Resilience, Social Capital, and Well-Being:

A Cross-Sectional Study in a Context of Adversity

Anette Arnesen

Master of Philosophy in Psychology

Department of Psychology

UNIVERSITY OF OSLO

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Abstract

An important and recurrent attribute in resilient individuals is the value they place in relationships to others, and the quality of these relationships, and it was of interest to investigate how the concept of resilience was related to social capital. Resilience and social capital are associated with good outcomes and well-being, although individual and cultural differences exist. An essential topic in the resilience research is the prevention of maladaptation in individuals at risk. Therefore, to be able to handle adversities in a satisfactory way, it is important to gain knowledge of common individual and environmental factors of resilient individuals. The purpose of this explorative study was to investigate how resilience, social capital and subjective well-being were related in individuals in adverse life circumstances. It was assumed that higher levels of resilience would be associated with higher levels of social capital and subjective well-being. The participants were 269 HIV-positive, poor, black South Africans. Three questionnaires were administered, measuring 1) resilience in adults, 2) structural and cognitive social capital elements: groups and networks, trust and solidarity and collective action and social cohesion, at bonding, bridging and linking levels, and 3) subjective well-being. Several elements of resilience and cognitive social capital were associated, at all levels of social capital. Cognitive social capital was associated with subjective well-being, however, resilience was not. Instead, objective measures of well-being were associated with being resilient. Interestingly, for individuals that had a positive and optimistic view of the future, subjective well-being was central. Possible implications are discussed.

Introduction

The aim of this paper was to explore how the multidimensional concepts resilience and social capital were related to each other, and how they were related to well-being. It is essential to look at ways to improve and promote attributes in individuals who are exposed to risks, and improve structures, features and social networks in their environments, as this may promote and lead to improved mental health and well-being (Borge, 2005, 2007; Bromley, 2005; Pinkerton & Dolan, 2007). In this study the informants are HIV-positive, poor, black women and men from KwaZulu-Natal, South Africa living in adverse circumstances.

A Context of Adversity

HIV/AIDS in South Africa. It has been estimated that between 31 and 36 million people worldwide are infected with the HIV virus, and that AIDS has killed more than 25 million people since its official discovery in 1981 and until 2006 (UNAIDS/WHO, 2008). Approximately one third of the deaths from AIDS have occured in sub-Saharan Africa, and in this part of the world alone it is estimated that between 21 and 28 million people are currently infected with HIV. According to the most recent UNAIDS (2008) report, it is estimated that the number of people living with HIV/AIDS in South Africa is approaching a staggering 6 million, with the majority being black South Africans. This makes it the country with the largest number of HIV-positive people in the world, and it is also the country with the fastest growing rates of infection (UNAIDS/WHO/UNICEF, 2008). The national estimated prevalence of HIV in adults is about 17%, however, there are large differences between the provinces of the country, and between urban and rural areas. KwaZulu-Natal, which is the province where the current study took place, is one of the hardest hit regions with a prevalence of over 19%. The government has been blamed for their ineffective response to the country's HIV/AIDS epidemic, and they long denied that there was a connection between HIV and AIDS and that AIDS even existed.

HIV/AIDS and Adversity. Extensive research has acknowledged that acquiring and living with an HIV/AIDS diagnosis is stressful and traumatic for an individual, and can compromise the person's well-being (Barroso, 1997; Kalichman, Sikkema, DiFonzo, Luke, & Austin, 2002). Compared to several other chronic illnesses, HIV/AIDS is still unparalleled by the stigma and controversy that follows with it, which from the beginning of the epidemic played a great role, especially in regards to disclosure of one's HIV status (Whetten, Reif,

Whetten, & Murphy-McMillan, 2008). In sub-Saharan Africa, the mode of HIV transmission is primarily heterosexual, and in a study carried out in South Africa both gay and straight individuals reported high levels of internalized stigma, social isolation and discrimination (Cloete, Simbayi, Kalichman, Strebel, & Henda, 2008). Several studies have reported that it is relatively common that HIV-positive individuals report higher prevalence of other risks and traumatic experiences, including sexual assaults, mental and life-threatening illnesses (other than HIV), than the general population and people with other chronic diseases, and these factors were prevalent among HIV-positive individuals regardless of gender and ethnicity (Green et al., 2000; Leserman et al., 2007; Olley, Seedat, & Stein, 2006; Whetten et al., 2008; Williams et al., 2007). HIV-positive individuals also frequently report a lack of trust in the healthcare system and in the government (Whetten et al., 2008). This was also found in South Africa, where cumulative risks and adversity was associated with poorer well-being and health outcomes (Olley et al., 2006; Williams et al., 2007). However, as risks factors frequently coexist it is difficult to isolate them and determine what their individual effect on well-being and health outcomes are. In their US study, Leserman et al. (2007) found that HIV-positive people that reported more categories of traumatic events had an increased risk for all-cause and HIV-specific mortality. The authors imply that the amount and severity of risk factors affects the impact of psychosocial factors on mortality in HIV-positive people.

According to Rutter (1990), risks and traumatic events should be considered in relation and context to other experienced risks and strains. Cumulative risks means that new problems are added to previously unresolved problems (Borge, 2005), and if more psychosocial risk factors are present and working together, there is greater chance of psychopathology (Goldstein & Brooks, 2005; Rutter, 1990, 1994). A history of risks and traumatic experiences and the way a person dealt with previous risks, can affect how a person deals with new risks, both positively and negatively (Borge, 2005). This is particularly important to take into consideration when involving samples from developing countries, as it is likely that individuals in such countries have been exposed to several risks and adverse experiences during their lifetime (Borge, 2005; Leserman et al., 2007; Whetten et al., 2008). This may have lifelong effects on individuals' health and behaviour. Knowledge about possible psychosocial factors related to being HIV-positive is important, as it can increase well-being among those who are infected (Kalichman et al., 2002).

