along with the audio recordings. This allowed the coders to immerse themselves within each data item/transcript.
2. The coders independently coded each line of each transcript so that thorough data-driven codes were generated per data item. NVivo version 11 qualitative data analysis software was used for the coding.
3. Following coding, the researcher and the second independent person reviewed the codes together with a third person. Where there were disparities in the codes, these were discussed and the views of the third person helped to come to an agreement that most closely reflected participants' personal descriptions.
4. Emergent themes were then developed within each transcript. This process of coding followed by theme development was repeated for all transcripts.
5. Superordinate themes based on similar patterns of emergent themes identified within each data item and across the dataset were extracted. These were then reviewed (together with the third person) to check for how well the superordinate themes, emergent themes and subthemes coherently interrelated as well as reflected the descriptive overviews and deeper meanings of participants' accounts.

6. Superordinate themes, themes, and subthemes identified, were reported (Chapter Five) with supporting extracts from participants' narratives. The researcher's interpretation of what these overarching patterns in the data mean were also discussed in line with the objectives of the study.

This descriptive-interpretative method of data analysis differs from thematic analysis in that it focuses on inductive coding whereas the latter can employ inductive coding, deductive coding or both (hybrid method). Secondly, in IPA, themes are developed for each data item (individual transcript) and then across the whole data set (all transcripts). In thematic analysis however, themes are typically generated across the dataset (Creswell, 2014).

5.3 Trustworthiness of Data Analysis and Findings

A number of strategies were adopted to ascertain the trustworthiness – confirmability, dependability, credibility, and transferability – of the qualitative study findings. First, prior to initiating the analysis, the researcher and the second transcriber and coder reflected (separately) on and noted down their assumptions about the nature and meaning of forgiveness. In addition, each noted down her background (e.g., Christian and healthcare researcher), significant life experiences of forgiveness, as well as her values and expectations when it comes to forgiveness of offenses. The purpose of this reflective exercise was to ensure confirmability of the qualitative findings as it ensured that the codes as well as interpretation of the themes reflected participants' experiential realities, rather than a fictional non-existent reality or a biased reality of the researcher. Also, to further ensure that the findings were confirmable, the researcher drew on relevant psychological theories and principles to appropriately guide interpretation of the themes generated from the data.

Secondly, to ascertain the credibility of the findings, the interviews were transcribed and coded by the researcher and a second independent person, and the codes and themes were reviewed together with a third neutral person. To establish transferability of the findings, thick descriptions of the study participants' background information including the hospitals they were selected from, the target(s) of their perceived offense, whether or not they had forgiven the perceived offense, their age, and gender were provided (under the results section below). Finally, the dependability of the qualitative findings was ensured through peer review by the 3rd independent person of the final themes and interpretations alongside the raw data transcripts. Dependability was also established by supporting the final themes with verbatim quotes from participants' narratives.

5.4 Results

5.4.1 Introduction

This section reports findings of the interpretative phenomenological analysis conducted to make meaning of the descriptive and explanatory themes from participants' lived experiences of the phenomenon of forgiveness (of HIV-specific offenses). It begins with a basic description of the interview participants' background characteristics followed by a report of the three superordinate themes and their respective themes and subthemes that were identified. At the end of each theme, the researcher's interpretation of the findings is highlighted. The section closes with a table summarizing the list of themes and subthemes identified and example supportive quotes.

5.4.2 Characteristics of Interview Participants

Table 5.1 summarizes relevant characteristics of Study 2 participants.

Table 5.1: Background Characteristics of Interview Participants

Part. ID	Hospital	Gender	Age Group	Offense Target(s)	Forgiveness Status
1	TTH	F	MA	Ex-boyfriend (Deceased) ¹	Forgiven
2	TTH	M	OA	Self (Possible past lifestyle) ²	Forgiven
3	TTH	F	MA	Ex-friend (Deceased) ¹	Not forgiven
4	TTH	M	OA	Ex-wife (Deceased)/Relatives ¹	Forgiven and Not Forgiven
5	TTH	F	MA	Self and Ex-husband (deceased) ^{1,2}	Forgiven
6	TTH	F	MA	Self and Husband (Alive) ¹	Forgiven
7	TTH	M	OA	Self (Previous lifestyle) ²	Forgiven
8	KA	F	YA	Ex-boyfriend (Alive) ¹	Forgiven
9	KA	F	MA	Self (Possible past lifestyle) ²	Forgiven
10	KA	F	MA	Husband (Alive) ¹	Forgiven
11	KA	F	OA	Husband (Alive) ¹	Forgiven
12	KA	F	YA	Stepmother ¹	Forgiven
13	KB	M	MA	Self (Previous lifestyle) ²	Forgiven?
14	KB	F	OA	Ex-husband (Deceased) ¹	Forgiven
15	KB	F	YA	God and ex-partner ³	Not forgiven

¹Interpersonal context ²Intrapersonal context ³Spiritual Context YA: Young adult, MA: Middle adult, OA: Older adult

Table 5.1 summarizes the demographic and forgiveness background characteristics of the interview study participants. More women (n=11) than men were involved in the interview study, reflecting the larger proportion of women to men in the HIV population in Ghana. Majority (10) of the study participants reported that the offense they perceived was directed at other people, primarily, spouses or partners but also relatives. Four of the participants perceived themselves as the targets of their offenses. Two females reported both themselves and their ex- and living-husbands as the targets of their offenses. Only one person attributed her anger to God, and in addition, felt offended at her ex-partner.

Forgiveness was reported among 13 participants. Two female participants reported not having forgiven any of their perceived targets or sources of their HIV-related offenses. One male participant reported having forgiven his perceived source – late wife – of his HIV-positive status but not his relatives who continue to display stigmatizing and discriminatory attitudes towards him and HIV in general.

5.4.3 Superordinate Themes, Themes, and Subthemes

Three superordinate themes were identified from participants' narratives as HIV-Specific Offense Experiences, Experiences of the Forgiveness Process, and Implications of Forgiveness. Six themes were identified from participants' descriptions and sense making of forgiveness experiences as related to their perceived HIV-specific offenses. These were: Offense Nature; Offense Responses; Personal Actions and Changes; Realities, Conditions, and Rationalization; Restoration, Development and Preservation; and Focused Life. The meaning of the themes and their respective subthemes are reported below in line with the research questions for Study 2.

5.4.4 Superordinate Theme A: HIV-Specific Offense Experiences

This superordinate theme describes the range of HIV-positive-related situations that were experienced by participants as offensive and their responses to these situations. Two themes emerged under this superordinate theme: Offense Nature and Offense Responses. It was within the context of these offenses and responses that participants situated their experiences of forgiveness in HIV.

5.4.4.1 Theme 1: Offense Nature

This theme describes the range and characteristics of situations perceived by participants as offensive experiences directly related to their HIV-positive status. Three subthemes

emerged under this theme as Causes of HIV, Negative Attitudes, and Illness and Treatment Demands.

Causes of HIV

This subtheme describes participants' perceived modes of acquiring the HIV infection. That is, how or from whom they got HIV. Modes of acquiring the infection were the most commonly perceived sources of offense related to participants' HIV-positive status. Sexual partners, whether alive or deceased, were mostly mentioned as causes of participants' HIV infection and hence the source of their perceived offenses as indicated in the extracts below:

“I got infected by my late wife...I was always annoyed when I saw the mother. I didn't find it easy at all. I got sick for like 8years” (Participant 4)

“My husband was diagnosed first after he had been sick for about two years. Even he, he didn't know oo...and then me too, I came to check and they said there are some of the virus in my blood. When I learnt about it, it hurt me very badly” (Participant 10)

According to one participant, she got (sexually) infected by a (deceased) man who she had earlier believed was going to get her a job:

That time I just completed school and I needed a job... and that person was sending me to workshop, this HIV workshop... and he wanted to give me a job. So I thought it was, he was a good person, a good Samaritan...but through that...I'm infected person... Oh yes he knew about it [his HIV positive status]” (Participant 3).

Participants also reported past sexual behaviours as mistakes they made which may have caused their HIV-infection. It appeared that some participants perceived these mistakes as injustices they had committed against themselves. As narrated by one participant:

“I felt that, I felt I had, I had not lived a life that I ought to have lived. So I failed myself. So I put the blame squarely on my own self.” (Participant 7)

One participant felt offended with herself for not having pursued her life goals but rather, going into marriage under the influence of her father and getting infected by her late husband [P5].

“...they [father] used to say that you should marry, you should marry. And now I marry and I get HIV. At that time, I had gotten police in Accra...yes, yes, but I got married and I didn't go again. If I had gone, like by now maybe koraa like I'm not here.” (Participant 5)

Similarly, another female participant's perceived offense was not only toward her husband for living an immoral life and infecting her with HIV through that. But also toward herself for not leaving the marriage despite her husband's immoral behaviours. She reported that:

“At times, I used to curse myself. I would ask myself how did I even come in contact with this person that is not morally sound? Or even when there was some issue in the marriage, why didn't I use that and leave. At times, when you say that it shall be well, it shall be well, it is not well...I will advise others that they should not keep saying it shall be well but take to their heels when they suspect that kind of behaviour.” (Participant 6)

The participant, who reported anger toward God narrated that:

“I felt so angry at God. I was crying and asking God, why, why, why? In fact, I stopped praying and even going to church. Because I felt that He doesn't hear my prayers or even care about me so what's the point in going?” (Participant 15)

Negative attitudes

The second subtheme that emerged concerns the negative attitudes that participants had experienced from others as a result of their HIV-positive status. It emerged that experiences of rejection, discrimination, isolation, and other stigmatizing

attitudes as a result of one's HIV-positive status were very painful offenses. Often, these negative behaviours were carried out by family members, who had knowledge of participants' HIV-positive status. In support of this finding, one participant narrated his ordeal in this manner:

"...they [family members] don't associate me whatever they are doing in the house...they don't even mind me to be somebody...they are still stigmatizing me because of the HIV...in the morning I have to force and greet them but they cannot greet me...even I go and use the bathroom, and quickly, they will go and scrub the place." (Participant 4)

The young lady who acquired the infection perinatally (mother deceased), also narrated her experiences of stigmatization and discrimination as a result of her positive status as:

"At first, even me I didn't know. My father used to take me to the hospital. I didn't know. So, it was one day "bi" that I asked the nurses and they told me. So, at first, I didn't understand, like I used to wonder why my stepmother didn't want me to come close to her. She used to isolate herself from me. She'll warn my younger [step] siblings not to come close to me otherwise they'll get sick. She even used to tell other people in the house that I have HIV. When I use a cup, she won't touch it, 3h333...so at first "de3", I used to hurt a lot, a lot." (Participant 12)

For the lady who felt angry at God, her fiancé rejecting her for testing positive to HIV, while he tested negative prior to their marriage, was the most painful of all her perceived HIV-related offenses. She narrated her experience as:

"the most painful thing was the guy disappointing me. Because I never thought he could do that. I thought he would stand by me no matter the situation. Because if it were me, I would stand by him...the wedding calling off was more painful than finding out I was pregnant and he not taking any responsibility towards the child." (Participant 14)

Illness and Treatment Demands

Finally, the illness and treatment demands of the HIV infection itself were also reported as other offensive experiences by the participant who acquired the infection via mother-to-child transmission [P12]. She explained that she felt hurt for having to endure the visible symptoms (rashes) of the infection as well as take medication every single day without missing any. Also, the financial difficulties she continuous to experience in meeting up with routine clinic visits and laboratory tests, causes her great pain/hurt. According to her:

“Sometimes I have to walk all the way to Atonsu Junction before I can take car to G [KATH]. Even at first, they used to share some things for us where I was initially going, like soaps and stuff like that. But here they don’t give us anything. I struggle a lot. When I come and I have to do labs, I often don’t have money. So it makes me hurt a lot. It makes me hurt a lot. And the drug too, you have to take it every single day. Even you can’t miss it even one day “koraa”.” (Participant 12).

Similar financial challenges in meeting the costs of the routine laboratory tests were reported by other participants including participants 9 and 10. Although, these experiences were not reported as offensive as was the case in participant 12. For instance, one married non-working woman reported that:

“But the medication at times I don’t take it o, hmmm. You see, this medication, when you take it you feel hungry. And now, times are hard for me. So at times, if I see that I won’t get food to eat, I don’t take it.”

Another married woman also shared that:

“...the labs, “33n”, the labs, please, tell them to help us. It’s too expensive. Even today, I have to do some labs, but I can’t. So I’ll go and see if I can come later to do it. At first, everything used to be free but now, it’s only the medication that is free.” (Participant 9)

These emerging HIV-related offense experiences seem to point out a number of important issues. First, there seem to be a major challenge with disclosing a positive HIV diagnosis or status to young people who acquired the infection via vertical (mother-to-child) transmission. The narratives by the young lady who got to know of her positive status from her nurses raises the difficult question of when, who and how to break the news of a positive HIV status to children and young adults infected perinatally? It appears that parents or surviving guardians of these young adults may not have the requisite information, skills, and confidence to break such news to their children. It may also be that parents lack the appropriate coping strategies they may need to effectively deal with the many potential ways in which their young ones may respond to such news. These may include anger, isolation, depression, and even suicidal thoughts and attempts. Whatever the reasons may be, the core and glaring public health problem inherent in this lack of or delayed information is that young people may become sexually active without any knowledge of the risk they pose to others and even themselves (in terms of HIV re-infection).

A second issue emerging from these narratives concerns the perception of financial challenges in meeting the treatment demands as a source of offense for the young lady who was perinatally infected. While other participants complained of such economic difficulties in relation to their treatment, these were not perceived as offenses. Perhaps, for young people who acquired the infection out of no direct fault of theirs, it may be crucial to remove financial and similar barriers, to help promote adherence to treatment recommendations. It appears that they may hold the view of “why do I have to suffer to manage something I did not call for?”

Participants’ narratives about the most common type of HIV-related offense – who or what caused HIV – also seem to reiterate the importance of continuous HIV education and voluntary testing. It appears that most participants, including those who had lost their

spouses or partners were not expecting a diagnosis of HIV. This raises a concern over how informed people are, about the signs and symptoms of HIV infection along the various stages of the condition.

Also, the sexual partner-related offenses seem to suggest a sense of helplessness among couples whose spouses may engage in risky sexual behaviours that place them at risk of infection. As hinted by participant 6, looking on such behaviours and hoping it is well does not make it well. This may suggest an area that needs to be paid attention to in HIV/AIDS education – equipping married couples in particular with practical information and ways of protecting themselves in such cases of infidelity and other risk behaviours.

5.4.4.2 Theme 2: Offense Responses

This subtheme describes a range of cognitive, emotional, and behavioural responses that participants experienced in response to their HIV-positive diagnosis. These responses largely fell under two main subthemes: Immediate Responses and Delayed Responses.

Immediate Responses

All participants reported experiencing one or more immediate reactions in response to their perceived offenses. Particularly for those who linked their perceived offense to the source of their HIV infection, immediate responses to a positive diagnosis included shock, anger, confusion, crying, sleepless nights, rumination, questioning of the self, and suicidal thoughts.

“In fact, I was shocked. I was shocked. Yeah, I was very shocked.” (Participant 13)

*“You know, as for that time, at the beginning, you think a lot. At times, you’ll wake up in the night and be thinking and wondering where this thing came from.”
(Participant 6)*

Particularly for participants who least expected a positive HIV diagnosis and those who perceived that their partners intentionally infected them or failed to protect them even though they (partners) were aware of their positive status, immediate responses to their diagnosis included fainting and also, the desire to commit suicide.

“Something nobody looked for but it happened all of a sudden... I cried the whole day, like one whole week non-stop. I cried. I was so miserable, I didn’t eat, nothing...In fact, I nearly killed myself. I nearly [stretched] killed myself. Hmmm [chuckles]. (Participant 15)

“Hmmm, when I started falling ill, me my mind was not even there that it is this thing. The day we went to the clinic...when they told me, I fainted. I refused to eat and to take the drugs...I wanted to die. I would just sit in the room and cry all day...Me I know that he [deceased partner] knew [about HIV positive status]. Because he used to say some things...“this sickness that I’m having I don’t want you to get some”. And when he died too, one nurse who knew him very well told me that...[Name] did you know that this and this.” (Participant 1)

Delayed Responses

Participants’ descriptions of their offense experiences also seemed to indicate that some responses endured longer than others. Common delayed responses included going days without eating well and refusing to take care of one’s self. The extracts below reflect these immediate and delayed responses:

“I cried the whole day. Like one whole week crying non-stop. I cried. I was so miserable.” (Participant 15)

“Before God and man, my heart skipped when I got to know it. I was really shocked and for about a week I was not eating well. I decided to take medicine “kora” and die.” (Participant 11)

There was also a delayed response of continued fear among some participants, including the fear of other people discovering their HIV positive status and also, the fear of infecting loved ones. Prolonged fear and some of its associated challenges on participants' lives are reflected in the responses of these two participants:

“...when I started my medication...when am coming to collect the medicine, I don't want even anybody to see, I will hide for everybody to go before I will enter and collect my medicine. I was so afraid that people will know I have this sickness.” (Participant 1)

“I can't even ride a motorbike now...all my secret [HIV positive status] is going to reveal... I want to have another child. I have only one. Hmmm...but I'm afraid that my secret will come out” (Participant 3)

However, one participant who attributed her HIV positive status to a spiritual cause perceived no such fear of infecting her current partner. She believed that the spiritual origin of her condition means there is no way she can pass it on to others even if she wasn't taking the medication.