Throughout South Africa's history, adversity and hardship has been and still is deeply rooted in society, and the recent Apartheid state-sponsored violence and struggle for liberation has contributed to what some refer to as a 'culture of violence' (Williams et al., 2007). It is a developing country, which is characterized by high rates of crime, including murder, assault, rape, robbery, political violence, violence against women and domestic violence (Gilbert, 1996; Williams et al., 2007). In addition, poverty is still widespread in the country, with nearly half of all South Africans living below the international poverty line in 2000 (Gilbert & Walker, 2002), and after the poverty line was raised in 2005, up to 25% of South Africans were according to The World Bank (2008) labelled poor. Large contrasts exist within the nation, with disparities in living conditions between different socio-economic groups, in particular between rural blacks, urban blacks, coloured people, Asians and whites (Møller & Saris, 2001). Black South Africans who live in rural areas mainly live in poverty-stricken townships and informal settlements characterized by bad housing, scarce supply of electricity and running water, and high unemployment and crime rates (Hirschowitz & Orkin, 1997; Møller & Saris, 2001; Williams et al., 2007). These are adversities the informants of our study have to live with, in addition to being HIV-positive.

People infected with HIV view the illness in diverse ways and live with it differently, and this is important in regards to well-being. Some look at HIV as a death sentence, while others view it as a chronic disease which is manageble, and the latter group of people are able to see that they can still live a long and good life with the illness (Barroso, 1997; Farber, Schwartz, Schaper, Moonen, & McDaniel, 2000). Several studies have shown that there are some common features among people that are able to live a good quality life despite, or in the midst of, strain and adversity (Barroso, 1997), and these individuals can be considered resilient (Borge, 2005, 2007; Bromley, 2005; Cederblad, 1996a; Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003; Goldstein & Brooks, 2005; Rutter, 1990, 1993, 1994, 2006; Werner, 1992).

Resilience

The study of resilience is rather new and in the last 20-30 years the research has expanded a lot in the clinical, preventive, as well as in the research field (Borge, 2007). Within the materials sciences, resilience is defined as a material's ability to resume its original shape or position after being stretched, spent or compressed (Goldstein & Brooks, 2005). Parallels can

be drawn to the initial view on the phenomenon within the psychology field, where the focus was the *absence* of clinical diagnosis or psychological problems over time, in the face of stress and adversity.

Within the psychology field at present time, resilience is considered a concept of interplay which is complex and multidimensional, and it refers to the ability to overcome and handle stress and strain that experiences of risk bring (Borge, 2007; Rutter, 2006). Wright and Masten (2005) think of resilience as an individual's pattern of positive adaptation in the context of past or present adversity. It can also be looked upon as an interaction between risk factors (vulnerability) and protective resources (protection) (Ahern, Kiehl, Sole, & Byers, 2006). There is no golden standard for defining resilience, as different researchers and theorists emphasize various dimensions and aspects, and in addition it must be seen in relation to the cultural norms of a society (Borge, 2007). According to Rutter (2006) resilience reflects a dynamic transaction between personality traits and environmental factors. People's vulnerability and susceptibility to risk and strain in the environment is influenced by their genetics, however, it is also influenced by the environment and by previous experiences.

Resilience is inextricably linked to strain and adversity and it cannot be developed by avoiding the strain, instead resilience can be described as a controlled handling of strain that a person is confronted with (Borge, 2007). During a confrontation with serious adversities, various psychological processes, which are basic human adaptational processes (Masten, 2001), start within the individual. These processes can 'transform' the strain and adversity into an effect, and this effect can manifest itself in the individual as either a worsening or an improvement of the mental health. A controlled handling results in protection, and adaptation or development is successful in the face of adversity, while a less successful handling can lead to increased vulnerability and struggle (Borge, 2007; Masten, 2001). Although several definitions of resilience exist, theorists agree that there are some requirements that need to be met before one can identify a pattern of adaptation as resilient. The first requirement is that a) there must have been a significant threat or risk to the adaptation of the individual, and b) despite the exposure to the threat, the current or eventual adaptation or adjustment of the individual is *satisfactory*, by some selected set of criteria (Borge, 2005, 2007; Masten, 2001; Wright & Masten, 2005).

To define risks, protective factors and common characteristics among resilient individuals is not an easy or simple task, as they are likely to be very different in their presentation and impact on different individuals (Rutter, 1990, 1993). Even though individuals have been exposed to apparently similar risks, they can have completely different outcomes. Rutter (1994) pointed out that the outcome is determined by the relative balance and interaction of risks and protective factors, and the more risk factors present, the more likely it is that the outcome will be adverse (Goldstein & Brooks, 2005; Rutter, 1990, 1994).

A Positive Perspective: Protective Factors. Research on resilience has taken a new approach in the last decade of a combination of reducing the risks as well as promoting protective factors to guard individuals from harm (Borge, 2005, 2007; Rutter, 1993). An increasing number of researchers have become interested in focusing on the variables that *predict* and *promote* resilience in the face of adversity, instead of exclusively focusing on the *absence* of psychopathology. Several studies have contributed to identifying resources and factors across resilient individual's lives that can help to predict successful adjustment when exposed to trauma and adversity. In an effort to create a 'resilient mindset' (Goldstein & Brooks, 2005), researchers have started the process of developing models of how protective factors can promote adaptation and allow for effective application and intervention for individuals that are not showing signs of resilience, and not only to increase positive outcomes for those directly at risk (Goldstein & Brooks, 2005; Luthar, Cicchetti, & Becker, 2000; Masten et al., 1999; Rutter, 1994; Werner, 1992). One of the most important topics in resilience research is, however, the prevention of maladaptation in individuals that are at risk. Therefore, it is important to know and understand which attributes, both individual characteristics and environmental factors, which need strengthening, in order to be able to grow and learn from adversities. It is, nevertheless, important to state that not all individuals who are exposed to risk and adversity will develop resilience. Those that don't develop resilience need help and therapy, and this help can improve if we are able to understand processes that facilitate and promote resilience (Borge, 2005, 2007).

Common Attributes of Resilient Individuals. Longitudinal studies, such as the Kauai study (Werner, 1992), covering four decades, and the Lundby study (Cederblad, 1996b), covering five decades, are some of previous studies that have identified attributes that seem to be common among resilient individuals who have been exposed to and overcome adversity in a satisfactory way. These attributes can be divided into three dimensions, or resources, of

protective factors that emerge as recurrent. These are 1) *dispositional / psychological attributes* of the person, which predominantly elicit positive responses from the environment (e.g. a mother's positive outlook on the future in a family facing adversity), 2) *socialization practices / family support and cohesion*, that elicit e.g. trust, autonomy, initiative, and connection to others, and 3) *external support systems* in the neighbourhood and community that can help to e.g. reinforce self esteem and self-efficacy (Borge, 2005; Friborg, Barlaug, Martinussen, Rosenvinge, & Hjemdal, 2005; Friborg et al., 2003; Goldstein & Brooks, 2005). These three dimensions are overall the most significant determinants of a healthy adjustment to risk and stress. Others have also pointed out high sociability, high self-efficacy and a sense of meaning and coherence, as important attributes (Antonovsky, 1988; Bromley, 2005; Werner, 1992). The dispositions and attitudes of resilient individuals often promote supportive relationships with others in return (Borge, 2005, 2007; Rutter, 1994, 1999, 2006). Particularly the two latter dimensions emphasize that "man is not an island" (John Donne, 1572-1631), and that we live in environments where we interact with and are affected by other people every day. Social relations, cohesion and support from family and friends, and having a well-functioning external support system is important in regards to developing resilience. One of the most important and recurrent attribute in resilient individuals is the value they place in relationships to other people, and the quality of these relationships (Morland, Butler, & Leskin, 2008). This subjective quality of the relationships in a person's life, the number of relationships he or she has, the characteristics of the relationships, and the way an individual deals with adversity and stress, reinforce one another and are all associated with good outcomes and well-being (Bromley, 2005). These attributes can also be described as part of an individual's social capital.

Social Capital

In recent years social capital has become an increasingly popular topic in the area of health research, and has been used to describe several phenomenon concerning social relations at both individual and societal levels (Bourdieu, 1986; Macinko & Starfield, 2001; Putnam, 1993). Several understandings and definitions of social capital exist and overlap, and this has resulted in a rather vague and diffuse use of the concept. For the purpose of this study, it is described as the norms and networks that enable people to act collectively (Woolcock & Narayan, 2000), and the resources that are embedded in social structures, which are accessed and mobilized in purposive actions (Kim, Subramanian, & Kawachi, 2006). Adopting The

World Bank Group's (2009) definition, social capital is the relationships, institutions, and norms that shape the quantity and quality of a society's social interactions. These three overlapping definitions serve several purposes, as the focus is on the sources, as opposed to the consequences, of social capital. In addition, they allow for an incorporation of several dimensions of social capital, which different communities can have access to either many or few of. Social capital can be described both as an individual and social phenomenon. The most notable disagreement between theorists and researchers is on how much of the emphasis is being put on the individual versus the social groups. Proponents of the individual view claim that social capital is a property of the individual. The person's individual relationships give him or her access to the resources in the community, and these relationships define social capital. This view regards the impact of the individual participating in a network, and the individual's *perception* of the quality of the social relationships, as the most important feature. Opposing the individual view is the social view, claiming that social capital relates to groups and areas, and is a property of the group and not the individuals. This view considers the impact of the networks and the quality of social relationships, irrespective of membership of those networks, as the most important. According to this direction, social capital is *embodied* in the relationships between individuals, groups, and more abstract organizations and associations, e.g. the state or national government (Bourdieu, 1986; McKenzie & Harpham, 2006a; Silva, Huttly, Harpham, & Kenward, 2006; Silva, McKenzie, Harpham, & Huttly, 2005). The current study take a holistic approach to social capital, as there is a reciprocal and complex relationship between the individual and the groups that the individual is a part of (Silva et al., 2005). The level of social capital in a community is determined by the social capital of the residents, and an individual's social capital is influenced by what is available to them in the community. This allows the two views to not only co-exist, but to complement each other (Macinko & Starfield, 2001; Silva et al., 2006; Silva et al., 2005).

Structural and Cognitive Social Capital. Another commonly used distinction is between structural versus cognitive social capital. The differentiation is not clear-cut, however, the two dimensions have different relations with health outcomes (Kawachi, Subramanian, & Kim, 2008b; Mitchell & Bossert, 2007). Structural social capital can be looked upon as operating on the community's health and well-being. It refers to the size and intensity of associational links, networks or activities that link people and groups together (Silva et al., 2006). These can, crudely, be measured numerically and through analysis of linkages and network density, and are as such the more objective organisational structures.

Cognitive social capital can be looked upon as operating on individual health outcomes. It is more intangible and refers to the individual's perceptions of the quality of social relationships, such as trust, social support, sharing, reciprocity, values, norms, altruism and civic responsibility. This is often referred to as 'collective moral resources', which is the more subjective perceptions of the available social capital (Kawachi et al., 2008b; McKenzie & Harpham, 2006a, 2006b; Poortinga, 2006; Silva et al., 2006).

Elements of Social Capital. Social capital consists of several elements or sub factors. According to The World Bank Group (2009), these are: *groups and networks, trust and solidarity, collective action and social cohesion, norms and reciprocity, empowerment and political action,* and *information and communication.* Social capital operates on different levels within these factors, namely on bonding, bridging and linking level. For the purpose of this study we will look at the elements: *groups and networks*, *trust and solidarity*, and *collective action and social cohesion,* as they capture structural as well as cognitive social capital.

Groups and Networks. In any measure of social capital, one of the most important areas is to identify the structure of the social relations of individuals. As such, groups and networks make up the structural social capital in the present study, and it is often described as the number of ways an individual has to access resources. In this description there is an expectation that having more ties increases the likelihood of accessing various resources. However, it is important to bear in mind that there are large differences in the various kinds of ties, e.g. formal versus informal, and the type and nature of resources they give access to (Foley & Edwards, 1999). While the quantity of network ties increase an individual's opportunities to access resources, the quality and significance of these ties are equally important, as one single tie might be sufficient to gain access to a crucial resource. As such, the latter makes up the cognitive social capital aspect in groups and networks. In this sense, social capital can be conceived of as access, or networks, plus resources (Bourdieu, 1986; Foley & Edwards, 1999; Portes, 1998). People form groups and networks, and these are formed and maintained based on e.g. common beliefs, values, faith, ancestry, residence, or other factors. The groups can provide support for members, sharing of information, and joint work to achieve goals that individuals in isolation would not be able to accomplish (Macinko & Starfield, 2001).