“You know, so long as they say it's spiritual, I don't believe that I'll infect him [partner]. And me, I believe it is spiritual, like they bought it for me... You understand? “3h3”. So...even if I wasn't taking the drug then [when pregnant], my son would not have gotten it. Yeah.” (Participant 15)

It can be deduced from these subthemes (Immediate Responses and Delayed Responses) that first of all, in spite of the unprecedented advancements in HIV/AIDS treatment and care, a positive diagnosis is one that the majority of people do not take

lightly. Secondly, while a positive diagnosis may be followed by a typical period of mourning and offense perception, not all people are able to move on from this stage. Although, it appears that the intensity and duration of this period may be dependent on the circumstances surrounding one's diagnosis. The power of individual differences in coping also seems to permeate through these narratives. For example, in the case of participant 14 and also participant 1, although they fainted at diagnosis because they least expected HIV and also entertained suicidal thoughts at some point, both currently report having forgiven and moved on with their lives. Participant 14 is now a Model of Hope who publicly declares her status to support others without any fear. In contrast, participants 3 and 15 who shared similar experiences seem to find themselves entrenched in cycles of rumination, experience of emotional pain, and an almost complete standstill in life. They also respectively seem entrenched in fear of others discovering their status and the fear of being rejected again after disclosing their positive status, holding implications for their partners being at risk of HIV infection.

5.4.5 Superordinate Theme B: Experiences of the Forgiveness Process

Participants were asked what it is to, what it is like, and what it feels like to forgive the offenses they reported in relation to their HIV positive status. The superordinate theme of Experiences of the Forgiveness Process describes participants' lived accounts of what forgiveness entails, how it feels to forgive, and what facilitates or hinders forgiveness of HIV-related offenses. Two themes emerged: 1) Personal Actions and Changes and 2) Realities, Conditions, and Rationalization.

5.4.5.1 Theme 1: Personal Actions and Changes

The theme Personal Actions and Changes describes the individual and inner actions participants experienced in overcoming the offenses they perceived in relation to their

positive status. It also encompasses the emotional and cognitive changes that were experienced following these actions. Under this theme, participants' narratives largely fell into two subthemes: Internal and External Actions and Psychological Changes.

Internal and External Actions

This subtheme defines the two main types of actions – internal and external – that participants used to describe their experiences of forgiveness.

Internal actions

First, participants described forgiveness as “eliminary” actions that take place within the offended or victim. Chiefly, forgiveness was described as “to let go”, “to remove hatred from the heart”, “to remove the hurt from your heart and mind”, “to not retaliate”, “to take bad things you used to think about the person out of your heart completely”.

“Forgiveness means to just let it go forever of the hurt or pain. You erase the situation from your mind and just say it, this situation was so but not so because of the person.” (Participant 6)

“You have said you have forgiven. So, let it go. So, it means that you let it go and then you're free in whatever you do. Because if you do not let it go, it will continue to hinder your progress...” (Participant 7)

These internal actions were in relation to both the pain of having experienced the offense and the negative thoughts, emotions, and behavioural intentions that were experienced toward the offender as indicated in the extracts below:

“To forgive from your heart means all pain or hurt has left from within your heart so it shouldn't happen that you'll hurt over it again. Even if I remember, or she

does something to hurt me again, I wouldn't retaliate nor feel hurt." (participant 12)

"I was so hurt. I told my dad I will curse the boy. But... I decided to forgive him and I took it out of my mind." (Participant 8)

Other ways in which participants described forgiveness included; to accept mistakes and receive God's forgiveness, thinking positive thoughts about the offender, and to forget about the offense and who or what caused it.

"Forgiveness means forgetting about it. Forgiveness means leaving it to God." (Participant 13)

"Now, I've forgotten about it. I don't think about it anymore. Both me and my wife, we don't think about it. I have accepted my past mistakes. I've asked God for forgiveness" (Participant 2)

Interestingly, most of the participants whose description of forgiveness included forgetting clarified that where forgiveness has taken place, even when one remembers, such memories would not be accompanied by feeling hurt, continuously attributing the offense to the offender, or experiencing negative thoughts and attitudes toward the offender. These extracts buttress this finding:

"The memories will come to your mind but when they do, you should think positive about the person and not negative." (Participant 6)

"Forgiveness is not to forget per se, but not to keep it within you and so that you continue to be pondering over the same issue." (Participant 7)

Only one participant, who believed that forgiveness is of God reported that he avoided trying to remember the offense as it aroused hurt and regret. Although he reported having

forgiven himself, he emphasized that it (forgiveness) was basically trying to forget the past as he was uncertain whether or not God may have forgiven him. According to him:

“Forgiveness is leaving it to God. Because, whether you forgive or not, it’s only God who can forgive so you leave it to God and move on.” (Participant 13)

Quite contrarily, another participant who reported having offended himself confidently reported having forgiven himself, saying that:

“I believe in God’s forgiveness. I believe that God forgives us when we ask for forgiveness. I mean, the Bible is clear on that... It is only a deviant person who would not, who would find it hard to believe in God’s forgiveness.” (Participant 7).

External actions

Besides these internal actions, it emerged from participants’ narratives that forgiveness was also experienced in the form of external actions – having good or pleasant relationships with the offender. These actions appeared to be an almost inextricable element of the internal actions reported. For example, participants indicated that:

“It cannot be forgiveness if you say you’ve let the hurt go but cannot get close to or relate with the person if the person is in your vicinity.” (Participant 6)

“You have to be able to talk to the person, laugh with the person, do things with the person. Otherwise, then it means you have not forgiven. It means the pain is still in your heart.” (Participant 14)

Among those whose perceived offenders were their deceased spouses, some hinted that they would have continued living with them if they were alive. For example:

“If I forgive him, I have to continue living with him. The thing [HIV] was in him and he gave it to me. I don’t know whether the next person I go in for, I may infect him. So, I have to stay with him and for us to protect ourselves...and we’ll focus on taking the drugs as prescribed and we’ll live in peace.” (Participant 14)

“I still pray for a good resting place for him...If he had tested [for HIV] earlier, like by now, he too he’ll be here and we all will be taking the medication and managing this sickness small small.” (Participant 5)

One participant provided an interesting exposition on whether these external positive behaviours toward HIV-specific offenders were synonymous to reconciliation. She narrated that:

“You’ve not quarrelled or fought (with the offender). That you were having pain does not mean you weren’t on good terms with the person, so you won’t call it reconciliation” (Participant 6)

Indeed, some participants clarified that it may be possible to put up positive behaviours toward the offender while harbouring the pain. However, according to them, such cases are not the same as forgiveness. As one participant highlighted:

“When you say that you have forgiven the person, it means you have taken everything out of your heart...it is possible...[to] pretend to be fine with the person. Some people do that, “333nn” [yes], some people are able to do that. But then that means you haven’t forgiven the person...It means the pain is still in your heart.” (Participant 14)

Psychological Changes

This subtheme refers to the changes in participants’ feelings and thoughts about the offense and offender after letting go. Most commonly, participants described that to forgive is to feel free in the mind.

“Physically, mentally, in your everything. You will be free... You are no more a slave. But if you and somebody have a grudge “ahh”, you are like a slave oo...you see, the moment you see the person [chuckles] you will not be free. You will not be free.” (Participant 2)

“It [forgiveness] makes you take negative thoughts out of your mind. So, your mind will be free” (Participant 13)

These experiences were also echoed by the participant who reported still feeling angry at God and her ex-partner, in narrating what it may feel like to eventually forgive:

“It would feel good to let the hurt go. forgiveness feels like your heart is clean. You’re free. Your mind is free. You don’t think about it again. You know longer have that mind-set for the person again that he wronged you some time ago.” (Participant 15)

Other expressions used to describe what it feels like to forgive included: thinking positive, feeling happy, joy, and at peace, feeling as if a burden has been lifted off you, and having no worries or hurts. Participants also reported that where forgiveness has not yet taken place, anxious and disturbing responses to the offender may rather be experienced.

“it [unforgiveness] won’t give you peace...to forgive is like a great burden has been lifted off me” (Participant 14)

“I felt happy, I felt joy...It feels like all is well.” (Participant 13)

Participants’ experiences of forgiveness as internal and external actions accompanied by positive emotions indicates an awareness of the influence of forgiveness on emotion regulation. Although, it appears that the positive emotions that participants expressed seem to be in relation to themselves and their own personal feeling of wellbeing. In relation to others (offenders), participants reported more of external positive behaviours that seem to be a reflection of inner positive affect towards others. This is seen in how participants clarified that to still feel hurt or pain should the offense experience be brought be mind, qualifies persistent unforgiveness rather than forgiveness. Thus, while PLWHA may be aware of their emotional states of equanimity from forgiveness, in

relation to expressing emotions toward others, they may more likely do so in terms of actions and bodily behaviours including talking and relating well with the offender.

It also appears that in the context of PLWHA in Ghana, forgiveness may be expressed in other terms that may suggest that forgiveness has not completely taken place. For instance, quite a number of the participants mentioned forgetting. However, further probing revealed that forgetting also meant to let go without experiencing any negative emotions toward the offender even upon recall of the offense, which is more reflective of at least a neutral state in the forgiveness process.

5.4.5.2 Theme 2: Realities, Conditions, And Rationalization

The theme Realities, Conditions, and Rationalization reflects the antecedents of and barriers to forgiveness that were reported respectively among participants who had forgiven and those who had not. Three subthemes emerged from participants' narratives in relation to this theme. The first subtheme – Existential Factors – describes the real or existing factors which facilitated forgiveness of participants' perceived HIV-related offenses. The second subtheme, Possible Conditions, describes those factors that participants indicated could help them eventually forgive. Continuous Offenses and Personal Resolution emerged as the third subtheme, and describes, among those who still held grievances, the reasons for which they had not forgiven.

Existential Factors

The existing factors that participants perceived to have helped in their forgiveness experiences fell under four main categories; religious realities, social factors, personal factors, and medical factors.

Religious realities

Chiefly, participants reported that their faith in God, believe in God's word about forgiveness, and prayers to God for help, gave them the strength to experience and extend forgiveness to their perceived offenders. These extracts indicate some of these religious experiences:

*"...had to ask God to help me take the pain out of me and change my mind and have a new mind to live life. And after that truly, the pain left my heart."
(Participant 14)*

"God says you should forgive those who offend you so He would also forgive you. So I've forgiven her." (Participant 12)

One interesting religion-related phenomenon that appeared to have helped some participants let go of their offenses is what the researcher terms as Double Attribution. Namely, while majority of participants primarily attributed their perceived offense to other people or themselves, they indicated, in addition, that they believed God gave them the condition or allowed their infection with HIV. Example extracts reflecting this phenomenon are:

"I feel...it is God who want me to be HIV-positive..." (Participant 4)

"I don't think about it, because I know God gave it to me. And so far as God gave it to me, I don't need to think about it but remove everything from my mind and be free and happy." (Participant 12)

For some participants, double attribution was made with the belief that God had a purpose for their lives because they believed that He could have prevented them from getting HIV.

Two participants narrated their double attributions as:

"...there are so many women around and men around who do prostitution and a lot of...bad, bad things...but at the end they'll come and do HIV test and they're

negative...so I feel...it is God who want me to be HIV-positive so that when I'm positive I'll get a lot of experience. Whoever is diagnosed HIV positive then I'll stand as a statue to even testify to the person to have hope and continue with the drug without running away.” (Participant 4)

“[to have been offended at myself and to have forgiven myself] means that trouble has come, and the trouble that has come, God could have stopped it from coming. But if He allowed it to come, He knows the reason. It may be to increase your faith. So, glory be to God. We move on...because there are more people that are mingling around but they are free.” (Participant 13)

Although the participants who had not yet forgiven also indicated that God allowed them to get it, this was reported more in a tone of pain and blame rather than with the indication that God is All-Powerful, All-Knowing, and Sovereign as hinted by other participants who made a double attribution of their positive status to God. For instance, Participant 3 indicated that:

“He [deceased offender] has done this and is gone. So, I'll also do the same and when we both get there, we'll both answer to God. If God didn't want this to happen, it wouldn't have happened.” (Participant 3)

The finding that people drew on their religious believes to help them forgive, though not surprising, appears to reveal very interesting insights. Particularly, those who made a double attribution of their HIV-positive status to God, but rather than react in anger, acknowledged He knows what He is doing, seemed to have experienced an outstanding sense of purpose to their lives. This was in sharp contrast to the experiences of the participant, who reported anger toward God and would only let go if God turned things around for her. This further suggests that while leaving a perceived offense to God may not be forgiveness, it may arouse a deep sense of purpose that may diminish any value or reason for holding on to grudges.

Social factors

It emerged from participants' narratives that social support and social comparisons promoted their forgiveness experiences. Participants received both emotional and informational support from family members in particular, and also from healthcare providers including counsellors and Models of Hope. They reported that the support of others helped them to accept their status and to decide to let go of their perceived offenses.

For example:

“My husband also supported me. He was the main person. Rather than causing me distress, he is the one who is encouraging me. So why don't I let it go?”
(Participant 9)

“My younger brother is pharmacist, one is medical assistant...my wife also accepted me although she tested negative. So...that helped me to forgive myself.”
(Participant 7)

Also, making social comparisons to HIV-positive children, other HIV-positive adults perceived to be of equal or higher social status, and to the nature of other health conditions (e.g., high blood pressure), also seemed to have helped participants to let go of their hurt.

“I told myself that even if children less than 5years of age that I see at the clinic have it, then I an older person, if I have to get, I'll get. So, I advised and consoled myself that I have to continue taking the drugs.” (Participant 8)

“...a lot of people are here [HIV/AIDS clinic], even some are in their cars who have this condition. He [husband] showed me one [nursing] sister who has it who is thick tall. So that encouraged me to take it out of my mind.” (Participant 10)

Personal factors

Another forgiveness-promoting factor was engaging in self-talk/questioning, which also seemed to be linked with other phenomena that were also mentioned as having

promoted forgiveness. These included accepting HIV-positive status, accepting the offensive situation, and engaging in healthy behaviours that made participants regain their strength. For instance, some narrated that:

“I’ll just ask myself that ah, if it is so and you’re still okay, what is it about? So just forget about it and live normal...I’ll just ask myself what if it was the other way round? Wouldn’t you have accepted it?” (Participant 6)

“When I started the drug and I started picking up and I talked to myself that this is not anything. I should accept it like a normal err sickness like headache and other this thing and forget what has happened...” (Participant 4)

Medical factors

Finally, it emerged, interestingly, that the HIV medication and its effects helped participants to let go of grudges and emotional pain related to their HIV infection. Some participants emphasized that they forgave because after sometime on the medication they did not only realize they were still alive, but also noticed that they were regaining their strength and usual self/body appearance.

“When I was hurting, I couldn’t do anything...But when I discovered the drug and forgave him, I have strength to go about my daily activities” (participant 14)

“When I started taking the medicines, I got back to how I looked, then all the worry [rumination] left.” (Participant 8)

Adherence to ART has long been identified as a health behaviour that promotes the lifespan of PLWHA. However, that it emerged as one reason for which participants forgave their perceived HIV-related offenses is an interesting finding that lends more support to the importance of ART in HIV/AIDS care. Beyond this insight however, this finding seems to suggest that the perceived consequences of an offense may indeed, contribute to the depth of unforgiveness experienced. It seemed that the probable fear of

death, wastage (extreme loss of weight from HIV infection), or an already ended life may have contributed to participants' perceived offenses as well as their immediate and delayed responses. Hence, it sounds logical that discovering that they may not go through these experiences as long as they take the ART helped most to forgive their perceived offenders.

Possible Conditions

The subtheme, Possible Conditions, describes those factors which one of the participants who had not yet forgiven, hoped to come by someday and which she reported may help her to forgive. These included finding love/marriage, a job, and a cure for HIV. For this participant, until she is declared HIV negative, she may not be able to forgive. She rationalized that:

“...until this HIV leaves my body, I will not be okay, yeah. I won't be okay...I'll see God differently when the pain is no longer in my heart, yeah, as for that one “de3”... And it's because He [God] will let everything fall into place. He will give me love, He will give me marriage, He will let me have a job, yeah. Even if it's not marriage per se, someone who's there for me, who I can confidently tell him I'm going to here and come cos there'll be no long questions...if I'm taking this meds, he'll know its meds I'm taking without asking me any plenty questions...hmmm...”
(Participant 15)

Continuous Offenses and Personal Resolution

This subtheme – Continuous Offenses and Personal Resolution – concerns how participants who had not yet forgiven their perceived offenders, also rationalized their unforgiveness. According to one participant, whose family members were still stigmatizing and discriminating against him, he could only forgive them if they discontinue those behaviours. He reasoned that:

“errr...there are some areas still I haven't forgiven. Because err...they [family/relatives] still not trying to understand HIV...they don't associate me whatever they are doing in the house...they don't even mind me to be somebody...that is the reason I cannot forgive them...they are still stigmatizing me because of the HIV...in the morning I have to force and greet them but they cannot greet me...so for those people de3 I cannot forgive them. Until they also understand way of life and change their behaviour. That will make me to forgive them...if they change and do the right thing that is when the forgiveness will come...God sef will not forgive them because they doing it intentionally”
(Participant 4)

For the participant who reported not having forgiven the deceased ex-friend who infected her, forgiveness of this (deceased) person seemed to be a situation that may never happen under any circumstance. This is because she had made a personal resolution that nothing could make her forgive him, as she perceives that he knew his status, yet intentionally infected her with HIV when she was vulnerable – looking for a job. Indeed, it appeared that this participant was fully aware of the many negative ways in which unforgiveness of her ex-friend's betrayal were affecting her life. For example, she narrated that:

“I can't remember things. Even work information or when I dream, I can't remember. I'm always thinking and it is affecting my work. When I count money, it's more or less the right amount. When I even attend workshop, I can't remember anything the moment I leave there. I was not like this before...as if I'm no body.”
(Participant 3)

However, she held onto her personal resolution to not forgive, narrating that:

“Even today and they say the treatment has just come... even today if they cure it (HIV/AIDS) “33nn”, I can't forgive.” (Participant 3)

5.4.6 Superordinate Theme C: Implications of Forgiveness

Finally, when asked what it meant to them to have forgiven the offenses they had experienced as a result of their HIV-positive status, participants' narratives indicated two themes. These are; Restoration, Development, and Preservation and also, Focused Life.