Trust and Solidarity. A central feature of the social capital concept is the element of trust, which can be described as cognitive social capital. It reflects features of social capital that are more difficult to measure objectively, and in addition to being part of social capital itself, it can be seen as a pre-disposing factor for social capital. Cognitive elements can predispose individuals to certain actions and behaviour (Harpham, 2008). Trust is a relational phenomenon that enhances cooperation, and in addition includes the expectation that an individual, group or institution will act completely, fairly, openly, and with concern (Mohseni & Lindström, 2007). Trust can be divided mainly into two levels, vertical and horizontal, or generalized, trust. Vertical trust is the citizens' trust in the institutions of the society, while horizontal trust is a general trust in other people. Within and accross nations there are large differences between levels of trust (Foley & Edwards, 1999; Newton, 1999).

Collective Action and Social Cohesion. Collective action is more of an output measure, and is culture specific. According to Harpham (2008) it is only useful if a significant amount of social capital is available to the members of a community (Harpham, 2008; Kawachi, Subramanian, & Kim, 2008a). Collective action, or collective efficacy, is a counterpart of individual efficacy, and refers to the willingness of residents of a community to act or intervene to achieve a common good (Kawachi et al., 2008a). This factor has both a structural and cognitive dimension, as according to the theory of collective action or efficacy, it is thought to depend on the presence of mutual trust and solidarity among neighbours (social cohesion), and expectations for action (informal social control). In addition to informal control over deviant behaviour, the impact of neighbourhood structural factors is thought to influence residents' health and well-being outcomes via the residents' ability to extract resources and respond to issues concerning them as individuals and as a groups, like e.g. threatened cuts in public services (Kawachi et al., 2008a).

Levels of Social Capital: Bonding, Bridging, and Linking. Social capital is operating on three different levels, and these are referred to as bonding, bridging, and linking, which all are important for health and well-being outcomes (McKenzie, 2006; Mohseni & Lindström, 2007). *Bonding social capital* is links between individuals of similar status, and is characterized by homogeneity, loyalty, strong norms and exclusivity. It relies on strong, mutual ties and is common in intra-groups, like e.g. a family unit, friends, or small close-knit groups who need mutual support (McKenzie & Harpham, 2006a; Silva et al., 2006). Bonding

social capital is especially important for social support, and for mobilizing solidarity, and in particular for residents in disadvantaged communities, where high levels of mutual support are primary mechanisms for 'getting by' (Kawachi et al., 2008a). *Bridging social capital* links people and groups of dissimilar status and is generally more outward focused. The ties between people are usually weaker and more fragile than in bonding social capital, like e.g. between work colleages. The relationships are between individuals in different structural positions of power and can refer to links up as well as and down (Kawachi et al., 2008b; Silva et al., 2006). This level is important as it provides solidarity and respect between people and groups across a social spectrum. It can be described as a 'superglue', which connects different groups in the community, and can therefore contribute to common action and enable people to not only 'get by', but 'get ahead' (Harpham, 2008). *Linking social capital* is links between unlike people in dissimilar situations, and in different power levels. This is the relations between civil society and e.g. the state, where individuals interact across explicit power and authority gradients. This level is important as it can give people a wider range of resources than what is available in the community, and is important when it comes to e.g. the mobilisation of political institutions and political will to change socioeconomic factors (Kawachi et al., 2008b; McKenzie & Harpham, 2006a; Poortinga, 2006; Silva et al., 2006; Sreter & Woolcock, 2004).

A growing number of researchers are investigating the social determinants of health, documenting the importance of social capital and resilience in several different fields, and in particular in regards to mental health and well-being (Bromley, 2005; Pinkerton & Dolan, 2007; Woolcock & Narayan, 2000).

Well-Being

Until the mid 1900, mental health was typically viewed in negative terms. This was most likely due to psychology's previous root in the medical model of health and illness, where absence of psychopathology and mental illness meant that a person had positive well-being (Greenspoon & Saklofske, 2000). The Israeli sociologist Antonovsky introduced the term salutogenesis, which is a perspective where one focuses on and wish to find out what keeps us and make us healthy, as opposed to pathogenesis, which explains illness and focuses on what makes us ill (Antonovsky, 1988). Growing interest in the field suggests that mental health and mental illness should be considered two separate yet related constructs, and positive well-being and mental health is nowadays considered more than the mere absence of illness and

problems. Well-being, as an umbrella concept, is comprised of *subjective well-being* and more objective measures of the degree to which a person's life is desirable versus undesirable. Such objective measures largely emphasize external elements, such as income and education, and describes the circumstances of an individual's life, rather than the person's perceptions and subjective reactions to these circumstances (Diener, 2006).

Subjective Well-Being. A person's positive and negative evaluations of his or her life, is called subjective well-being, and is an important element of positive psychological health and essential to the concept of well-being (Diener, Sapyta, & Suh, 1998). Research has postulated three interrelated elements for subjective well-being: positive affect, negative affect, and satisfaction with life (Kuppens, Realo, & Diener, 2008; Pavot & Diener, 2008). It has been identified as a construct that represents a cognitive and global evaluation of the quality of one's life as a whole (Pavot & Diener, 2008). The cognitive valuation can be satisfaction with one's relationship or marriage and with life in general, and in terms of affect the valuation can be the presence of positive emotions or sadness. Inherent in the concept is that people are allowed to define and decide for themselves whether their lives are satisfying, based on their own goals, values and life circumstances. It is believed that subjective well-being results from a feeling of mastery, one's temperament, optimism and hope, a progress towards one's goals, immersion in interesting and meaningful activities, as well as from positive social relationships (Constantine & Sue, 2006; Kuppens et al., 2008; Møller & Saris, 2001; Pavot & Diener, 2008; Utsey, Hook, Fischer, & Belvet, 2008). According to Diener et al. (1998) characteristics and elements that are important and lead to well-being may vary a great deal, as what people believe is important in life differs a great deal between individuals, and between cultures and life circumstances (Møller & Saris, 2001; Utsey et al., 2008).

Contextual Considerations on Resilience, Social Capital, and Well-Being

In developing countries in particular, mental health issues are often marginalized due to limited resources and the prioritized challenge of e.g. growing poverty. However, according to the World Health Organization (WHO) (2008), mental health issues, such as resilience and well-being, ought to be put on top of the agenda (McKenzie & Harpham, 2006a).

Resilience and subjective well-being are subject to individual and cultural differences (Borge, 2005, 2007; Diener, 2006; Kuppens et al., 2008). One such distinction between cultures can be found when comparing studies of *individualistic* and *collectivistic* cultures. Research has

found that in individualistic cultures, life satisfaction is much stronger related to emotions and self-esteem than in collectivistic cultures, where social norms are equally important to emotions in regards to life satisfaction (Pavot & Diener, 2008; Suh, Oishi, & Triandis, 1998). Furthermore, in poorer nations financial satisfaction is a stronger correlate of life satisfaction than in wealthier nations (Diener & Diener, 1995; Pavot & Diener, 2008). Another distinction between cultures is the division between whether people are characterized along a *self-expression* or *survival* dimension. Societies high in self-expression are typically high in economic and physical security, people report good health, and the society is fostering a climate of trust. In comparison, societies high in survival are characterized by low economic and physical security, people report relatively poor health, and is fostering a climate of low interpersonal trust (Kuppens et al., 2008). The current study was conducted in a collectivistic culture, and it can be argued that the informants can be characterized along the survival dimension, in addition to living with HIV/AIDS.

One of the most important and recurrent attribute in resilient individuals is the value they place in relationships to other people, and the quality of these relationships (Morland et al., 2008). In relation to individuals living with HIV/AIDS, research has shown that having good relations to other people is one of the most important characteristics of individuals that are long-term survivors of HIV/AIDS (Barroso, 1997). This subjective quality of the relationships in a person's life, the number of relationships he or she has, the characteristics of the relationships, and the way an individual deals with adversity and stress, reinforce one another and are all associated with good outcomes and well-being (Bromley, 2005). According to Pinkerton and Dolan (2007) a person's social relationships and membership of networks is the connection between social capital and resilience. Relations between people is more than the close and direct networks a person belongs to, it involves the entire social ecology in which he or she is located, and of equal importance is how the person evaluate these relationships (Bromley, 2005).

The resilience dimension *dispositional / psychological attributes*, which elicits positive responses from the environment, can be said to link with a person's cognitive social capital. The *socialization practices / family support and cohesion* elicits, among other things, trust and connection to others (Friborg et al., 2005; Friborg et al., 2003; Goldstein & Brooks, 2005), and trust and social cohesion are crucial factors of social capital, at bonding, bridging and linking levels (Kawachi et al., 2008a; Mohseni & Lindström, 2007; Realo, Allik, &

Greenfield, 2008; Silva et al., 2005). Lastly, the resilience dimension *external support systems* is connected to both structural and cognitive social capital, in fact, many would describe social capital as external support systems. These three resilience dimensions, or social capital resources, are overall the most significant determinants of a healthy adjustment to risk and adversity (Friborg et al., 2005; Friborg et al., 2003; Goldstein & Brooks, 2005; Kawachi et al., 2008b; Kim et al., 2006; Putnam, 1993). In regards to subjective well-being and social capital, structural social capital has been associated with the entire community's health and well-being, while cognitive social capital is important for the individual's health and well-being (Kawachi et al., 2008b; Mitchell & Bossert, 2007; Silva et al., 2006).

The Current Study

Few studies have explored the relationship between social capital and well-being in low income countries. In a review by Silva et al. (2005) only two of 21 studies were from low income and developing countries, only ten studies measured both structural and cognitive social capital, and all studies exclusively explored the bonding level of social capital. In addition, most studies today have concentrated on urban populations, and very few have included rural populations (Silva et al., 2006; Silva et al., 2005). The current study will explore social capital in light of individual and social capital, at both structural and cognitive levels in a low income developing country. All levels, bonding, bridging and linking, of social capital will be explored, and in addition, informants living in both rural and urban areas are included.

Based on previous research, it was hypothesized that the cognitive aspects of social capital, in our study e.g. trust and solidarity and importance of relationships, would show a stronger relation to resilience and subjective well-being than the more structural aspects, e.g. the number of friends one has, and it was expected that the relations would be strongest at the bonding level of social capital (Poortinga, 2005, 2006; Silva et al., 2006; Silva et al., 2005). In accordance with previous research it was assumed that demographic variables are important for all concepts (Borge, 2005; Diener et al., 1998; Pavot & Diener, 2008; Werner, 1992). In regards to resilience, it was appreciated that there is an interplay between the sub factors, however, it was of interest to determine whether there were tendencies of some playing a greater role for social capital and subjective well-being than others. It was expected that higher score on resilience would be related to higher score on social capital and subjective

well-being.

According to Whetten et al. (2008) more research is needed that explore the independent and synergistic effects and relations between demographics, biological and psychosocial characteristics among HIV-infected individuals. A vast body of research exists on resilience *per se*, and a great deal on resilience in groups of individuals with other chronic illnesses, but to the best of my knowledge, no previous research has explored the relations of resilience, social capital and well-being in HIV-positive individuals. By investigating attributes of resilient individuals in such adverse life circumstances, compared to those that do not show resilience and in relation to social capital, we will gain more knowledge about what psychological mechanisms and more external features are important for resilience and well-being.

Objectives. The present study is an explorative study. On a general level, the purpose was to empirically explore how the concepts resilience and social capital were related to each another, and how they were related to subjective well-being for HIV-positive individuals in an adverse environment. More specifically, *first*, it was explored which sub factors of resilience were related to which sub factors in social capital, and how this translated to the different levels of social capital. *Second,* the factors and underlying psychological mechanisms of these concepts were believed to be related to subjective well-being, and it was of interest to uncover which factors stood out as important. *Third*, groups scoring low, medium and high on resilience were compared to investigate whether higher score on resilience was related to higher score on social capital and subjective well-being, and whether there were differences in demographics. This study aims to contribute to identifying resources and factors across resilient individuals' lives, and will conclude by discussing possible implications of findings, in addition to suggesting recommendations for further research.