5.4.6.1 Theme 1: Restoration, Development, and Preservation

The theme: Restoration, Development, and Preservation illustrates the range of impact that participants believe forgiveness has had on various important aspects of their lives. Three subthemes identified in relation to this theme were; Restoration of Health and Body Image, Self-Development, and Preservation of Social Relationships and Structures.

Restoration of health and body image

Restoration of physical health, mental health, and body appearance/image was one subtheme that cut across participants' narratives regarding what forgiveness meant to them. Participants indicated that having forgiven, they eat and sleep well, exercise, think more positively, and do not worry or ruminate about the situation. This meant that physically, they felt fit while mentally they experienced sound mind, social inclusion, peace, and other positive cognitive and emotional states.

“Forgiveness gives us a lot of things. Physically, you’ll be fit, strong, free in your mind, you can eat well, you’ll be happy...you’ll live longer. Will let you pray and accept any faults...God will also forgive and put His blessings on the medicines...unforgiveness does not let people concentrate their minds on what they are advised to do to live longer. So it kills them off because of negligence.”
(Participant 2)

“Forgiveness helps your mental health. When there is something like unforgiveness in your mind, it heats up your mind all the time. Always, your mind will be so hot. But when there is nothing in the mind, it makes the mind feel cool. It

helps you to sleep. Otherwise you'll keep doing hmmm...hmmm...hmmm when you're sleeping. You'll have no peace in your mind.” (Participant 14)

Restoration of physical appearance/body image was mentioned chiefly by the female participants and also one male participant. According to them, they observed that for as long as the pain was in them, they were losing weight or growing lean, looked unattractive, and even felt that others could obviously tell that something was wrong with them. Some had also observed that their body complexion and general body image or appearance returned to normal after they let go of the pain and focused on taking the medication.

“...you could see that you were, you'll be growing lean and like you don't feel happy at all. Like somebody can even see it on your face....so, physically, your body appearance will not be attractive, psychologically, you may be withdrawn from society.” (Participant 6)

“I can even see myself that my body has changed. I've become fine. But when you harbour the pain within you, it can “eat” further into you. Even when someone sees you, the person can see that there's something wrong with you. You'll grow lean and look unattractive.” (Participant 14)

These observations were reiterated by the female participant, who still felt angry at God and her ex-partner. When asked what it meant to her to still feel the hurt, she confirmed that:

“At first, let's say, I was much prettier than now. Yeah. I was even fairer than now. But now I've changed. Everything has changed towards me because of my thinking and I'm not happy. Within me, I don't, I don't, I'm not happy but I just pretend to be...hmmm [chuckles].” (Participant 15)

Self -development

A second subtheme that emerged concerning what forgiveness meant to participants was that of self-development, particularly, for those who reported having forgiven themselves. This subtheme describes participants' efforts at rebuilding or re-establishing their self-image and values after letting go their offensive past. According to some participants, having forgiven meant they had stopped blaming themselves, making comparisons to, feeling inferior to, or feeling different from others. Rather, they now valued themselves as one participant indicated:

“Initially, I felt hurt, I felt dejected. When I sit with people, I felt that I’m not, I mean, I’m a different person. But now I don’t see that. I have forgiven myself in that there’s nothing that maybe “X” can do that I cannot do provided it’s not physical work that I will say “X” is stronger than me.” (participant 7)

One participant also highlighted the importance to the self-image of PLWHA in relation to eating well, exercising, and making personal hygiene a way of life. According to him:

“When you eat well, and also you exercise, “33”, exercise, you’ll see that you’ll be fine. “3h333”. You see, and also you make personal hygiene a way of life. That will even make people to not discriminate you but rather they’ll accept you as a human being”. (participant 4)

Preservation of Social Relationships and Structures

Another aspect of life for which forgiveness seemed to hold much meaning for participants was that of restoring and maintaining of social relationships. This was the case both for participants, whose perceived offenders were still alive and those whose perceived offenders were deceased:

“I’ve forgiven them [late husband’s relatives]. So now we are free. Now when I see my husband’s relatives I greet them and they too they greet me. Even my children can go there. And for me, it is very important. Because you know, we

Muslims, it is important that your children have fathers from their father's side. So that tomorrow if I'm not around, "3h333" (Participant 5)

"When I forgave my wife and the family, I no longer think about bad things to do to them. Now we are very close, very, very close. The mother, the father, when they see me, they'll stop and we'll talk for a long time. So, it has helped me, even the people in my community "sef", at first, they used to point at me, but when I forgave and started talking to them, now when people see me they'll be calling my name...they are all free with me" (Participant 4)

Preservation of marriage was also mentioned as an outcome of forgiveness that held great meaning to participants. It seemed particularly important to one participant, who perceived having gotten infected through her husband's immoral behaviours. According to her:

"It means a lot to have forgiven. If pain was in me, I would by now maybe have even let go of the marriage....and maybe would have caused more harm than good...it has helped my family because my children they still have their father as a father...it has helped to keep them not in a broken home...you know...we the Northerners, we are not found of leaving marriages." (Participant 6)

One male participant also reiterated that:

"Unforgiveness can break marriages among couples who discover that they have [HIV] and keep blaming one or the other. This one will say it was you, the other too will say it was you. You'll see "nor", the marriage is over." (Participant 2)

5.4.6.2 Theme 2: Focused Life

Finally, also in relation to the sense participants made of forgiveness of their perceived HIV-related offenses, the theme: Focused Life emerged. It pertains to how participants focused on living life after letting go of their perceived HIV-related offenses. As participant 13 noted, life after forgiveness was perceived as a new life. The subthemes that emerged under the Focused Life theme were Life Promoting Behaviours and Focusing Ahead.

Life-Promoting Behaviours

This subtheme concerns both the passive and active behaviours that participants reported focusing on, after letting go of their pain, and which reflect a desire or interest to want to continue living life. Participants' narratives suggested that these behaviours were both passive and active.

Passive behaviours

These are behaviours that indicated a desire to live, to move on, or to start afresh. They included forgoing suicidal attempts and thoughts, ceasing behaviours like crying, guarding against worry and rumination, endeavouring to think positively, and guarding against going back into one's past life. For instance, some participants reported that:

"Initially when I wanted to die, I refused the medications so I could die...but now that I have forgiven him, I don't want to kill myself anymore" (Participant 1)

"I must prevent or avoid anything that could make the pain or hurt to come again." (Participant 12)

Active behaviours

With respect to active behaviours, participants reported that forgiving their perceived offenders helped them to take their medication. For instance, participant 9, who initially denied a positive HIV-diagnosis (from routine antenatal screening) and refused taking the medications until she lost her new-born baby reported that:

"If I miss it (ART) then that means I want to die. I have never missed it." (Participant 9)

The young lady who initially faced gross stigmatization and discrimination at the hands of her stepmother also reported that:

“If I had not forgiven...I would not have been serious about taking my medication because I would have thought that with what is happening, I’m better off dying and if that’s the case what am I taking the medications for?” (Participant 12)

When asked how forgiveness helped them to take their medication, participants explained that forgiveness gave them enough time and a sound mind with which they were able to remember to take their medication as indicated in this sample extract:

“If I had not forgiven, I may not even be taking the medicines. Because through thinking a lot and the pain in me, I may easily forget to take it or to even attend the clinics.” (Participant 14).

Another participant linked medication adherence to obedience to God, narrating that:

“Because the word of God is truth and you have to be obedient to every good words that can help you. So, if they say to take this for it to help you and you disobey it, you are disobeying God. Because God gives them wisdom and knowledge to bring all those things together. So, if you obey them, God will help you to keep with it.” (Participant 13)

Other active behaviours that indicated an interest in living life was reflected in efforts of the majority of participants to directly protect others from acquiring the infection as well as protect themselves from getting re-infected. These sample extracts lend support to this finding:

“If like the pain was still in me “a”, like I will not have bothered to protect him [boyfriend]. Because I would have said, someone gave it to me so I’m also giving it to someone so that we all die together.” (Participant 12)

“I’m very keen about protecting others be it outsider or whoever. Wherever maybe a drop of my blood touches, I make sure that I go and bury it before anybody can get in contact with it.” (Participant 6)

Participants also indicated a willingness to indirectly protect and support others (both family and non-family) through educating them on issues around HIV/AIDS and forgiveness. These included issues on transmission risks factors, signs and symptoms, protective and self-management behaviours, and forgiveness. These sample extracts lend support to this finding:

“You see, even, when I see people and they seem to show some signs and symptoms that look like it is this condition, usually, I advise them to go and test. I encourage them that now, this condition is no longer scary. Other conditions like pressure can kill you instantly...but this condition does not kill suddenly.” (Participant 11)

“...the forgiveness I’ve had, I can use it to educate others who find themselves in this situation, who can also become like me and help others.” (Participant 14)

According to one participant, she saved her friend’s life (from HIV), narrating that:

“...he [ex-boyfriend] wanted to date my friend and I warned her not to. She thought I didn’t like her, because I didn’t tell her the reason. She listened. The guy went out with another lady who is now dead. So my friend came to thank me that I saved her life.” (Participant 8)

On the contrary, the participant who reported still experiencing pain and anger toward God and her ex-fiancé, reported engaging in health risk behaviours sometimes. She indicated that:

“I didn’t imagine him treating me this way, you see?...sometimes I just do some things just to forget some things. I just do some crazy things to forget some things. Like parting, having sex, yeah.” (Participant 15)

“...at some point, I stopped taking the medication for like one year. Because they [pastors] were doing things for me, deliverance, concoctions, Yeah. And you know, I didn’t want to mix the two therapies. But now I take the medicine because I still tested positive after the one year.” (Participant 15)

When asked the risks she perceived in having sex to forget her pain, she replied that:

“I won’t infect him [new partner] because they say the virus are not as many now as before...also, the pastors say it’s spiritual...You know, so long as they say it’s spiritual, I don’t believe that I’ll infect him [partner]. And me, I believe it is spiritual, like they’ve done it purposely for me...You understand? “3h3””

Focusing Ahead

Finally, this subtheme – Focusing Ahead – emerged from participants’ narratives concerning the important things/pursuits in life that they decided to focus on, after forgiving their perceived HIV-related offenses. These things included learning a vocation, starting their own business, starting a new career, or having the ability to go to work and return each day:

“To me, forgiveness means, leave past and move to the future or new life and the past becomes a check for you to constantly examine whether you’re going back into the past.” (Participant 13)

“It was very helpful that I forgave [husband]. Because if I was thinking about it everyday, I don’t think I would have looked fine or been able to concentrate on my work and other important things in life. So it’s very good I took it out of mind.” (Participant 10)

“What is important to me now, is to get the strength every morning to go to work. So, it’s [forgiveness] helped me, its helped me in diverse ways.” (participant 8)

The main concern or interest of other participants was to be able to focus on taking their medication to look well, ensure that their infected children took their medication to remain strong, and their uninfected children remain protected. Similar to this, the focus of others was on being able take care of their whole families, for God to protect them, and for their children and others to never have to go through their experiences with HIV:

“Forgiveness gives you free mind to think about other things. Helps you think about important things that are waiting for you. For example, when I wake up, everyday, I make sure my children, the boys, take the medicine so that they grow and don’t get sick. And those who don’t have it, I make sure they don’t get it.” (Participant 5)

“...I’ve forgotten everything. What matters is that we’ll wake up to another day and God will protect me and my kids and husband...that I wouldn’t watch my daughter to become like me.” (Participant 9)

Overall, the expressions of this participant seem to sum up this subtheme of forgiving and forging ahead irrespective of the HIV-related offenses one may have experienced:

“I don’t blame myself anymore. Life must go on. You can’t continue to live in the past. You have to make do with what is available...Because if you do not let it go, it will continue to hinder your progress...I mean, it will not even help you to think of what next to do. You’ll be, you’ll be stagnated. You see? Or what you psychologists say, fixated. I don’t want to be fixated [laughs]. So, I have to move on. I feel fine. It [forgiveness] has benefited me a lot...I take my medications regularly. If I travel, it’s in my bag. Forgiving myself has helped me to rather think of what next to do rather than think what went wrong.” (Participant 7)

5.4.7 Summary

Table 5.2 summarizes the superordinate themes, main themes, and subthemes that emerged from Study 2. The table indicates that of the six main themes that emerged, the first two pertain to participants’ experiences with their perceived offences, which were directly related to their HIV-positive status. Themes three and four concern participants’ experiences with forgiveness (or otherwise) of these offenses. The fifth and final themes highlight participant’s sense making of their forgiveness experiences as related specifically to their perceived HIV-related offense.

Table 5.2: Summary of Themes, Subthemes and Supporting Quotes

Theme	Subtheme	Supporting Quote
Superordinate Theme 1: HIV-Specific Offense Experiences		
1. Offense Nature	Causes of HIV	<i>"I felt that, I felt I had, I had not lived a life that I ought to have lived. So I failed myself. So I put the blame squarely on my own self."</i> [P7]
	Negative Attitudes	<i>"...they [family members] don't associate me whatever they are doing in the house...they don't even mind me to be somebody...they are still stigmatizing me because of the HIV..."</i> [P4]
	Illness and Treatment Demands	<i>"When I come and I have to do labs, I often don't have money. So it makes me hurt a lot...And the drug too, you have to take it every single day. Even you can't miss it even one day koraa."</i> [P12]
2. Offense Responses	Immediate Responses	<i>"I fainted. I fainted. Because as for HIV, I never dreamt that I would get HIV. I fainted. I decided that I would kill myself."</i> [P14]
	Delayed Responses	<i>"I can't even ride a motorbike... I want to have another child. I have only one. Hmmm...but I'm afraid that my secret will come out"</i> [P3]
Superordinate theme 2: Experiences of the Forgiveness Process		
3. Personal Actions and Changes	Internal and External Actions	<i>"Forgiveness means to just let it go forever of the hurt or pain. You erase the situation from your mind and just say it, this situation was so but not so because of the person."</i> [P6]
	Psychological Changes	<i>"it [unforgiveness] won't give you peace...to forgive is like a great burden has been lifted off me"</i> [P14]
4. Realities, Conditions, and Rationalization	Existential Factors	<i>"...I'll say it is God. So, it is religion that has also helped me."</i> [P6]
	Possible Conditions	<i>"I'll see God differently when the pain is no longer in my heart, yeah, as for that one "de3"... And it's because He [God] will let everything fall into place. He will give me love, He will give me marriage, He will let me have a job, yeah..."</i> [P15]
	Continuous Offenses and Personal Resolution	<i>"Even today and they say the treatment has just come... even today if they cure it (HIV/AIDS) 33nn, I can't forgive."</i> [P3]

Table 5.2 continued: Summary of Themes, Subthemes, and Supporting Quotes

Main Theme	Subtheme	Supporting Quote
Superordinate theme 3: Implications of Forgiveness		
5. Restoration, Development, and Preservation	Restoration of Health and Body Image	<i>“I can even see myself that my body has changed. I’ve become fine. But when you harbour the pain within you, it can “eat” further into you. Even when someone sees you, the person can see that there’s something wrong with you. You’ll grow lean and look unattractive.” [P14]</i>
	Self-Development	<i>“I have forgiven myself. Life must go on. I mean, I don’t blame myself anymore. Initially, I felt hurt, at that time I felt, I felt dejected. When I sit with people I feel that I am not, I mean, I’m a different person. But now I don’t see that. I have forgiven myself in the sense that there’s nothing that “X” can do and I cannot do...So it has helped me. It has helped me. I don’t compare myself to others anymore, I just focus on what I can do best.” [P7]</i>
	Preservation of social relationships & structures	<i>“I’ve forgiven them [late husband’s relatives]. So now we are free. Now when I see my husband’s relatives I greet them and they too they greet me. Even my children can go there. And for me, it is very important. Because you know, we Muslims, it is important that your children have fathers from their father’s side. So that tomorrow if I’m not around, 3h333” (Participant 5)</i>
6. Focused Life	Life Promoting Behaviours	<i>“If I had not forgiven...I would not have been serious about taking my medication because I would have thought that with what is happening, I’m better off dying and if that’s the case what am I taking the medications for?” [P12]</i>
	Focusing Ahead	<i>“If every day I was thinking about it [that my husband gave it to me], I don’t think I would have been able to concentrate on my work and other important things in life. So, it’s very good I took it out of me.” [P10]</i>

5.4.8 Brief Discussion of Study 2 Findings

Intrapersonal, Interpersonal, and Spiritual Contexts of Forgiveness

Study two first of all sought to explore what have been the lived-through experiences of PLWHA in Ghana, regarding their forgiveness of offenses which they may have perceived as a result of their HIV-positive status. In line with the three main reported contexts of forgiveness of offenses – intrapersonal, interpersonal, and spiritual – participants attributed their perceived offenses to others (sexual partners and stigmatizing family members), themselves, and God (Bassett et al., 2016; Temoshok & Wald, 2005; Worthington, 2005). It emerged that the demands of the illness and its treatment may also be perceived as an offensive/unjust experience. This seems to support the concept of forgiveness of situations and whole institutions, including the healthcare system (Temoshok & Wald, 2005). Although similar financial challenges in meeting the treatment demands of HIV were experienced by other participants, these were not perceived as offenses as in the case of the young lady who acquired the infection via vertical transmission. This may suggest that for young adults with HIV, who acquired the infection via mother-to-child transmission, facing system-level difficulties with accessing routine care may arouse painful feelings of unforgiveness. It is possible that such young adults may perceive their positive status as entirely no fault of theirs and hence an injustice that they should struggle to manage it.