Methods

Participants

The sample consisted of 277 participants, mostly women (84.4% women, 15.6% men), recruited in the province of KwaZulu-Natal, South Africa. All participants were adult, isiZulu speaking, HIV-positive and members of support groups for HIV-positive people. Eight participants were excluded from analysis, as one reported being HIV-negative, and seven

because they had omitted to answer several items. In sum, 269 participants were included in analyses. The mean age was 35.5 years (*SD* = 9.60), with the youngest being 18 years and the oldest 67 years. The mean score on general physical health was 2.59 (*SD* = 1.18) (with the maximum score being 5), and the participants had on average known that they were HIV-positive for 4 years, with a range from one month to 15 years (*SD* = 3.19[1]). See Table 1 for further descriptives of participants.

[1] Reported in years

Table 1. Descriptives of Study Participants

	Total N	Valid Percent (%)
Total sample	269	100,0
Sex	269	100,0
Men	42	15,6
Women	227	84,4
Marital Status	268	100,0
Married	46	17,2
Single	199	74,3
Widow/widower	6	2,2
Divorced	4	1,5
Separated	6	2,2
Engaged to be married	7	2,6
Education	263	100,0
General (grade 0-9)	195	74,1
Further (grade 10-12)	68	25,9
Income	269	100,0
No income	154	57,2
1-499 Rand	52	19,3
500-999 Rand	35	13,0
1000-1999 Rand	12	4,5
2000-2999 Rand	10	3,7
3000-5999 Rand	5	1,9
6000 Rand or more	1	0,4
Household income	263	100,0
No income	157	59,7
1-499 Rand	33	12,5
500-999 Rand	36	13,7
1000-1999 Rand	20	7,6
2000-2999 Rand	7	2,7
3000-5999 Rand	10	3,8
6000 Rand or more	0	0,0
Area	268	100,0
Rural	233	86,9
Urban	35	13,1

Note: Education: ranged from zero, to higher education. One person had higher education. In South Africa the general education from grade 0 through to 9 (age 15) is cumpulsory. Grade 10 through to 12 is further education.
Income: 1 South African Rand = 0,7 Norwegian Krone (7th April, 2009).

Procedure

The Treatment Action Campaign (TAC) is a non-governmental organization (NGO), which actively campaign for the rights of people living with HIV/AIDS in South Africa. TAC continues to mount political and legal challenges to what they claim is the government's slow response to the HIV epidemic. It is a non-profit organization, which as of April 2008 had 16,000 members throughout the country ("Treatment Action Campaign," 2009). HIV-positive

people that are openly members of TAC are not concealing their HIV status, and therefore it was found ethical and appropriate to recruit study participants via this organization. The initial contact with TAC was made with the provincial office in KwaZulu-Natal, where it was decided that the research would take place at weekly meetings of various local support groups in different townships throughout the province. As most participants were mainly isiZulu speaking, a TAC employee was trained as an interpreter. The instruments were translated into isiZulu by a Master student in Psychology from UKZN (University of KwaZulu-Natal), and double checked by an isiZulu speaking TAC employee. Members of a total of 14 support groups took part in the study, and the data collection took place during a two month period in the fall of 2008. At the meetings the purpose of the study was explained to the participants and their participation requested. They were asked to complete three questionnaires, by ticking off the statements that best corresponded to their attitudes, thoughts and feelings. As most of the participants had never filled out a questionnaire before, the isiZulu speaking interpreter assisted the groups, and read aloud all questions and response alternatives. If the questions were perceived to be ambigous, the participants had opportunities to address this via the translator and researcher, who were available to clarify any questions the participants had throughout each session. Each session took approximately 2 hours, and lunch, refreshments, and money for transport to and from the meeting was provided for.

Ethics

The study was approved by The National Commitees for Research Ethics in Norway[2]. All participants were presented with an information letter about the study, and it was stated orally and in writing that the study was voluntarily and that they had a right to withdraw at any point and without stating a reason. They provided an informed consent, and were informed orally and written about possible advantages and disadvantages of participating in the study. No names were collected and their anonymity was preserved. Their information was treated with confidentiality, and was only available to the researcher and supervisor. The collected data was stored in a safe place. The findings of the study will be shared with TAC and the

[2] Originally, one of the criterions for participating in the study was that the informants must have had knowledge of their HIV-status for a minimum of 6 months to try to make sure that they had processed this information, and this is reflected in the approval from the ethics commitee. However, after gaining information from TAC and the informants themselves, some had only recently medically tested themselves and had their HIV-status established, even though they had suspected and believed they were infected long before they had the medical test. A total of 14 informants reported having had their status established for less than 6 months ago, however, based on the aforementioned issues, they were still included for analyses.

informants, and a short report on the findings and recommendations will be prepared and sent to TAC. See Appendix A for approval from ethics committee, Appendix B for approval from NSD (handling of personal information) and Appendix C for Informed Consent.

Measures

The Resilience Scale for Adults (RSA). The original scale consists of 33 items that are meant to measure five factors of resilience: *Personal Strength* (10 item), which is divided into *Perception of Self* (6 items: 2, 11, 17, 18, 31, 33) and *Perception of Future* (4 items: 1, 4, 5, 32), *Social Competence* (6 items: 8, 14, 19, 22, 23, 26), *Family Cohesion* (6 items: 3, 7, 13, 16, 25, 29), *Social Resources* (7 items: 6, 9, 10, 12, 15, 20, 27), and *Structured Style* (4 items: 21, 24, 28, 30). Participants were asked to rate how they think and feel about themselves in general over the last month, and all items were rated on 7-point scales, with two semantically different anchors at each end. See Appendix D. This version of RSA had a semantic differential format, compared to Friborg et al.'s previous Likert based format, as this version reduces the acquiescence bias (Friborg, Martinussen, & Rosenvinge, 2006). According to Friborg et al. (2006), their scale had good internal consistency, with a Cronbach alpha reported at $\alpha > .80$.

All negatively worded items (16 items) were reversed before checking reliability. In our sample the total scale had good reliability with a Cronbach's alpha of $\alpha = .82$. The subscales of resilience also reached either a satisfactory Cronbach's alpha or, when there were few items, satisfactory mean inter-item correlation (mean IIC). According to Briggs and Cheek (1986) mean IIC is more appropriate to test internal consistency when there are fewer than ten items in a scale, with the optimal range being between .2 and .4. See Table 2. Some items were removed from the original scale to improve internal consistency. On the *Social Competence* factor it was decided to remove item 14 ("*To be flexible in social settings: is not important to me ----- is really important to me*"), as both Cronbach's alpha and mean IIC increased when omitted (Cronbach's alpha went from $\alpha = .33$ to $\alpha = .39$, and mean IIC went from $r = .07$ to $r = .12$). On the *Family Cohesion* factor it was decided to remove item 3 ("*My family's understanding of what is important in life is: quite different than mine ----- very similar to mine*") and include item 27 ("*My close family members appreciate my qualities ----- dislike my qualities*"), as this increased Cronbach's alpha from $\alpha = .54$ to $\alpha = .62$, and mean IIC from $r = .16$ to $r = .22$. In *Social Resources*, item 27 was removed, as it was included under *Family Cohesion* instead. Item 30 was removed from the *Structured Style* factor, as it

correlated poorly with the other items of this sub factor *("Rules and regular routines: are absent in my everyday life ----- simplify my everyday life"*). By removing this item Cronbach's alpha went from $\alpha = .26$ to $\alpha = .31$, and mean IIC from $r = .09$ to $r = .15$. The scale used for analyses consisted of 30 items. The means and standard deviations in the scale in the current study were comparable to the means and stands deviations of Friborg et al.'s (2006) scale. The subscales were added to gain a total resilience score.

For analysis of variance, participants were divided into three groups according to their scores on resilience (Group 1: low resilience ($M = 23.14$ or less), Group 2: medium resilience ($M =$ 23.15 to 27.27), Group 3: high resilience ($M = 27.28$ and above)). Friborg, Hjemdal et al. (2006) performed a study where they divided their sample into two groups, those who scored low on resilience and those who scored high on resilience. No cut-off points were reported in their study, and as it was desirable to have three groups to also capture the individuals that scored around the middle, SPSS made the cut-off points. As the distribution of scores on resilience did not violate the assumption of normal distribution, two cut-off points were made. The total scores on resilience were used to divide the sample group, as did Friborg, Hjemdal et al. (2006), as they found that the subscales measure the common aspects of resilience, and the total score of the informants did not change the meaning of the scores (Friborg, Hjemdal et al., 2006; Friborg, Martinussen et al., 2006). The scores were found to be comparable to Friborg, Hjemdal et al. in regards to means and standard deviations, and it was found appropriate to divide the sample.

The Well-Being Scale. The scale used to measure subjective well-being consists of five items from the WHO (Five) Well-Being Index (1998 version) (WBI-5), (item 1-5), as well as 3 selected items from The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (item 6-8). The WBI-5 scale was chosen as it focuses on the subjective well-being and positive psychological well-being. The items cover positive mood, vitality and general interest. The WEMWBS scale is a psychometrically robust scale, which also focuses entirely on positive aspects of mental health (Tennant et al., 2007). The three items from this scale were included as an addition to WBI-5, as these items cover how one has been dealing with problems, how one has felt about oneself, and if one has been feeling loved. See Appendix E. Participants were asked to rate how they have felt in general over the last two weeks, and items were rated on a 6-point scale from 1 (*all of the time*) to 6 (*at no time*). Two items proved to correlate low and / or negatively with the other items (item 1: "*I have felt cheerful and in good spirits*", and

item 2: "*I have felt calm and relaxed*"). It was decided to remove these items to improve internal consistency, as indicated by Cronbach's alpha, which increased from $\alpha = .69$ to $\alpha = .77$, and mean IIC from $r = .22$ to $r = .36$. The scale used for analyses then consisted of six items.

The Social Capital Questionnaire. The questionnaire used to measure social capital is based on The Social Capital Assessment Tool (SOCAT), which is a result of a decade of thorough exploration of the social capital concept and measurement issues undertaken by The World Bank Group (Grootaert & Bastelaer, 2001; Krishna & Shrader, 1999). The tool consists of a compilation of instruments for mapping social capital at individual, community and institutional levels. Item from SOCAT were extracted to produce a questionnaire comprising of items covering the three factors of social capital that this study intended to measure (groups and network, trust and solidarity, and collective action and social cohesion), on bonding, bridging, and linking levels. See Appendix F. The final quesionnaire consisted of 24 items (with some sub items). Most items were rated on a 5-point scale, however, some items were open-ended. A few items were on a nominal scale level. Negatively worded items were reversed. As this scale consists of three different consepts at three different levels, Cronbach's alpha was not checked, and in addition there are too few items under each sub scale and each level. Instead, see correlations between items in Table 3 or 5.

The questionnaire includes items that measure structural and cognitive social capital. See Appendix F. The items that measure *structural social capital* are: Groups and Networks, bonding: 8, bridging: 10, linking: 14. Collective Action and Social Cohesion, bonding: 27. The items that measure *cognitive social capital* are: Groups and Networks, bonding: 9, bridging: 11, (items 12A-F, and 13A-E also measure Groups and Networks, bridging, however, as they were on a nominal level, they were not included in the analyses), linking: 15. Trust and Solidarity, general: 16, 17, 19, bonding: 18, 20A-D, 21A-D, bridging: 22, 23, linking: 24A-G, 25. Collective Action and Social Cohesion, bonding: 26, bridging: 28, 29, linking: 30, 31.

Results

The results section has four parts. First, we explored the descriptives for all measures. Second, it was investigated how the resilience and social capital concepts were related to each other. Third, the relationship between resilience, social capital and subjective well-being was

explored, and finally, the differences between people scoring low, medium and high on resilience were examined.