Psychological Responses to Perceived HIV-Related Offenses

The nature of participants' responses to the reported offenses seemed to cut across for all three contexts. However, for those who had been offended by others, it appeared that the perceived intentions of the offender seemed to influence their willingness to forgive. For instance, most of the participants who perceived that they were intentionally infected, rejected, or stigmatized by their respective offenders, reported experiencing

extreme amounts of hurt. For some of these participants, responses to their hurts included fainting, weeping for an extended period of time, starvation, initial refusal of antiretroviral therapy (ART), and suicidal thoughts. Also, three of four such participants reported not having forgiven their offenders. This finding seems to align with the injustice-gap concept, which suggests that negative offender characteristics may widen the injustice gap perceived by the victim, increasing unforgiveness (Davis et al., 2013; Hook et al., 2016; Worthington & Scherer, 2007). These characteristics include the offender committing the offense intentionally or continuously, not taking responsibility, or not apologizing for the offense.

Experiences of Decisional and Emotional Forgiveness

Thirteen of the fifteen interview participants indicated having forgiven at least one of the targets of their perceived offense. First of all, participants' descriptions of forgiveness as an internal action is in direct support of what has been reported that the phenomenon occurs within the victim and can be generally independent of the offender (Worthington & Scherer, 2004; Staub, 2005). As Worthington (2005) puts it, forgiveness occurs within the skin of the offended.

Secondly, participant's descriptions that forgiveness included letting go of the offensive situation and pain, taking the offense out of or erasing the offense from your mind, forgoing retaliation and bad plans against the offender, etc. seems to suggest that in the least, participants had experienced decisional forgiveness (Davis et al., 2015; Worthington & Scherer, 2007). In addition, these experiences lend support to the proposition that (decisional) forgiveness includes a reduction in negative emotions (Harris & Thoresen, 2005; Worthington & Scherer, 2007).

Beyond these internal actions, majority of participants emphasized that their forgiveness experiences included external actions of maintaining good relationships with the offender. This may imply that besides their decisions to forgo unforgiveness, participants also experienced positive emotions toward the offender characteristic of emotional forgiveness. As some participants narrated, it (the experience) cannot pass as forgiveness without these external acts of goodwill toward the offender. While this may raise the question of whether participants largely experienced decisional forgiveness accompanied by reconciliation rather than experienced emotional forgiveness. It may be argued that participants did experience both decisional and emotional forgiveness, which together translated into positive acts toward the offender be it self or others. Two main issues that emerged from participants' narratives may lend support to their likely experience of emotional forgiveness. First are the psychological changes they experienced following their decisions to forgo the negative thoughts, emotions, and behavioural intentions they had experienced toward the offender. As some narrated, to forgive is to feel happy, joy, peace of mind, free in mind, relieved, fine with one's self, think positive thoughts, have love for the offender, etc. All of which indicate not only the absence of negative emotions, but also, the presence of positive emotions. Second, participants highlighted that where one feels hurt or continues to apportion blame upon recall of the offense, then forgiveness has not yet taken place. Furthermore, some participants clarified that having good relationships with the offender while harbouring negative emotions within is also not forgiveness. This indicates that participants appeared to be aware of the importance of developing positive emotions for the offender as part of forgiveness. Thus, in support of the theoretical framework of the present study, it can be said that overall, participants' experiences included both decisional and emotional forgiveness.

Experiences of Emotional Forgiveness versus Reconciliation

One interesting question that may be raised still in regards to participants' positive external behaviours, is how distinct these behaviours are from reconciliation. In other words, whether these behaviours were portrayed more out of duty to maintain good relationships rather than a desire to experience inner emotional wellbeing? Hook and colleagues (2009; 2012) have reported that collectivistic worldviews influence understanding of forgiveness as interpersonal processes that focus on a decision to forgive (more than a desire to regulate personal emotions or experience emotional forgiveness). And that this decision to forgive is motivated by collectivistic values for maintaining social harmony, for reconciliation, and for relational repair. Thus, one may argue that participants' positive behaviours may be more a reflection of reconciliation than emotional forgiveness, in order to maintain social harmony or repair strained relationships with their offenders and/or families of their offenders. The insight gleaned from one participant's narratives seem to suggest otherwise. As she indicated, these positive or loving behaviours do not qualify as reconciliation since the hurt, pain, or offense experienced by the victim does not suggest quarrelling, fighting, or not being on good terms with the offender.

In support of this view, Staub (2005) emphasized that although forgiveness and reconciliation overlap, an essential feature of reconciliation is mutuality – the mutual acceptance by both the victim and offender of each other. In the specific case of PLWHA, perceiving an offense/injustice in relation to one's HIV positive status may not in all instances imply a conflict or mutual disagreement between the offended and offender. Again, in the specific case of HIV/AIDS, the infectious nature of the condition may mean that offended persons may genuinely desire to continue intimate relationships with their offenders, who may already know their status. This was reflected in some participants still living with their perceived offenders and the willingness of those who had lost their partners to continue the relationship had their partners been alive. In addition, because the

need to feel accepted appears particularly important for PLWHA, individuals may tend to genuinely forgive and relate well with their offenders in hope that the latter would eventually turn around and treat them well (e.g. in cases of stigmatization and discrimination). Perhaps, this may explain why the young lady tolerated her stepmother's negative attitudes toward her till such behaviours ceased.

Therefore, while it is acknowledged that decisional forgiveness may have been more readily reported by participants, overall, the following key findings seem to support their likely experience of emotional forgiveness in addition. First, the understanding that extension of positive behaviours while still harbouring pain is not forgiveness. Second, the understanding that painful rumination – recalling offense to mind and experiencing hurt/pain in response – is not forgiveness. And third, and perhaps most importantly, the internal positive psychological changes participants reported which were more of emotional experiences, suggesting an effort to emotionally feel better within themselves about the offense and offender.

On another dimension, this finding of participants associating their forgiveness experiences with positive cognitive (e.g., free mind) and emotional (e.g., joy, relieve, peace) experiences, may seem to be contradictory to the findings by Dzokoto (2010). However, a closer observation of participants' narratives indicates that not all positive emotions associated with the experience of forgiveness, did participants consciously express. Most of the emotions that participants seemed aware of, and which were expressed, were personal self-directed emotions (e.g., feeling happy, joy, relieved, at peace). Regarding positive emotions toward offenders, it appears that participants expressed these more in terms of bodily actions (e.g., talking, laughing, and associating with the offender). It may be that in this context, as far as an external offender is concerned, people may not consciously express their other-oriented emotions in the form of empathy, compassion, etc. as suggested by Worthington et al. (2007). However,

forgiveness may be realised by the absence of ill feeling upon unintentional recall of the offense, by actions of goodwill for the offender, and by the experience of positive personal emotions of wellbeing.

Experiences of Forgiveness and Quality of Life

Participants' sense making of their forgiveness experiences generated a number of rich insights. First of all, participants who reported forgiveness considered this phenomenon to have been very beneficial to their lives. Physically, participants understood their forgiveness of HIV-related offenses as a phenomenon that had improved their physical fitness via better eating, sleeping, exercising and other positive self-management behaviours. Psychologically, forgiving HIV-related offenses held meaning for participants' emotional wellbeing as they thought positively, worried less, slept soundly, and felt happy, relieved, less depressed, free in mind, and at peace. It also emerged that forgiving these specific offenses meant social inclusion rather than exclusion as well as continuance of marital and family bonds/relationships. That religion/ spirituality was relied on massively in coping with HIV-related offenses via forgiveness, also suggests that the forgiveness process drew participants closer to God. Indeed, some participants affirmed that the process of forgiveness of these offenses had increased their faith in and reliance on God. All these findings are in support of similar studies conducted so far in PLWHA (Ironson et al. 2011; Owen et al., 2011; Ridings et al., 2008; Wald & Temoshok, 2004a, b). They also lend support to previous reports and findings that forgiveness generally has physical, mental, relational, and spiritual benefits. (e.g., Toussaint et al., 2015; Woodyatt et al., 2017; Worthington, 2005). Furthermore, the finding that self-forgiveness meant ceasing self-blame and comparisons, revaluing one's self, positive self-challenge and development, and increased self-efficacy aligns with the self-forgiveness literature (Woodyatt et al., 2017).

Experiences of Forgiveness and Health Behaviours

Temoshok and Wald (2005) theorized that one pathway by which forgiveness of HIV-specific offenses may have its influence on health outcomes is via motivation to carry out health-promoting behaviours. As they had earlier found, forgiveness was associated with less unprotected sex, while feeling unforgiven was associated with more missed doses of ART (Wald & Temoshok, 2004a,b). Similar to their findings, majority of interview participants indicated that forgiveness helped them to take their medication and to also protect others from becoming infected. Some explained that forgiveness reduced excessive thinking/worrying and forgetfulness, giving them a sound mind to remember to take their medications. Others explained that they no longer wanted to take their lives or that they desired to continue living having let go, and hence the need to take their medication. Yet still, this pro-health behaviour was perceived to mean obedience to God, and hence, an instruction that should not be violated. With regards to protecting others, participants reported that forgiveness motivated them to practice safe sex with their sexual partners. It also motivated them to protect their families and other people via direct behaviours such as not sharing tooth brush and treating cuts carefully. Indirect protective behaviours included educating family and others on HIV/AIDS. As some explained, should they have still been experiencing the hurt, they would have cared less about others also acquiring the infection. Unfortunately, one participant who had not forgiven reported that she sometimes did some things out of unhappiness, including having unprotected sex, highlighting the potential for unforgiveness to promote risk behaviours of public health concern.

Experiences of Forgiveness and Body Image Perception

Perhaps, an important addition to the literature of the present phenomenology study, is the finding that forgiveness in the case of PLWHA, may improve body image

perception. Particularly among the females, it was reported that as long as they were hurting, they were growing lean, did not look/appear fine, and most likely appeared to others to have something bothering them. They however noticed differences in these areas after forgiving. Indeed, it may be argued that this pattern of finding may be linked to participants not adhering to their ART when hurting over their perceived offenses. However, the reports of the two female participants, who had still not forgiven their offenders may suggest otherwise. This is because, they reported adherence to their medication, yet highlighted that they had changed drastically in appearance/body image to the extent one avoided social functions as she felt she didn't look good even when she dressed up. According to one of these two participants, whether she forgives or not, she would adhere to the medication as she had come to believe that it is currently the only thing that helps the condition medically. Considering that majority of the participants, who reported forgiveness also reported adherence as a result, this study seems to have found that perhaps, as long as PLWHA desire to continue living, they may adhere to their ART, whether they have forgiven their perceived offenders or not. However, those who experience forgiveness may have more positive perceptions about their body image, compared to those who continue to harbor unforgiveness.

Experiences of Forgiveness, Social Support, and Religiosity

A range of antecedents of forgiveness including personal (e.g., self-talk), spiritual (e.g., faith in God), and social (e.g., social comparisons) antecedents emerged from participants' narratives. In support of the Afrocultural Social Ethos Framework (Jagers et al., 1997), religiosity as well as personal beliefs in God and social support emerged as two of the most commonly reported antecedents of forgiveness.

Most participants indicated that the support and acceptance of their families (e.g., spouses, parents, children, and siblings) helped them to let go of their hurt. Support was

also received from participants' healthcare providers and models of hope, who are HIV-positive patients dedicated to supporting newly diagnosed patients and creating HIV awareness.

Secondly, majority of participants reported that God or their faith in God helped them to forgive their perceived HIV-related offenses. A related antecedent that interestingly emerged, is the concept which the researcher termed Double Attribution. It was noted that even among participants who perceived others or themselves as the source of their HIV-related offence, attributions were also made to God as having caused or allowed their infection with HIV. Perhaps, participants found more solace in and purpose to their lives in attributing their perceived offense to God or a God-determined destiny, which may have contributed to their reports of forgiveness. These findings may imply that indeed, Africans value the worldviews of spirituality and communalism, and are likely to rely on these not only to manage illnesses, but also, to cope with illness-related offenses.

Nonetheless, there may be important differences in how individuals adopt and apply these and other coping resources such that for some people, these coping mechanisms may have a negative health influence. In the present study, the female participant who reported anger toward God and her ex-partner strongly believed that her HIV positive status was spiritually caused or bought for her. Thus, she believed having unprotected sex would not place her current sexual partner at risk of HIV infection. Again, she believed that even if she had not taken ART during pregnancy, her child would not have become infected. This may imply that spiritual worldviews, depending on how they are adopted, may also facilitate health risk behaviours and pose public health challenges.

Overall, the phenomenological qualitative inquiry in study two showed that participants who reported forgiveness also reported perceived improved physical health, psychological health, social inclusion and ties, spiritual closeness and purpose, and more attractive body image. Those who reported forgiveness also indicated a focus on positive

health behaviours and pursuits important to them in life. However, the few who reported unforgiveness reported negative and debilitating experiences in almost all of these areas of their lives. These findings lend support to the propositions of the Stress and Coping Model of Forgiveness, that as an emotion-focused coping strategy, forgiveness may reduce the stress/burden of unforgiveness from perceived offenses/injustices and bring about improvement in health and other important aspects of life (Lavelock et al., 2015; Strelan & Covic, 2006; Toussaint & Worthington, 2017; Worthington, 2006; Worthington & Scherer, 2004).

CHAPTER SIX

GENERAL DISCUSSION

6.0 Introduction

The present chapter is the final chapter of this thesis. It presents an integrated discussion of the findings from studies one and two, beginning with an overview of the thesis. The implications of the integrated findings for theory, policy, and clinical practice are presented. The public health as well as health psychology implications of the study are also highlighted. These are followed by the limitations of the study and their implications for future research. Finally, the chapter highlights the contributions of this study to science, concluding with an overarching message from the thesis.

6.1 Overview of the Thesis

This study aimed at investigating the impact on health of forgiveness of HIV-related offenses in people living with HIV/AIDS in Ghana. An explanatory sequential mixed-method design comprising of two related studies was employed to achieve this aim. Study one was a cross-sectional survey of 325 PLWHA receiving treatment across the Korle-Bu, Komfo Anokye, and Tamale Teaching Hospitals. Standardized questionnaires and clinical data were used to assess the association between forgiveness and the outcomes of PHRQOL and change in CD4 cell count across three contexts – intrapersonal, interpersonal, and spiritual. Study two was a follow-up in-depth phenomenological inquiry into the lived experiences of forgiveness of HIV-related offenses among 15 of the 325 survey participants using a semi-structured interview guide. Multivariate regression analysis and interpretative phenomenological analysis were used to analyse data from study one and study two respectively.

6.2 Summary of Findings

Study one found that forgiving the self and positive attitudes toward God significantly predicted PHRQOL, with PATG remaining a significant predictor when related covariates were accounted for. Decision to forgive self (DTFS) significantly predicted change in CD4 cell count both before and after controlling for the effects of significant covariates. Decisions to forgive were reported significantly more than emotional forgiveness in both the intrapersonal and interpersonal contexts. Likewise, significantly higher PATG than NATG were reported. The study found no moderating effects of health behaviours (ART adherence, multiple sexual partners, and frequency of condom use). In additional analysis, the study also found no mediating effects of social support, religiosity/spirituality, and psychological distress on the forgiveness-health relationships. With no allusion, whatsoever to forgiveness as a cause of PHRQOL or CD4 count difference, these findings suggest that there is an important link between forgiving HIV-related offenses particularly in the self and spiritual contexts, and both psychological and physiological markers of wellbeing. In relation to PHRQOL, the findings indicate that the forgiveness-health link in HIV may be observed across contexts, but particularly, among PLWHA who are able to replace their hurts and negative attitudes toward God with more positive attitudes. The study's support for DTFS in relation to change in CD4 count is an interesting finding that seems to highlight the importance of reduction in unforgiveness on the health of PLWHA in typical collectivistic societies.

In study two, it was found consistent with the three contexts in Study 1 that forgiveness was largely experienced within the context of offenses committed by others against participants, by participants against themselves, or both. One person reported being angry toward God and another participant reported that the demands of the illness and its treatment (e.g., periodic labs and strict adherence recommendations) was a source of offense. Secondly, forgiveness was experienced both as an internal action to remove

unforgiveness from within one's heart and mind and an external action of good relationships with the perceived offender. Forgiveness was also reported to be accompanied by psychological changes such as feeling free in the mind, relieved, happy, at peace, and also experiencing love for the offender. Even among participants, who reported self-forgiveness, it emerged that forgiveness included feelings of competency, adequacy, and positive self-regard. These emotional experiences appeared to be confirmation that the complete form of this prosocial behaviour – emotional forgiveness – had taken place, as participants reported that experiencing hurt or pain upon recall of the offense would indicate that one has not forgiven. Participants further narrated that extension of positive behaviours toward an offender while still experiencing pain – a description more suggestive of forbearance – is not forgiveness. This is in support of the general consensus reached among researchers that forgiveness is distinct from other ways of coping with offenses including forbearance and reconciliation (Worthington, 2005). In addition, the positive emotional changes participants experienced, in support of the significant differences found between decisions to forgive and emotional forgiveness in study one, suggest that participants' experiences of forgiveness included both decisional and emotional forgiveness (Worthington & Scherer, 2004).

6.2.1 Study One – Study Two Points of Convergence

Overall, the findings from Studies One and Two appear to converge in four main ways. First, the survey found a link between intrapersonal forgiveness (DTFS and EFS) and PATG as predictors and PHRQOL as an outcome. A significant association was also found between DTFS and change in CD4 count. These findings were supported by participants' experiences of positive physical and psychological health as well as attractive body image after forgiving offenses they had perceived directly as a result of their HIV infection. Participants reported looking and feeling well, being able to eat, sleep,

concentrate, feeling happy, relieved, at peace, and feeling socially included. The debilitating physical and psychological health experiences of the few who had utterly not forgiven those they perceived to have infected them also lend support to the forgiveness-health link found in Study One. For example, these participants reported feeling unhappy, miserable, forgetful, as well as looking different (less attractive) in their physical/body appearance compared to the period before the offense. Their narratives also revealed experiences of social isolation, lack of self-confidence and self-esteem, as well as prolonged and disruptive fear of others discovering their positive status.

Secondly, both Studies support the decisional-emotional stages of the forgiveness process. In Study One, a significant difference was observed between decisional and emotional forgiveness of both self and others. In Study Two, participants' descriptions of forgiveness, for example, as letting go and removing hatred suggests their experience of decisional forgiveness. That participants experienced personal positive emotions of wellbeing after letting go coupled with their willingness to relate well with the offender, also suggest replacement of any negative emotions with more positive ones. Participants' understanding that extending positive behaviours while still harbouring negative emotions toward the offender is more of pretence than forgiveness further support their experience of emotional forgiveness.

Third, findings from both Studies, together, lend support to the three theories that underpinned the present study. Namely, both studies found a positive influence of forgiveness on psychological and immunological/physical health in support of the SCMF. In support of the direct stress response pathway proposed by the BPSFCF as linking forgiveness to health, Study 1 found no significant moderation influence of ART adherence on the associations between forgiveness and the health outcomes. On the other hand, in Study 2, participants reported that forgiving their perceived offenders motivated them to adhere to their ART regimen, supporting the behavioural pathway proposed by the

BPSFCF. It is interesting to note here that some participants also reported that they decided to forgive, after they discovered ART and observed its effects on their health. This novel finding which suggests that there may be a bidirectional association between forgiveness and ART adherence, seems to lend support to the significant association that was found between DTFS and change in CD4 cell count in Study One. Again, in support of the ASEF, social support emerged as a significant correlate of DTFO, EFO and PHRQOL in Study One. In Study Two, social support and religiosity/spirituality comprised two of the most commonly reported antecedents of forgiveness that emerged. Whether from family, models of hope, or healthcare professionals, social support seemed to have helped participants to first come to terms with their HIV-positive status and to also forgive their perceived offenders. In support of the finding that PATG significantly predicted PHRQOL after adjusting for covariates, it also emerged from Study Two that majority of participants seemed to make some attributions to God regarding their perceived cause of their HIV infection irrespective of their initial target of offense. This phenomenon, which was termed Double Attribution, may also explain why no association was found between NATG and the study outcomes as almost all participants seemed to make positive attributions of their HIV-related experiences to God. For some participants, these attributions were made with the belief that God had a purpose for their lives (e.g., to support newly diagnosed persons), possibly helping them to forgive their perceived offenders.

Finally, the findings from Study One and Study Two complementarily support previous findings in the forgiveness-HIV health literature as well as the general forgiveness-health literature (e.g., Ironson et al., 2011; Owen et al., 2011; Ridings et al., 2008; Toussaint et al., 2015; Wald & Temoshok, 2004a, b).

6.2.2 Study One – Study Two Points of Divergence

The findings from Studies One and Two showed some interesting divergence worth noting. First, none of the health behaviours (Adherence to ART and sexual risk behaviours) moderated any of the study relationships as had been predicted in Study One. This was in line with the study by Ironson et al., (2011), who found no mechanism effects of health behaviours on the relationship between spiritual context of forgiveness and health outcomes. However, this finding was contrary to that by Wald and Temoshok (2004b), who found significant associations between forgiveness and these health behaviours. The qualitative study on the other hand, showed that forgiveness held meaning for participants' health behaviours, in line with the study by Wald and Temoshok (2004a). According to participants, forgiving gave them a free and sound mind to remember to take their medication. It was also an indication that they desired to continue living life, as well as an indication that they were obeying God. More importantly, the finding that once PLWHA decide to continue living rather than end their lives, they would take their medication irrespective of whether they may have forgiven any perceived offenses, lends some explanation to why ART adherence was not a significant moderator in Study 1. According to participants, whether they had forgiven or not, adherence to ART was important to sustain their lives and prevent visible HIV symptoms. With regards to sexual behaviours, participants who reported forgiveness in Study Two also reported willingness and actual efforts to protect others through both direct and indirect behaviours. These included engaging in protected sex with partners and educating family and others on HIV/AIDS. Interesting, of those who had not forgiven, nuances in their emotional responses and behaviours may explain why sexual behaviours did not significantly moderate the forgiveness-health associations in Study One. First, it was noted that the participant who reported anger toward God and her ex-partner also reported that she sometimes engaged in risky behaviours such as engaging in unprotected sex. However, the

other participant who reported deep anger toward the deceased man who had intentionally infected her reported an intense fear of others discovering her HIV-positive status. This intense fear meant that she avoided any situation that could lead to others discovering her positive status. For example, she avoided having more children although she longed for that. She also refrained from riding motor bikes to avoid any injuries that could warrant medical examinations. This means she would most likely also avoid any behaviours (e.g., unprotected sex) that could lead to others discovering her positive status. Hence, it can be deduced from her case that while forgiveness may motivate protective behaviours, unforgiveness may not necessarily promote engagement in risk behaviours due for example, to such emotional responses as fear of others discovering one's HIV positive status.

A second point of divergence in the two study findings was that while DTFS significantly predicted change in CD4 cell count, forgiveness of others and attitudes toward God failed to significantly predict this outcome. Again, participants' narratives reveal some possible reasons; it was noted that a number of interpersonal offender characteristics may have caused participants to forgive some perceived offenders while still holding grudge against others. This was typical in the case of the participant who had forgiven his late wife and in-laws but was holding grudge against his family members who were still stigmatizing against him. Lack of sincere apology from the offender (e.g., in the case of participant 15) and intentional infection with HIV (e.g., in the case of participant 3) also emerged as situations that may account for why interpersonal forgiveness may be less predictive of health than intrapersonal forgiveness. The very small size of the sample that had both pre-and-post measures of CD4 count and reported attitudes toward God, may have also accounted for ATG not significantly predicting CD4 count change.

Third, in Study Two, participants reported personal emotional changes when they forgave. As well, they reported extending positive acts of goodwill (e.g., talking to and

greeting the perceived offender) as part of their forgiveness experiences. While majority did not explicitly or consciously report experiencing positive offender-oriented emotions toward the offender, their understanding that extending positive behaviours while still harbouring negative emotions is not forgiveness, suggests their experience of emotional forgiveness. Nonetheless, in Study One, emotional forgiveness of both self and others was not predictive of the study outcomes particularly when confounding factors were taken into account. Indeed, this divergence could be solely because participants experienced significantly greater decisional forgiveness than emotional forgiveness as observed in Study One. However, it may also stem from the finding that within our generally collectivistic cultural context, people may be more conscious of their actions when it comes to others than they may be of their emotions toward others. As noted in Study Two, participants expressed their offender-oriented positive emotions more in terms of their positive behaviours toward their perceived offenders and less in terms of the typical emotions that the Emotional Forgiveness Scale measures (e.g., empathy, compassion, altruistic love, and benevolence). Hence, the less predictiveness of emotional forgiveness compared to decisional forgiveness in Study One could have been because participants related better with the items of the Decision to Forgive Scale than those of the EFS, which excludes items on positive behaviours that stem from the experience of positive offender-oriented emotions.

Finally, in Study Two, participants' religious beliefs (including their double/re-attribution of their HIV-related offense experiences to the will of God), emerged as an important driver of their forgiveness experiences. Participants who reported forgiveness also reported positive transformations in their physical and mental health as well as their social lives (e.g., better relationships with perceived offenders and others). Conversely, participants who indicated anger toward God reported debilitating physical health, mental health, and social experiences. Yet, in Study One, religiosity did not significantly correlate

with any of the forgiveness variables neither did it correlate with the outcome variables, particularly, PHRQOL. Furthermore, NATG did not significantly predict any of the study outcomes as had been hypothesized. Drawing on the findings from Study Two, it is possible that participants who scored lower on the forgiveness scales in Study One, scored as high on the religiosity questionnaire as those who indicated high forgiveness because of the potential double attribution of their offence experiences to the will of God. Again, this concept of double attribution may have accounted for the averagely low scores on the NATG scale and perhaps the insignificant association between this variable and the outcome variables.

Overall, the qualitative findings that forgiveness is to let go or remove hurt/hatred, extend positive behaviours of goodwill toward the offender, and feel personal positive emotions within lend support to the quantitative study findings. These internal and external actions that comprised participants' experiences of forgiveness meant good mental health – free, sound, relived, and peaceful mind. Experiences of forgiveness also meant a physically fit and more attractive body. Indeed, no association was found between forgiveness and the physical health domain of QOL in the additional analyses in Study One. However, that DTFS significantly predicted change in CD4 count may suggest that in line with previous studies, the physical/somatic effect of forgiveness may take a long time to manifest. As well, they meant motivations to continue living and focusing on aspects of life important to them including protecting others from the infection. Again, that those who reported unforgiveness experiences also reported various psychological and somatic problems (e.g., loss of concentration, unhappiness, poor body image), lend support to the positive associations found between forgiveness and health outcomes in the quantitative study and in previous studies (e.g., Ironson et al., 2011; Owen et al., 2011; Wald & Temoshok, 2004a, b).

6.3 Revised Model

Figure 6.0 depicts the revised model for the study, illustrating the forgiveness variables that had significant effects on the outcome variables. Specifically, the model highlights DTFS and EFS as significant predictors of PHRQOL in unadjusted analyses. It also indicates that PATG and DTFS were significant predictors of PHRQOL and change in CD4 cell count respectively in both unadjusted and adjusted analyses.

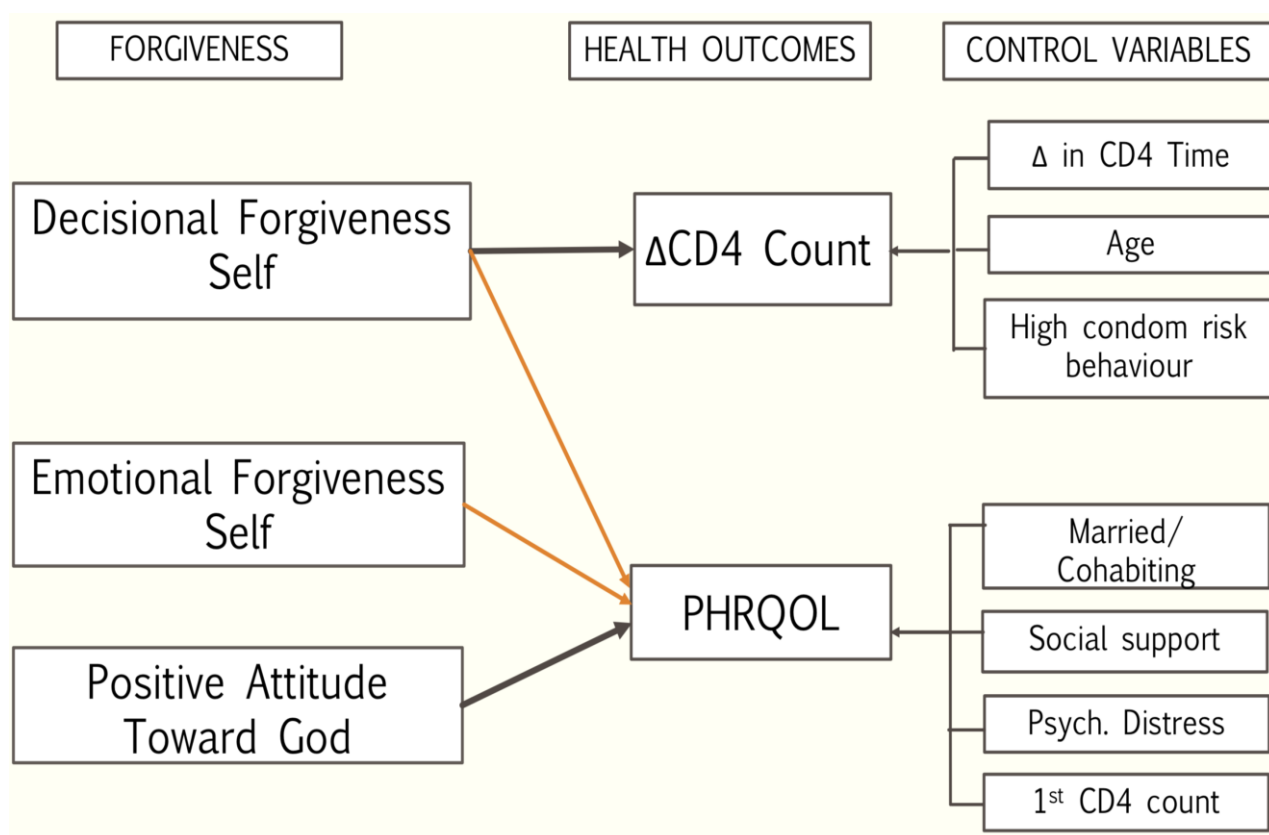


Figure 6.1: *Revised model of the relationship between forgiveness and the outcomes of PHRQOL and change in CD4 count.*

Figure 6.1 shows that the findings of the present study lend support to previous findings linking different contexts and stages of forgiveness to both patient-reported and clinical outcomes among people living with HIV/AIDS (e.g., Ironson et al., 2011; Martina et al., 2012; Muhomba et al., 2008; Wald & Temoshok, 2004a). The study findings also provide support for the SCMF, the ASEF, and the BPSFCF.

6.4. Contributions of the Present Study

One clear observation made prior to the commencement of this study was both the verbalized and non-verbalized question of “how on earth can forgiveness have anything to do with scientific research let alone health outcomes in people living with HIV?”. This mixed method study has shown that not only do PLWHA often experience large to extreme amounts of offenses or injustices directly as a result of their HIV-positive status. But also, the more one forgives these offenses, the greater the likelihood that they may experience better self-reported as well as clinically measured health outcomes. Specifically, the study has made key contributions to theory, knowledge, and research.

6.4.1 Contributions to Knowledge

This is the first study, to the best of the knowledge of the researcher, that has explored stages of the forgiveness process in relation to both self-reported and clinical health outcomes, showing that different stages of the forgiveness process may predict health outcomes differently across intrapersonal, interpersonal, and spiritual contexts of the experience of unforgiveness of HIV-specific offenses. Importantly, the study has shown that reductions in unforgiveness typically inherent in the decisional forgiveness stage, may have important links to psychological and immunological health particularly in the context of self-forgiveness.

Again, to the best of the knowledge of the researcher, this study may be the first to have scientifically investigated the phenomenon of forgiveness from a biological as well as psychosocial perspective. Existing studies in HIV/AIDS have either looked at forgiveness in relation to stigma, QOL, other psychosocial factors or purely in relation to physiological markers. Thus, this study most likely marks the first in Ghana and perhaps the region of Africa and beyond (based on the systematic review findings) to contribute to

the scientific literature on forgiveness of HIV-specific offenses in relation to self-reported and clinical outcomes.

The benefits of forgiveness seem to cut across in the literature as physical, psychological, social/relational, and spiritual health and wellbeing. Together, findings from the present study lend support for the health benefits of forgiveness in all these areas. Thus, this study has contributed to knowledge of the possible role of forgiveness among PLWHA in Ghana.

6.4.2 Contributions to Research

The findings of the systematic review of forgiveness studies in PLWHA as related to health showed that all studies in the area have so far employed quantitative research methods. Therefore, this study may be the first to have employed a mixed method design to ascertain the forgiveness-health link in PLWHA in typically collectivistic societies and to unearth what it is like and means to forgive HIV-specific offenses. Using this design, other behaviours and factors that may link forgiveness to health including a renewed desire to live a focused life were identified.

The study also seems to have noticed that particularly among women, forgiveness may promote a sense of positive or attractive body image. This is an important finding that may provide directions for further wellbeing research in HIV/AIDS, considering that some PLWHA have expressed concerns about their weight and other issues related to body image. It may also provide directions for researchers in the area of body image in general, to explore whether deep-seated hurts and unforgiveness may be a contributing factor among people with negative body image perceptions and vice versa.

Finally, the study has made contributions to scientific theory and methodology in drawing out core implications that relate to 1) the definition and extent of impact of decisional forgiveness on health, 2) the seemingly fine lines between decisional

forgiveness, emotional forgiveness, and reconciliation, and 3) the validation of the WHOQOL-BREF in PLWHA in Ghana.

6.4.3 Theoretical Contributions and Implications

This study found that in unadjusted analysis, DTFS slightly predicted PHRQOL over EFS and remained a significant predictor of change in CD4 count when covariates were accounted for. Whereas, there was no significant relationship between emotional forgiveness whether of self or others and immunological function, although it has been theorized that emotional forgiveness may have more health benefits than decisional forgiveness (Worthington and Scherer, 2004). Thus, the present study holds implications for further consideration of the extent of impact that reduction in unforgiveness may have on health compared to a stable state of positive emotions. It may be that the theory of emotional forgiveness having more health benefits may be realized more in certain offense contexts or sub-populations or that the emotional forgiveness scale may not be measuring some cultural contextual emotional experiences (e.g., offender-oriented positive behaviours due to positive emotions of forgiveness).

In relation to the above point, the support found in this study for the link between decisions to forgive (especially in the self-forgiveness context) and health, holds implications for clarifying the definition of decisional forgiveness in ways that draw out the core process of unforgiveness reduction that may be inherent in this stage. A proposed definition is offered based on the findings of the present study as: decisional forgiveness is the reduction in or removal of negative thoughts and emotions about an offender that reflects in a decision to forgo negative behaviours toward the offender and possible extension of actual positive behaviours. It is reiterated that before an offended person may decide to forgo any intentions to behave in negative ways toward an offender, the individual may have most likely experienced some reduction in their negative thoughts

and emotions about the offense/offender. It may be this initial change from a peak level of hurting to a lesser hurting state that actually drives the decision to let go of negative retaliatory/avoidant behaviours, and which possibly lends this stage of forgiveness its role in health.

Also, the study shows that a revisit of the collectivism-forgiveness-reconciliation links may be essential in clarifying positive behaviours that may stem from decisional and/or emotional forgiveness and those that may be portrayed solely as reconciliatory tools for social harmony. In typical collectivistic societies or among people with interdependent worldviews especially, it may be particularly important to tease out extension of positive behaviours due to forgiveness from mutual reconciliatory behaviours in response to two-way conflicts.

6.5 Practical Implications of the Study

6.5.1 Implications for Clinical Practice

Clinically, there is the need to develop culturally relevant, easy to grasp forgiveness interventions that would help both newly diagnosed and PLWHA to let go of any injustices or hurts they may be struggling with, as findings of this study in support of previous findings, suggest that forgiveness may help promote positive health outcomes on treatment.

Also, it may be relevant to display evidence-based informational materials at HIV/AIDS clinics that creatively draw attention to key evidence-based issues on forgiveness in HIV/AIDS and where to obtain support with these issues. For instance, there could be a poster on the two most common sources of HIV-related offenses identified in the study – who/what caused HIV and the stigmatizing, discriminatory, and rejection attitudes of family and other significant others. Again, informational materials (e.g., posters) providing clear comparisons on what constitute unforgiveness versus

forgiveness and the possible consequences of these phenomena. Quotes from the qualitative study could further be utilized as callouts on the posters to buttress these messages, as evidence supports patient reports as a helpful tool in health communication.

6.5.2 Implications for Policy

The policy implications of the findings of this study is the need for what I would term a “Policy of Right to Know”. There is the need for a policy that ensures that in the least, people with a diagnosis of HIV/AIDS in Ghana are aware of the potential role that forgiveness of HIV-specific offenses may play in their health outcomes. Currently, HIV/AIDS counselling is chiefly centered on adherence. While this is extremely helpful, it emerged from the qualitative study that PLWHA may take their medication even if emotionally hurting, where they wish to stay alive. However, this prolonged hurting may cause damage in various other ways including loss of self-esteem, poor body image perception, lack of concentration, social isolation, chronic fear of others discovering one’s status, and deep-seated unhappiness among other consequences. It may help to present PLWHA an opportunity to know about these debilitating experiences of unforgiveness and the positive experiences of forgiveness that held meaning for participants’ physical, psychological, social (including career), and spiritual wellbeing. These included having a fit and attractive body/ appearance, a relieved, free, and peaceful mind, joyful heart, preserved social relationships and bonds, and a renewed focus on personal achievements and that of others.

Therefore, there is a need for a policy that 1) mandates evidence-based assessment for perceived offenses, responses to, and current ways of coping with offenses for all PLWHA as part of routine HIV/AIDS care protocols, 2) specifies awareness creation about possible effects of unforgiveness and forgiveness for all screened persons, and 3)

specifies a clear intervention support pathway for screened persons at high risk of unforgiveness and emotional breakdown.

6.5.3 Public Health Implications of the Study

This study has identified four interesting situations that may be of significant public health interest. First, it emerged from the phenomenological inquiry that forgiveness of HIV-related offenses made participants adhere to their ART, partly because forgiveness gave them a sound mind that helped them to remember to take the medications. This means that in seeking to promote adherence and in-turn reduce incidents of secondary infection and development of newer and resistant viral strains, HIV-related offenses need to be explored and appropriate support provided to aid forgiveness of these offenses.

Secondly, it emerged from the qualitative study that unforgiveness of HIV-related offenses may lead to behaviours that may impede public health efforts at curbing secondary transmission of HIV and preventing re-infection, risk of resistance, and treatment failure in PLWHA on ART. Participants revealed that if they had not forgiven their HIV-related offenses, they would have cared less about others acquiring the infection from them. One participant who was still experiencing pain and anger toward God and her ex-fiancé reported that she sometimes did crazy things like partying and having sex as she was so unhappy within. On the contrary, participants who reported having forgiven indicated a strong focus on protecting both family and non-family members from acquiring the infection through a number of practical ways.

Similar to the problem of unforgiveness linking to sexual risk behaviours, the study found that one's belief about their HIV as being spiritually caused, may promote HIV transmission risk behaviours. As reported by one participant, that her HIV was spiritually bought for her means that it is impossible for her to transmit the virus to her sexual partner

whom she had not yet disclosed her status to, even if she fails to use a condom or stops taking her medication. Again, she believed that she could not have transmitted the infection to her son even if she was not on the medication during her pregnancy. These findings imply that including clear guidelines in existing HIV counselling protocols for probing into participants' beliefs and feelings (of hurt or perceived injustices) about their HIV may in the long run, help to prevent HIV-transmission risk behaviours. Currently, HIV/AIDS counselling typically seems to align with the one-size-fits all approach. However, this approach may mean that perceived offenses and misplaced beliefs that may have implications for increased transmission of HIV infection may go unnoticed and unaddressed.

Finally, the findings of this study hold important implications for ongoing HIV/AIDS education. Among PLWHA who reported having forgiven, an overwhelming proportion reported that they educated their families and also non-family members about HIV/AIDS. These included education about transmission risks, signs and symptoms, and voluntary testing. While most participants were careful not to disclose their HIV positive status in the course of educating others, that they propagated these important facts about the infection is an important practice worth supporting. The implication for public health organizations therefore, is to ensure that PLWHA who attend routine clinics gain the right understanding about HIV to ensure propagation of the right information. For instance, simple pamphlets with well-presented current information about HIV may be made freely available at HIV clinics for PLWHA to pick and share with others. To prevent the individuals from being stigmatized however, it may be necessary that these pamphlets also contain information on other key chronic conditions.

6.5.4 Implications for Health Psychology Practice in Ghana

The public health implications and the findings of the study at large, hold several implications for the discipline of Health Psychology, which is the branch of psychology that focuses on applying psychological principles and theory to promoting health, preventing illness, and improving healthcare systems. First, there is the need for expert contributions from health psychologists via collaborations with public health practitioners and organizations to raise awareness among the population of PLWHA of the links found between forgiveness of HIV-specific offenses and health. A core interest of health psychologists is health information dissemination via tailored, evidence-based, and culturally-relevant communication channels.

Secondly, health psychologists collaborate with clinical healthcare providers to develop culturally relevant forgiveness interventions or adapt existing ones and make them suitable for use with target populations. It is important that health psychologists collaborate with HIV/AIDS care providers to develop forgiveness interventions that take into consideration the typical spiritual orientation of PLWHA in Ghana and the double attributions that they may make as a result. Furthermore, it is important that the interventions recognize the role of social support on one hand, as a facilitator for acceptance of HIV positive status and also of forgiveness. And on the other hand, the fear of PLWHA that the more people (including significant others) are aware of their status, the less safe their “secret” and the greater the perceived risks of being stigmatized.

Finally, the study holds implications for the development of health psychology-based training packages and protocols for counsellors and other healthcare providers involved in HIV/AIDS care delivery. The focus of such training would be to support healthcare providers with up-to-date approaches for assessing and addressing common as well as more difficult emotional and behaviour issues including perceived offenses,

forgiveness, and related behaviours, that may interfere with clinical treatment goals for PLWHA in Ghana.

6.6 Limitations of the Study

The present study is without limitations, despite the careful efforts at minimizing biases and contamination. First, an ideal design for the study would have been a longitudinal design that assessed participants' thoughts, emotions, and behaviour intentions right at diagnosis together with other pre-ART baseline measures, with prospective post-ART assessments at fixed time periods for all participants. For a number of pragmatic reasons, a cross-sectional design was employed, in which not all participants had baseline and/or survey-concurrent clinical measures, concurrent clinical measures were taken within a period, and retrospective reports of offenses and forgiveness may have introduced recall bias. In an effort to address some of these shortcomings, time period between first and concurrent ART measures was controlled for in all CD4 analyses.

The involvement of trained healthcare personnel already known to participants in the data collection may have introduced some level of social desirability bias. However, the researcher conducted all the interviews in study two in an attempt to overcome this shortcoming.

Also, as only out-patients were included in the study, these were usually in one queue or another at the outpatient departments. It is possible that some respondents, not willing to lose their spots in queues, may have been acquiescent in their responses. Although, the qualitative interviews were conducted at participants' preferred times and hence, were in-depth, ensuring that rich insights into the study phenomenon were uncovered.

Finally, there were some methodological limitations to the study. These related to the relatively small sample sizes involved in the PATG-PHRQOL analysis and also the

DTFS-change in CD4 analysis. Although it may be argued that findings from studies with small clinical samples hold clinical relevance, there are implications for future studies to endeavour to involve larger samples. Also, although the survey measures employed were validated and showed good to excellent internal consistency reliabilities, confirmatory validation studies with larger and similar as well as dissimilar populations may provide more support for their validity.

6.7 Recommendations for Future Research

It is proposed that further research into this study consider a longitudinal prospective design that investigates offenses, unforgiveness, stages of forgiveness, and clinical variables right from diagnosis. Different clinical endpoints, forgiveness-related constructs (e.g., forbearance, resilience, reconciliation), mechanism variables (e.g., sense of purpose in life), as well as a sampling procedure that allows for inclusion of large samples for all contexts of forgiveness may be worth considering. A randomized controlled trial of a forgiveness intervention to ascertain whether increasing forgiveness would lead to positive health outcomes for PLWHA in Ghana compared to controls, also is much recommended.

Finally, a large confirmatory validation study among PLWHA in Ghana of the forgiveness measures used as well as the WHOQOL-BREF measure is recommended (considering that there was no significant association found between forgiveness and the other domains of QOL). Also, a cross-cultural validation of Wald and Temoshok's (2004a, b) forgiveness vignette measure may help to assess different contexts of forgiveness in less time, helping to reduce the burden on participants that assessing of multi-context forgiveness using standard questionnaires may place on them. This may be especially useful for use in clinical settings, where participants may not have much time to spare.

6.8 Conclusion

In conclusion, the present study aimed at investigating the link between forgiveness of offenses directly related to one's HIV-positive status and two health outcomes – psychological health-related quality of life and change in CD4 cell count. Employing an explanatory mixed method design, cross-sectional survey data was first collected on three contexts of forgiveness – intrapersonal, interpersonal, and spiritual – from a total of 325 people living with HIV/AIDS. Participants were outpatients receiving antiretroviral therapy across the Korle-Bu, Komfo Anokye, and Tamale Teaching Hospitals. In support of some of the study's hypotheses, difference tests, regression analyses, and moderation analyses revealed that deciding to let go of an HIV-related offense, whether towards one's self or another, was engaged in more readily than feeling positive emotions toward the offender. Also, deciding to forgive one's self as well as feeling positive emotions toward the self, predicted higher psychological health-related quality of life but only in unadjusted analyses. Interestingly, in both unadjusted analyses and adjusted analyses, when significant confounders were taken into account, deciding to forgive one's self and positive attitudes toward God significantly predicted increased change in CD4 cell count and higher psychological health-related quality of life respectively. Interpersonal forgiveness (decision to forgive others and emotional forgiveness of others) did not predict any of the two outcome variables, neither did health behaviours moderate any of the associations identified between forgiveness in all three contexts and the outcomes.

To better explain the survey findings, a follow-up phenomenological study on the lived experiences of forgiveness of HIV-related offenses among 15 of the survey participants using a semi-structured interview guide was conducted. Interview data were analysed using interpretative phenomenological analysis. Six main themes emerged that expounded on the survey findings. Mainly, it was found that forgiveness was experienced

as internal actions of letting go or removing unforgiveness from within the heart of the offended, as external actions of extending goodwill toward the offender, and as positive psychological changes within the offender. Participants, who reported forgiveness also reported improved psychological experiences as well as improved physical fitness, attractive body image, increased self-efficacy and -value, and better social ties. Whereas, the few who reported unforgiveness reported gross experiences including unhappiness, prolonged fear, lack of self-esteem, unattractive body image, social isolation, and also engagement in unprotected sex at times. Religiosity/Spirituality including double attribution and also, social support were commonly reported facilitators of forgiveness, which held meaning for engaging in positive health behaviours, protecting others from infection with HIV, and for a living a new and focused life.

Overall, findings of the present study complementarily lend support to the Stress and Coping Model of Forgiveness, the Biopsychosocial Contexts of Framework of Forgiveness in HIV, and the Afrocultural Social Ethos Framework. Namely, among PLWHA in Ghana, forgiveness as an emotion- and adaptive-focused coping strategy for perceived HIV-related offenses may hold benefits for psychological and immunological health either directly (as suggested by findings in Study 1) or through positive health behaviours (as indicated in Study 2 findings). And that among other factors, values for communalism and spirituality may facilitate forgiveness experiences through social support and religious behaviours and practices, as well as purposeful attributions of offense-experiences to the will/doing of God.

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APPENDICES

Appendix A: UG-ECH Ethical Clearance



UNIVERSITY OF GHANA
ETHICS COMMITTEE FOR THE HUMANITIES (ECH)

P. O. Box LG 74, Legon, Accra, Ghana

16th December, 2016

My Ref. No.....

Ms. Judith Ansa Osae-Larbi
Department of Psychology
University of Ghana
Legon

Dear Ms. Osae-Larbi,

ECH 080 /16-17: FORGIVENESS IN PEOPLE LIVING WITH HIV/AIDS IN GHANA: AN EXPLORATION OF ITS INFLUENCE ON QUALITY OF LIFE AND IMMUNE FUNCTIONING MARKERS

This is to advise you that the above reference study has been presented to the Ethics Committee for the Humanities for a full board review and the following actions taken subject to the conditions and explanation provided below:

Expiry Date: 7/02/18
On Agenda for: Initial Submission
Date of Submission: 12/12/17
ECH Action: Approved
Reporting: Bi-Annually



Please accept my congratulations.

Yours Sincerely,

Rev. Prof. J. O. Y. Mante
ECH Chair

CC: Dr. Maxwell Asumeng, Department of Psychology

Appendix B: 37 Military Hospital IRB



Institutional Review Board

37 Military Hospital

Neghelli Barracks

ACCRA

Tel: 0302 769667

Email: ir37milhosp@hotmail.com

25 May 2017

ETHICAL CLEARANCE

37MH-IRB IPN 132/2017

On 10th May 2017, the 37 Military Hospital (37MH) Institutional Review Board (IRB) at a Board Meeting reviewed and approved your protocol.

TITLE OF PROTOCOL: Forgiveness in People Living with HIV/AIDS in Ghana. An Exploration of its Influence on Quality of Life and Immune Functioning Markers.

PRINCIPAL INVESTIGATOR: Judith Ansa Osa-Larbi

Please note that a final review report must be submitted to the Board at the completion of the study.

Please report all serious adverse events related to this study to 37MH-IRB within seven (7) days verbally and fourteen (14) days in writing.

This certificate is valid until 10th May 2018.

DR EDWARD ASUMANU
(37MH-IRB, Vice Chairperson)

**37 MILITARY HOSPITAL
INSTITUTIONAL REVIEW BOARD**

DATE 25/05/17

Cc: Brig Gen EC Saka Jnr

Appendix C: Tamale Teaching Hospital IRB



**Department of Research & Development
Tamale Teaching Hospital**

TTH/R&D/SR/17/26
1/03/2017

TO WHOM IT MAY CONCERN

**CERTIFICATE OF AUTHORIZATION TO CONDUCT RESEARCH IN TAMALE
TEACHING HOSPITAL**

I hereby introduce to you **Ms. Judith Ansa Osae-Lardi**, a PhD candidate in Psychology at the University of Ghana, Legon. Who has been duly authorized to conduct a study on **"Forgiveness in people living with HIV/AIDs in Ghana: An exploration of its influence on quality of life and immune functioning markers"**.

Please accord her the necessary assistance to be able to complete her study. If in doubt, kindly contact the Research Unit at the second floor of the administration block or on Telephone 0209281020. In addition, kindly report any misconduct of the Researcher to the Research Unit for necessary action, please.

Please note that this approval is given for a period of six months, beginning from 1st of March, 2017 to 31st of August, 2017.

Thank You.

**ALHASSAN MOHAMMED SHAMUDEEN
(HEAD, RESEARCH & DEVELOPMENT)**

Appendix D: Komfo Anokye Teaching Hospital IRB



KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICAL SCIENCES / KOMFO ANOKYE TEACHING HOSPITAL
COMMITTEE ON HUMAN RESEARCH, PUBLICATION AND ETHICS



CHRPE/AP/203/17

4th April, 2017

Miss Judith Ansa Osae-Larbi
Department Psychology
University of Ghana
ACCRA-GHANA

Dear Madam,

LETTER OF APPROVAL

Protocol Title: *“Forgiveness in People Living with HIV/AIDS in Ghana: An Exploration of its Influence on Quality of Life and Immune Functioning Markers.”*

Proposed Sites: *The Voluntary Counseling and Testing (VCT) Centre, the Chest Clinic, and the Prevention from Mother-to-Child-Transmission (PMTCT) Centre, Komfo Anokye Teaching Hospital.*

Sponsor: *Principal Investigator.*

Your submission to the Committee on Human Research, Publications and Ethics on the above named protocol refers.

The Committee reviewed the following documents:

- A notification letter of 17th February, 2017 from the Komfo Anokye Teaching Hospital (study site) indicating approval for the conduct of the study in the Hospital.
- A Completed CHRPE Application Form.
- Participant Information Leaflet and Consent Form.
- Research Protocol.
- Questionnaire.

The Committee has considered the ethical merit of your submission and approved the protocol. The approval is for a fixed period of one year, beginning 4th April, 2017 to 3rd April, 2018 renewable thereafter. The Committee may however, suspend or withdraw ethical approval at any time if your study is found to contravene the approved protocol.

Data gathered for the study should be used for the approved purposes only. Permission should be sought from the Committee if any amendment to the protocol or use, other than submitted, is made of your research data.

The Committee should be notified of the actual start date of the project and would expect a report on your study, annually or at the close of the project, whichever one comes first. It should also be informed of any publication arising from the study.

Thank you Madam, for your application.

Yours faithfully,

Rev. Prof. John Appiah-Poku.
Honorary Secretary
FOR: CHAIRMAN

Appendix E: Korle Bu Teaching Hospital IRB

In case of reply the number
And the date of this
Letter should be quoted

My Ref. No. KBTH/ML/317
Your Ref. No.



KORLE BU TEACHING HOSPITAL
P. O. BOX KB 77,
KORLE BU, ACCRA.

Tel: +233 302 667759/673034-6
Fax: +233 302 667759
Email: Info@kbth.gov.gh
pr@kbth.gov.gh
Website: www.kbth.gov.gh

28th June, 2017

JUDITH ANSAA OSAE-LARBI
DEPT. OF PSYCHOLOGY
UNIVERSITY OF GHANA, LEGON

“FORGIVENESS IN PEOPLE LIVING WITH HIV/AIDS IN GHANA: AN EXPLORATION OF ITS INFLUENCE ON QUALITY OF LIFE AND IMMUNE FUNCTIONING MARKERS”

KBTH – IRB /00027/2017

Investigator: Judith Ansa Osa-Larbi

28th June, 2017, the Korle-Bu Teaching Hospital Institutional Review Board (KBTH IRB) reviewed and granted approval to the study entitled “Forgiveness in People Living With HIV/AIDS in Ghana: An Exploration of its Influence on Quality of Life and Immune Functioning Markers”

Please note that the Board requires you to submit a final review report on completion of this study to the KBTH-IRB.

Kindly, note that, any modification/amendment to the approved study protocol without approval from KBTH-IRB renders this certificate invalid.

Please report all serious adverse events related to this study to KBTH-IRB within seven days verbally and fourteen days in writing.

This IRB approval is valid till 30th May, 2018. You are to submit annual report for continuing review.

Sincere regards,

DR. DANIEL ANKRAH
DEPUTY CHAIR (KBTH-IRB)
FOR: CHAIR (KBTH-IRB)

Cc: The Chief Executive Officer
Korle Bu Teaching Hospital

The Director of Medical Affairs
Korle Bu Teaching Hospital

Appendix F: Information and Consent Form
UNIVERSITY OF GHANA



Official Use only Protocol number

Ethics Committee for Humanities (ECH)

PROTOCOL CONSENT FORM

Section A- BACKGROUND INFORMATION
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Title of Study:	Forgiveness in People Living with HIV/AIDs in Ghana: An Exploration of its Influence on Quality of Life and Immune Functioning Markers
Principal Investigator:	Judith Ansa Osae-Larbi
Certified Protocol Number	

Section B- CONSENT TO PARTICIPATE IN RESEARCH
--

General Information about Research

- The purpose of this research study is to understand how forgiveness may be relevant to the health and everyday lives of people living with HIV/AIDS. You are being asked to participate in this study because you are 18 years of age or older.
- In this study, you will be asked to complete a survey which will last about 45 - 60minutes.
- The survey will ask some questions about how you manage an offence, your views on different aspects of your life such, and some demographic questions such as your age.
- This study is in two parts. Therefore, you may be contacted to participate in a follow-up interview as part of this research, however, you do not have to participate if you do not wish to. You will only be contacted if you agree to participate and you may also withdraw from the follow-up study at any time without any penalty.

Benefits/Risk of the study

- You may not get any direct benefit from participating in this study. However, the information we learn from people in this study may help us to better provide people living with HIV/AIDS in Ghana with appropriate counseling and support. The risks for participating in this study are no greater than the risks associated with daily living. However, should participating in this study cause you to feel uncomfortable in any way, you can skip any question that you may not be comfortable answering. You can also contact the researcher for an appropriate psychological support, should you experience any discomfort as a result of

participating in this study. Also, you may stop participating in the study or refuse to participate in the study altogether. Because a breach of confidentiality could be a potential risk, you will not be asked to provide your name. Instead, a coding process with a study ID will be used to lessen this risk.

Confidentiality

- The data collected in this study will not be personally identifiable, as no name or birth date will be matched to your responses. Only your folder numbers will be matched to your responses. Data are being collected only for research purposes, identified only by an anonymous study ID number based on folder numbers. All information will be kept in password protected electronic files. Electronic files of the study data will be kept indefinitely. Access to all data will be limited to the researcher.
- The answers you provide in this study will not be passed on to anyone.
- What we find from this study may be presented at meetings or published in papers, but your name will not ever be used in these presentations or papers.

Compensation

- You will be given some refreshments as a reward for your participation in this study.

Withdrawal from Study

- You do not have to participate in this study. Participation in this study is voluntary. If you choose to participate, you may stop at any time without any penalty, loss of healthcare services, or loss of any benefits to which you are otherwise entitled. To withdraw all of your information or parts of your information from the study, you can contact the researcher at any time before completion of the study.

Contact for Additional Information

- Should you have any questions, complaints, or concerns about the research and your participation in it, contact the researcher:

Judith Osae-Larbi
Department of Psychology
School of Social Sciences
College of Humanities
P.O.Box 84. Legon-Accra
Phone: (+233) 050 404 9955
Email: jaosae-larbi@st.ug.edu.gh

- If you have any questions about your rights as a research participant in this study you may contact the Administrator of the Ethics Committee for Humanities, ISSER, University of Ghana at ech@isser.edu.gh / ech@ug.edu.gh or 00233- 303-933-866.

Section C- VOLUNTEER AGREEMENT

"I have read or have had someone read all of the above, asked questions, received answers regarding participation in this study, and am willing to give consent for me, my child/ward to participate in this study. I will not have waived any of my rights by signing this consent form. Upon signing this consent form, I will receive a copy for my personal records."

Name of Volunteer

Signature or mark of volunteer

Date

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Name of witness

Signature of witness

Date

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

Name of Person who Obtained Consent

Signature of Person Who Obtained Consent

Date

Appendix G: Study 1 Survey Measures

Questionnaire ID..... Date..... Admin ID.....

Thank you for agreeing to participate in this study. Please note that your name will **NOT** be written on this questionnaire. All the answers you provide will be kept strictly confidential and only used for academic purposes.

SECTION A

For each question, please *circle the option* that participants report best describes them

Sex	1. Male 2. Female
Age (years)	
Highest education attained	1. Primary 2. Secondary 3. Post-secondary Certificate 4. Post-secondary Diploma 5. Degree 6. Masters 7. PHD
Marital status	1. Single 2. Married 3. Living as married 4. Separated 5. Divorce 6. Widowed
Native language (e.g., Akan) <i>Please write</i>	
Religious affiliation	1. Christian 2. Islam 3. Traditional 4. None 5. Not sure
In the 7 days, how many times did you miss your HIV medication?	1. None of the time 2. Only one time 3. Two - three times 4. More than three times

SECTION B

Please provide the following information from the participant’s folder

- Are you currently on HIV medication? (please circle) Yes No
- Since when have you been on HIV medication? _____(dd)_____(mm)_____(yr)
- What HIV medication(s) are you currently on?

- When were you first diagnosed with HIV? _____(dd)_____(mm)_____(yr)
- What is your HIV Type? _____
- What was your **first CD4 count test result before** you started taking ART?

- When did you take your first CD4-cell count test? _____(dd)_____(mm)_____(yr)
- What is your **most recent CD4 count test result?** _____

9. When did you take your most recent CD4-cell count test? A) Today
B) ___(dd)___(mm)___(yr)
10. Participant's known **comorbidities** (Please write down **ALL** known comorbidities)

SECTION C

Please recall and write down a description of **what offended you most about your HIV-positive status**. After writing your most offensive HIV-specific situation, indicate the **hurtfulness** of the offense, **time since** the offense occurred, and who you feel offended you (Please do not write their names, only their relationship to you e.g., partner). If you have more than one target, state all. Please note: if you have more than one HIV-specific situation that offended you, please remember and write down **the one situation that you consider to have offended you most**.

My most offensive or hurtful HIV/AIDS-related situation: _____

Hurtfulness of offense: Please rate the hurtfulness of the offense, using the scale below. Circle your answer.

1	2	3	4	5
Very little hurt				Large amount of hurt

Time since the offense or hurt: Please estimate the time in months since the offense occurred.

The offense occurred _____ months ago

Target(s) of offense or hurt (e.g., my husband/wife, my boyfriend/girlfriend, myself, a hospital, a patient, a nurse, a stranger etc.): _____

SECTIONS D – F

Please answer the questions in ALL the sections that APPLY to your specific offense situation

- If the target of your offense/hurt **includes yourself**, please go to **Section D**
- If the target of your offense/hurt **includes another person, group of persons, or institution** please go to **Section E**
- If you feel that **God allowed** what happened in the situation you just described, please go to **Section F**

SECTION D: WHEN THE TARGET OF YOUR OFFENSE INCLUDES YOURSELF

As you think about this offense situation you just described, please **rate your agreement with each of the statements in this section based on how you currently feel** using 5-point ratings ranging from 1 = strongly disagree to 5 = strongly agree. Please **tick** the appropriate box for each statement.

	Strongly Disagree	Disagree	Agree and disagree equally	Agree	Strongly agree
1. I have decided to forgive myself.					
2. I made a commitment to forgive myself.					
3. I have made up my mind to forgive myself.					
4. My choice is to forgive myself.					
5. My choice is to release any negative feelings I have about myself.					
6. My choice is to release any negative ideas or thoughts I have about myself.					
7. I have decided not to do anything bad to myself.					
8. I have chosen not to intentionally harbor hatred towards myself.					
9. I care about myself.					
10. I no longer feel upset when I think of what I did in the situation.					
11. I feel guilt and regret for the things I did in the situation					
12. I feel sympathy toward myself					

SECTION D Continued

	Strongly Disagree	Disagree	Agree and disagree equally	Agree	Strongly agree
13. I'm angry at myself for what happened					
14. I like myself					
15. I hate what I did in the situation					
16. I feel love toward myself					

SECTION E: WHEN THE TARGET OF YOUR OFFENSE INCLUDES OTHERS

As you think about this offense situation you just described, please **rate your agreement with each of the statements in this section based on how you currently feel** using 5-point ratings ranging from 1 = strongly disagree to 5 = strongly agree. Please **tick** the appropriate box for each statement.

	Strongly Disagree	Disagree	Agree and disagree equally	Agree	Strongly agree
1. I have decided to forgive him/her/them					
2. I made a commitment to forgive him/her/them					
3. I have made up my mind to forgive him/her/them					
4. My choice is to forgive him/her/institution.					
5. My choice is to release any negative feelings have about him/her/them					
6. My choice if to release any negative ideas or thoughts I have about him/her/them					
7. I have decided not to take revenge against him/her/them					
8. I have chosen not to intentionally harbor hatred towards him/her/them					
9. I care about him/her/them					
10. I no longer feel upset when I think of him/her/ them					
11. I'm so annoyed about what he/her/they did to me.					
12. I feel sympathy toward him/her/them.					
13. I'm angry about what happened.					

SECTION E Continued

	Strongly Disagree	Disagree	Agree and disagree equally	Agree	Strongly agree
14. I like him/her/them.					
15. I hate what he/she/they did to me.					
16. I feel love toward him/her/them.					

SECTION F: WHEN YOU BELIEVE THAT GOD ALLOWED THE SITUATION

As you think about this offense situation you just described, please **rate your agreement with each of the statements based on how you currently feel** in this section on a scale of **0 (Not at all)** to **10 (Extremely)**. Please **tick** the appropriate box for each statement.

To what extent do you currently:

Not at all

Extremely

	0	1	2	3	4	5	6	7	8	9	10
1. Trust God to protect and care for you											
2. Feel angry at God											
3. Feel that God has let you down											
4. View God as unkind											
5. View God as all-powerful and all-knowing											
6. Feel loved by God											
7. Feel supported by God											
8. Feel nurtured or cared for by God											
9. Feel abandoned by God											

SECTIONS G – K

FOR ALL PARTICIPANTS: Please answer the questions in sections G – K

SECTION G

The statements in this section measure various situations we may find ourselves in. For each statement, **indicate on a scale of 1 (Strongly disagree) to 5 (Strongly agree)**, the extent to which you agree with it. Please **write** the number beside the statement.

1 = Strongly Disagree	2 = Disagree	3 = Agree and disagree equally	4 = Agree	5 = Strongly agree
------------------------------	---------------------	---------------------------------------	------------------	---------------------------

1. I can freely express my opinion to my partner or group of friends. _____
2. I feel I can count on my closest friends or partner when I need to be listened to. _____
3. I feel emotionally sheltered by my family. _____
4. If I ask for it, my friends can give me good advice for my personal development. _____
5. To be part of a group of friends allows me to know myself better. _____
6. I think that my friends give me possibilities for growth. _____
7. If I want to talk to somebody, I can turn to a friend/or my partner and he/she will listen to me. _____
8. Most of the time, solutions presented by my group of friends are useful for problems I may face. _____
9. If I have problems, my friends/partner would help me. _____
10. If something is for my own good, my family will support me. _____
11. Among my friends conflicts are promptly resolved. _____
12. My friends have been able to give affection when I needed it. _____

SECTION H

The questions under this section concern how you have been feeling over the past 30 days. Please circle the number to the right of each question that best represents or describes how you have been.

During the last 30days,	1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time
1. about how often did you feel tired out for no good reason?	1	2	3	4	5

SECTION H Continued

During the last 30 days,	1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time
2. about how often did you feel nervous?	1	2	3	4	5
3. about how often did you feel so nervous that nothing could calm you down?	1	2	3	4	5
4. about how often did you feel hopeless?	1	2	3	4	5
5. about how often did you feel restless or fidgety?	1	2	3	4	5
6. about how often did you feel so restless you could not sit still?	1	2	3	4	5
7. about how often did you feel depressed?	1	2	3	4	5
8. about how often did you feel that everything was an effort?	1	2	3	4	5
9. about how often did you feel so sad that nothing could cheer you up?	1	2	3	4	5
10. about how often did you feel worthless?	1	2	3	4	5

SECTION I

The following questions ask how you feel about your quality of life, health, or other areas of your life. For each question, **please choose the answer that appears most appropriate by circling** the corresponding number to that answer. If you are unsure about which response to give to a question, the first response you think of is often the best one. Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life **in the last four weeks.**

		Very Poor	Poor	Neither poor nor good	Good	Very good
1.	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2.	How satisfied are you with your health?	1	2	3	4	5

SECTION I Continued

		Not at all	A little	A moderate amount	Very much	An extreme amount
3.	To what extent do you feel that physical pain prevents you from doing what you need to do?	1	2	3	4	5
4.	How much do you need any medical treatment to function in your daily life?	1	2	3	4	5
5.	How much do you enjoy life?	1	2	3	4	5
6.	To what extent do you feel your life to be meaningful	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	Extremely
7.	How well are you able to concentrate?	1	2	3	4	5
8.	How safe do you feel in your daily life?	1	2	3	4	5
9.	How healthy is your physical environment?	1	2	3	4	5

		Not at all	A little	Moderately	Mostly	Completely
10	Do you have enough energy for everyday life?	1	2	3	4	5
11	Are you able to accept your bodily appearance?	1	2	3	4	5
12	Have you enough money to meet your needs?	1	2	3	4	5
13	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

		Very poor	Poor	Neither poor nor good	Good	Very good
15	How well are you able to get around?	1	2	3	4	5

SECTION I Continued

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16	How satisfied are you with your					

	sleep?	1	2	3	4	5
17	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18	How satisfied are you with your capacity for work?	1	2	3	4	5
19	How satisfied are you with yourself?	1	2	3	4	5
20	How satisfied are you with your personal relationships?	1	2	3	4	5
21	How satisfied are you with your sex life?	1	2	3	4	5
22	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23	How satisfied are you with the conditions of your living place?	1	2	3	4	5
24	How satisfied are you with your access to health services?	1	2	3	4	5
25	How satisfied are you with your transport?	1	2	3	4	5

		Never	Occasionally	Quite often	Very ofte	Always
26	How often do you feel sad, disturbed, lose hope, have no interest in things you usually enjoy?	1	2	3	4	5

SECTION J

The questions below measure a variety of behaviours. Please indicate the extent to which you may have **ever** engaged in any of the behaviours **since the offense you described above in Section A occurred**. Rate your responses from **0 (None of the time)** to **5 (All of the time)** or **NA** if not applicable.

1. Approximately how many people have you had sex with? _____
2. How often have you used condoms when having sex with your regular partners? _____
3. How often have you used condoms when having sex with casual partners? _____
4. How often have you used condoms paying for, or being paid for, sex with money? _____
5. How many times have you had anal sex? _____

SECTION K

The questions in this section measure religious practices. For each question, **please check the option or circle the number that best describes you.**

1. Which of the following best describes you at the present time (Please **circle one** option)

- a. Atheist (I do not believe in God)
- b. Agnostic (I believe we can't really know about God)
- c. Unsure (I don't know what to believe about God)
- d. Spiritual (I believe in God, but I'm not religious)
- e. Religious (I believe in God and practice religion)

2. In the past year, how often have you done the following? (**Circle one number for each line**)

	Never	Rarely	Once a month	Twice a month	Once a week	Twice a week	Almost daily	More than once a day
a. Thought about God	1	2	3	4	5	6	7	8
b. Prayed	1	2	3	4	5	6	7	8
c. Meditated	1	2	3	4	5	6	7	8
d. Attended worship service	1	2	3	4	5	6	7	8
e. Read/studied scripture or holy writings	1	2	3	4	5	6	7	8
f. Had direct experiences of God	1	2	3	4	5	6	7	8

3. Have you **ever** in your life done the following? (**Circle one number for each line**)

	Never	Yes, in the past but not now	Yes, and I still do
a. Believed in God?	1	2	3
b. Prayed?	1	2	3
c. Meditated?	1	2	3
d. Attended worship services regularly?	1	2	3
e. Read scriptures or holy writing regularly?	1	2	3
f. Had direct experiences of God?	1	2	3

Follow-Up Interview Study

In the near future, we will conduct a follow-up interview study with some of the participants who will take part in this survey research. This is to gain deeper understanding of how people living with HIV/AIDS deal with offenses specifically related to their HIV-positive status. Please indicate your interest or not in participating in the follow-up interview study by ticking the appropriate box below.

Please note: Participation in the interview study is also voluntary, any information provided will be kept highly confidential and participants' identity will be strictly protected.

<input type="checkbox"/>	Yes I am interested in the interview study. You may contact me and give me more information about the study. My telephone number: _____
<input type="checkbox"/>	No I am not interested in the interview study and would not like to be contacted about it.

THANK YOU FOR YOUR HELP!

Appendix H: Study 2 Interview Guide

Research Question	Interview Questions
<p>RQ 1: What are the HIV-specific offense experiences of PLWHA?</p> <p>Objective: Build rapport and understanding the HIV-specific offense context of forgiveness</p>	<p>1) <i>What it is like to receive a diagnosis of HIV/AIDS?</i> <u>Prompts:</u></p> <ul style="list-style-type: none"> • When did you find out that you have HIV and how do you think you got it? • What came to mind, how did you feel, or what did you do when you were first diagnosed? <p>2) <i>What has been your experience of living with HIV/AIDS?</i> [Positive?, Negative?]</p> <p><i>[IF NEGATIVE EXPERIENCES REPORTED FROM Q1 AND Q2]</i></p> <p>3) <i>What situations related to you being HIV-positive, would you consider as offensive experiences and why?</i></p> <p>4) <i>What has been your most offensive HIV-related situation?</i> <u>Prompts:</u></p> <ul style="list-style-type: none"> • What caused you the most pain when it comes to your HIV-positive status and why? • What is it like, to feel offended because of your HIV-positive status?
<p>RQ 2: What are the lived-through experiences of forgiveness of HIV-specific offenses?</p>	<p>5) <i>Looking back from when you experienced this offense, how would you describe the way you feel now?</i> <u>Prompts:</u></p> <ul style="list-style-type: none"> • Still feel offended like initially? • Completely no more of such feelings/thoughts/behaviours? • Some of those gone and some still there? <p>6) <i>What do these changes mean to you?</i> <u>Prompts:</u></p> <ul style="list-style-type: none"> • Would you say these changes you have experienced mean you have forgiven the one who offended you most? Why? • What about when you experience these changes but avoid the person? • What about when you relate well with the person but feel offended within?

Appendix H Continued

	<p><i>[IF PARTICIPANT INDICATES FORGIVENESS FROM Q5 AND Q6]</i></p> <p>7) <i>What to you is forgiveness?</i></p> <p>8) <i>What is it like, to forgive the person or situation that offended you most in relation to your HIV-positive status?</i></p> <p><u>Prompts:</u></p> <ul style="list-style-type: none"> • How do you tell that you have forgiven? • How does it feel like to forgive this offender? • How did you move from feeling offended to forgiving the offender?
<p>RQ3: What does forgiveness of HIV-specific offenses mean to PLWHA?</p>	<p>9) <i>What does it mean to you to forgive the person or situation that offended you most when it comes to your HIV-positive status?</i></p> <p><u>Prompts</u></p> <ul style="list-style-type: none"> • How has forgiving your most offensive HIV-related experience influenced your life? • Positive? Negative?
<p><i>Understanding experiences of unforgiveness of HIV-specific offenses</i></p>	<p><i>[IF PARTICIPANT INDICATES UNFORGIVENESS IN RESPONSE TO Q5 AND Q6]</i></p> <p>1) <i>How does it feel like to presently be offended over the situation?</i></p> <p>2) <i>Why do you think you feel just as offended as when the situation first happened?</i></p> <p>3) <i>What does it mean to you to be feeling offended currently?</i></p> <p>4) <i>[Justified, burdened, satisfied?]</i></p> <p>5) <i>What do you think a change or reduction in how offended you currently feel would mean to you?</i></p> <p><u>Prompts</u></p> <ul style="list-style-type: none"> • Would forgiving be beneficial to any aspects of your life? If so how? • Would forgiving have negative effects on any aspect of your life? If so how? <p>6) <i>What do you think may bring about any change or reduction in how hurt you currently feel?</i></p>

Appendix I: Dummy-Coded Categorical Variables

1. **Gender** (1: Male, 2: Female)

Dummy codes:

Male = 0

Female = 1

2. **Education** (1: No education, 2: Primary education, 3: secondary education, 4: all post-secondary education).

Dummy codes:

Primary education	Secondary education	Postsecondary education
1 = 0	1 = 0	1 = 0
2 = 1	2 = 0	2 = 0
3 = 0	3 = 1	3 = 0
4 = 0	4 = 0	4 = 1

3. **Marital status** (1: unmarried status including single, divorced, separated, 2: married or cohabiting status)

Dummy codes:

Single, divorced, separated = 0

Married, cohabiting = 1

4. **ART Regimen** (1: TDF, 3TC, EFV, 2: others)

Dummy codes:

All others = 0

TDF, 3TC, EFV = 1

5. **Hurtfulness of offense** (1: Little to moderate hurt, 2: Large to extreme)

Dummy codes:

Little to moderate = 0

Large to extreme = 1

6. **Condom use behaviours** [0: use condoms always or practice abstinence (low risk behaviour) – 5: use condoms some or none of the time (high risk behaviour)]

Dummy codes:

Low risk condom behaviour (mean score of 0) = 0

High risk condom behaviour (mean score ≥ 1) = 1

7. **Multiple sexual partner behaviours**

Dummy codes:

Low risk behaviour (≤ 1) = 0

High risk behaviour (> 1) = 1

ADHERENCE?

Appendix J: Regression Outputs from Additional QOL Findings

Intrapersonal Forgiveness, Physical Health, and Environment Domains of Quality of Life

Summary Results of Intrapersonal Forgiveness Regressed on Physical Health Domain of Quality of Life

Model	Unstandardized Coefficients		Standardized Coefficient	t	Sig
	B	Std. Error	Beta		
Constant	43.00	15.95		2.70	.008
Emotional forgiveness of self	0.20	.39	.06	.52	.607
Decision to forgive self	0.79	.45	.19	1.76	.082

N= 91, F =2.074, p=.132; R² = .045

Summary Results of Intrapersonal Forgiveness Regressed on Environmental Domain of Quality of Life

Model	Unstandardized Coefficients		Standardized Coefficient	T	Sig
	B	Std. Error	Beta		
Constant	51.38	14.16		3.63	.000
Emotional forgiveness of self	0.23	.35	.07	.65	.518
Decision to forgive self	0.15	.40	.04	.39	.699

N= 91, F =.382, p=.684; R² = .009

Interpersonal Forgiveness and Physical health and Environment domains of Quality of Life

Summary Results of Intrapersonal Forgiveness Regressed on Physical Health Domain of Quality of Life

Model	Unstandardized Coefficients		Standardized Coefficient	T	Sig
	B	Std. Error	Beta		
Constant	56.12	6.92		8.17	.008
Emotional forgiveness of other	0.46	.26	.16	1.74	.083
Decision to forgive other	0.11	.26	.04	.43	.671

N= 191, F =3.15, p=.045; R² = .032

Summary Results of Intrapersonal Forgiveness Regressed on Environmental Domain of Quality of Life

Model	Unstandardized Coefficients		Standardized Coefficient	T	Sig
	B	Std. Error	Beta		
Constant	48.22	6.67		7.23	.000
Emotional Forgiveness of self	0.21	.25	.07	.83	.409
Decision to forgive self	0.25	.25	.09	1.00	.317

N= 191, F =2.064, p=.130; R² = .021

Spiritual Forgiveness and Physical Health and Environment Domains of Quality of Life

Summary Results of Spiritual Forgiveness Regressed on Physical Health Domain of Quality of Life

Model	Unstandardized Coefficients		Standardized Coefficient	T	Sig
	B	Std. Error	Beta		
Constant	67.96	14.46		4.70	.008
Positive attitudes toward God	1.30	1.53	.13	.85	.402
Negative attitudes toward God	-1.08	.79	-.21	-1.37	.179

N= 43, F =1.596, p=.236; R² = .070

Summary Results of Spiritual Forgiveness Regressed on Environmental Domain of Quality of Life

Model	Unstandardized		Standardized	T	Sig
	Coefficients		Coefficient		
	B	Std. Error	Beta		
Constant	64.98	16.12		4.03	.000
Emotional forgiveness of Self	0.08	1.70	.01	.05	.961
Decision to forgive self	-0.37	.88	-.07	.68	.317

N= 43, F =.093, p=.911; R² = .005

Appendix K: Spreadsheet of Data Collated from Systematic Review Papers

FIRST AUTHOR	STUDY OBJECTIVES	THEORY	DESIGN AND SAMPLE	VARIABLES & FORGIV. MEASURES	ANALYSIS	KEY FINDINGS	AUTHOR EXPLANATIONS
Chandra et al. 2009	Examined gender differences in QOL among HIV1-PLWHA using the locally validated version of the WHOQOLHIV 120	None	Cross-sectional cohort survey 109 HIV+ people (M=50). Mage= 29.83(5.22). 14 on ART excluded from study	IV: Gender DV: QOL (Inc. Fg), CD4 count, ART use, Fg and blame facet on Spiritual/ Religious and personal beliefs domain of the WHOQOL120	Chi-square, student t-test, item analysis	Women reported greater Fg on Fg & blame facet of WHOQOLHIV-120 Younger & married women reported greater Fg.	Possible higher secondary transmission among women as many forgive unfaithful and at risk husbands
Gates, 2003	Examined how the constructs of dispositional forgiveness, maladaptive coping, and stigma relate to one another to influence psychosocial QOL indicators.	Lazarus & Folkman Transactional model of stress and coping	Cross-sectional correlational design 277 HIV+ people (M=138). Mean age: 41.6 (SD=8.4) ART: not mentioned	IV: Dispositional Fg (DF) DV: Stigma, QOL MV: COPE scale Heartland Forgiveness Scale	Structural regression modelling	1) Maladaptive coping fully mediated DF and perceived stigma assoc. and between DF and QOL. DF assoc. with lesser use of maladaptive coping (MC). MC increased experience of stress-related stigma and reduced QOL.	DF works through coping to alter perceptions of stigmatization. DF indirectly influences attitudes related to QOL. More cross-cultural More validation evidence needed.
Ironson et al. 2011	Examined association between negative/positive view of God and CD4 count changes and VL changes	None	Prospective longitudinal study 101 HIV+ people (M=63%) seen every 6 months for 4 years. 80% on ART at study entry.	IVs: Positive View of God and negative View of God DVs: CD4 cell and VL changes MVs: Mood, SS, ARTA, SRB, SU, View of God Inventory	Hierarchical Linear Modeling (HLM)	After 4yrs and after controlling for MVs: Greater PVG = higher CD4 and lower VL. Greater NVG = lower CD4 and higher VL	Individuals with negative view of God, may be encouraged to seek a supportive context for spiritual growth and support.

*Fg=forgiveness

Appendix K Continued

FIRST AUTHOR	STUDY OBJECTIVES	THEORY	DESIGN AND SAMPLE	VARIABLES & FORGIV. MEASURES	ANALYSIS	KEY FINDINGS	AUTHOR EXPLANATIONS
Kaldjian et al. 1998	Spiritual/Religious beliefs and practices of HIV+ patients that affect their approach to end-of-life decisions.	None	Descriptive CS survey 90 inpatient HIV+ patients (M= 54), Mage =34yrs	S/R beliefs and practices Death, Suicide, and end of life decisions including earlier resuscitation discussions with physician A 100-item questionnaire	Pearson's Chi-Square test	81% of believed in God's Fg. Prior resuscitation discussions more likely in those who believed in God's Fg. Fear of death more likely in those who perceived HIV as punishment or felt guilty about having HIV.	Spiritual beliefs may either enhance or diminish an HIV-positive patient's ability to discuss end-of-life decisions
Martina et al. 2012	Examined the main and interactive effects of attachment style and forgiveness on indicators of quality of life of HIV adults	Lazarus & Folkman Transactional model of stress and coping	CS design 288 (HIV+ adults M= 147) Mage=41.7 (SD=8.62) 72% on ART 49% with AIDS diagnosis	IV: Attachment style DV: QOL domains MV: Forgiveness of self Heartland Forgiveness Scale-	Pearson r and Hierarchical multiple regression (HMR)	Self-Fg & Other-Fg corr. with all QOL domains. Only self-Fg predicted pain & role fxn. >attachment anxiety: >Other-Fg and >QOL-Pain, >Self-Fg > improved health.	In HIV+ adults, whether a Forgiveness intervention outcome would promote health may be dependent on attachment style.
Muhomba, 2008	Relationship bet HIV/AIDS-related stigma and the process of forgiveness from the perspective of individuals living with HIV/AIDS.	None	CS survey 112 HIV+ patients	Stage 1 and 3 state forgiveness Perceived family stigma, perceived society stigma, internal stigma, trait forgiveness, ethnicity, sexual orientation	Multiple regression analysis	Internal stigma, trait Fg, and perceived family stigma assoc. Stage-1 State Fg. Trait Fg., ethnicity, and sexual orientation predicted Stage-3 State Fg. Perceived family stigma mediated societal stigma and Stage-1 State Fg	African Americans reported more HIV/AIDS-related stigma and less Fg. which may imply a need for more evidence gathering on Fg. and potential HIV-related stressors in African populations

*Fg= forgiveness

Appendix K Continued

FIRST AUTHOR	STUDY OBJECTIVES	THEORY	DESIGN AND SAMPLE	VARIABLES & FORGIV. MEASURES	ANALYSIS	KEY FINDINGS	AUTHOR EXPLANATIONS
De La Cruze, 2009	Explores 1) Correlates of desire for another child 2) Predictors of contraceptive use and consistency between contraceptive practices and fertility desires	The Fertility Decision-Making model, or Traits-Desires-Intentions-Behavior (TDIB) framework	Cross-sectional survey? 96 predominantly black sample of HIV+ women (44 sexually active)	IV: Current parenting experiences Inc. Fg. DV: Child bearing desires and contraceptive use	Multivariate analysis	a forgiving disposition, parity, child-related stress, and past 30 day alcohol use were sig. associated with various indicators of contraceptive use to prevent pregnancy	Important to apply TDIB framework in fertility related issues
Wald & Temoshok, 2004a	Examined association bet religious involvement and forgiveness and QOL, life stress, health behaviours, and depression	None mentioned in abstract	CS vignette survey 131 HIV+ adult patients in an Inner-city HIV clinic, M=56% Mage=42.4 yrs 91% African American	IVs: Religious involvement and Forgiveness DVs: QOL, life stress, health behaviours, and depression	Not specified	Fg. Correlated with fewer depressive symptoms, life stressors. Higher QOL more than religious involvement in each case. Fg associated with decreased unprotected sex	Spiritual factors conferred benefits both on the individual's mental health and on the well-being of society, as indicated by decreased transmission risk.
Wald & Temoshok, 2004b	Examined associations between feeling forgiven/unforgiven and ART adherence	None mentioned in abstract	CS vignette survey 91 PLWHA on ART (sub-sample of Wald & Temoshok, 2004a)	Forgiveness (feeling forgiven/unforgiven) ART adherence Vignette Similarity Rating method	Not specified	Feeling unforgiven by important others was associated with significantly more missed doses of medication in the previous week.	Because near perfect adherence is required for successful HIV treatment, participants feeling unforgiven are at an increased risk of treatment failure and faster disease progression.

*Fg= forgiveness

Appendix K Continued

FIRST AUTHOR	STUDY OBJECTIVES	THEORY	DESIGN AND SAMPLE	VARIABLES & FORGIV. MEASURES	ANALYSIS	KEY FINDINGS	AUTHOR EXPLANATIONS
Owen et al. 2011	Explores the relationship of forgiveness and immune markers (CD4 cell%) in PLWH	None specified	CS survey? 64 PLWHA (57 for HLR) Mage=44.68 (9.97), 81% non-white	IV: Forgiveness DV: CD4 cell percentages MV: Gender, race, age, years HIV+, education, medication adherence, substance use, VL Erigh Forgiveness Inventory	Bivariate (Pearson's correlation) and Hierarchical Linear regression	Greater forgiveness was significantly associated with higher of CD4 cell % (r=.256, p=.042) 2) Association remained significant after controlling for sociodemographic variables, health behaviours, and VL (β= .263, p=.034)	Forgiving others may be beneficial for health among PLWHA. 2) Supports the inclusion of forgiveness in interventions for PLWH
Ridings et al. 2008	Predict that forgiveness, as an adaptive coping strategy, will be associated with lower levels of depression and will also moderate the relationship between perceived HIV-related stigma and depression	Lazarus and Folkman's stress and coping model	Questionnaire development system survey	IVs: HIV-related Stigma, Forgiveness DV: Depression MV: Forgiveness Heartland Forgiveness Scale	Univariate, Bivariate, Linear regression	1) Higher levels of perceived stigma assoc with higher levels of depress., 2) Higher levels of Fg. assoc. with lower levels of depress., 3) Higher levels of Fg. assoc. with, lower levels of HIV-related stigma . 4) Fg. did not moderate the relationship between Stigma and depression.	1) Nonmoderating effect of Fg. on the HIV-related stigma and depression link could be due to small sample size 2) Learning and applying Fg. coping techniques may help reduce depress. and HIV-related stigma
Hua, 2012	Forgiveness intervention on self- and other-forgiveness	Lazarus and Folkman transactional model of stress and coping	RCT 57 HIV+ adults	IV: Forgiveness DV: HIV-related Stigma	T-tests, ANOVA, Multiple regression analysis	Overall, Fg intervention not effective in reducing overall HIV-related stigma. Yet, self-Fg was better predictor of HIV-related stigma than Other-Fg.	HIV-related stigma is likely more complex than originally conceptualized. More improved interventions need.