Descriptives

Table 2. Means, Range, Standard Deviations and Cronbach's Alphas for Measures

Measure	Total N	Min.	Max.	M	SD	α	Mean IIC
Resilience (total)	201	11.59	34.00	26.06	4.45	.82	.134
Perception of Self	240	6.00	42.00	32.08	8.22	.55	.171
Perception of Future	250	4.00	28.00	16.24	6.45	.48	.184
Family Cohesion	246	6.00	42.00	29.22	9.33	.62	.217
Social Competence	250	6.00	35.00	26.47	6.58	.39	.119
Social Resources	260	12.00	42.00	33.23	7.59	.51	.159
Structured Style	258	3.00	21.00	16.91	4.50	.31	.147
Well-Being (total)	209	6.00	36.00	21.93	8.50	.77	.363
Social Capital (total)	117	16.36	34.50	24.72	3.64	.69	.072
Groups and Networks (total)	257	4.00	15.00	10.63	2.54	.10	.047
Bonding	269	1.00	5.00	3.70	1.23	n/a	n/a
Bridging	264	1.00	5.00	4.28	1.13	n/a	n/a
Linking	262	1.00	5.00	2.67	1.79	n/a	n/a
Trust (total)	120	36.00	88.00	66.26	10.63	.67	.089
General	265	3.00	13.00	8.44	2.28	.25	.097
Bonding	154	13.00	45.00	32.08	6.95	.70	.210
Bridging	260	2.00	10.00	5.21	2.19	.40	.265
Linking	184	8.00	40.00	20.34	5.91	.63	.187
Coll. Action and Soc. Cohesion (total)	255	7.00	24.00	15.19	3.39	.21	.050
Bonding	268	1.00	5.00	3.72	1.43	n/a	n/a
Bridging	266	2.00	10.00	6.99	1.97	.11	.059
Linking	257	2.00	9.00	4.52	2.19	.38	.242

Note: Social Capital: only items that were not open ended and on interval level were included. Under Groups and Networks, there were too few items under each level that fulfilled these criteria, so no internal consistency is reported here. The same is true for Collective Action and Social Cohesion, bonding. α = Cronbach's Alpha. Mean IIC = Mean Inter-Item Correlation.
Coll. Action and Soc. Cohesion = Collective Action and Social Cohesion.
n/a = not applicable.

All scores in Table 2 are reported in total scores. Total resilience and total social capital score are comprised of the means of the sub scales. For ease of interpretations, converted to the scale's format, the Resilience (total) is M = 4.34, SD = 0.74, Well-Being (total) M = 3.66, SD = 1.42. Breaking down the resilience scale, Perception of Self M = 5.35, SD = 1.37, Perception of Future M = 4.06, SD = 1.61, Family Cohesion M = 4.87, SD = 1.55, Social

Comptence M = 5.30, SD = 1.32, Social Resources M = 5.54, SD = 1.26, and Structured Style M = 5.64, SD = 1.50. Breaking down the social capital scale, Groups and Networks (total) M = 3.54, SD = 0.85, and at bonding level M = 3.70, SD = 1.23, bridging M = 4.28, SD = 1.13, and linking M = 2.67, SD = 1.79. Trust (total) M = 3.01, SD = 0.49, and at general level M = 2.81, SD = 0.76, bonding M = 3.56, SD = 0.77, bridging M = 2.60, SD = 1.09, and linking M = 2.54, SD = 0.74. Collective Action and Social Cohesion (total) M = 3.04, SD = 0.68, bonding M = 3.72, SD = 1.43, bridging M = 3.50, SD = 0.98, and linking M = 2.26, SD = 1.09.

The Relationship between Resilience, Social Capital, and Subjective Well-Being

Resilience and Social Capital. To see how the two concepts were related, a correlation analysis was performed,[3] where the sub factors of the two concepts and the different levels of social capital were included. See Table 3. On the *bonding level*, there was a significant relation between resilience and structural social capital, between Social Competence and Collective Action and Social Cohesion, Structural ($r = .133$, $p < .05$). Cognitive social capital items, represented by Groups and Networks, Cognitive and Collective Action and Social Cohesion, Cognitive, are significantly correlated with resilience on both $p < .05$ and $p < .001$ levels. Trust and Solidarity at the bonding level, together with general trust, are also significantly correlated with resilience at both $p < .05$ and $p < .001$ level. On the *bridging level*, there is a relation between structural social capital and resilience, between Groups and Networks, Structural and Social Competence, ($r = .162$, $p < .05$). Cognitive social capital, Groups and Networks, Cognitive was correlated on a $p < .05$ level with several resilience sub factors, while Trust and Solidarity, and Collective Action and Social Cohesion at bridging level are significantly related to several of the resilience sub factors, at both $p < .05$ and $p < .001$ level. On the *linking level*, Groups and Networks, Structural is related to the resilience factor Social Comptence ($r = .148$, $p < .05$). Cognitive social capital, represented by Groups and Networks, Cognitive correlated significantly with several resilience factors, at both $p < .05$ and $p < .001$ level, while Trust and Solidarity correlated with Perception of Future ($r = .227$, $p < .01$), and Collective Action and Social Cohesion at this level was significantly correlated with Social Comptence ($r = .135$, $p < .05$).

[3] Pearson's product-moment coefficients (r) is reported.

Table 3. Intercorrelations for Measures of Resilience and Social Capital

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Social Capital Bonding Level:																				
1. Groups and Networks, Str.	1.000																			
2. Groups and Networks, Cog.	-.059	1.000																		
3. Trust and Solidarity, General	-.034	.006	1.000																	
4. Trust and Solidarity	.032	.077	.228**	1.000																
5. Coll. Action and Soc. Cohesion, Str.	.092	.058	.074	.034	1.000															
6. Coll. Action and Soc. Cohesion, Cog.	.095	.167**	.095	.235**	.109	1.000														
Social Capital Bridging Level:																				
7. Groups and Networks, Str.	.128*	.011	.102	-.069	-.034	.067	1.000													
8. Groups and Networks, Cog.	.011	.115	.103	.076	.094	.066	-.122	1.000												
9. Trust and Solidarity	.067	-.054	.212***	.226**	.090	.071	-.124	.136*	1.000											
10. Coll. Action and Soc. Cohesion	.047	.061	.202***	.202*	.018	.111	.107	.145*	-.027	1.000										
Social Capital Linking Level:																				
11. Groups and Networks, Str.	-.102	.000	-.014	-.055	.096	-.067	.074	-.021	.161**	.028	1.000									
12. Groups and Networks, Cog.	-.135*	.000	.021	.013	.179**	.014	.115	.023	.280***	.004	.596***	1.000								
13. Trust and Solidarity	-.021	.004	.067	.106	.084	.112	.003	-.017	.113	-.070	-.028	.072	1.000							
14. Coll. Action and Soc. Cohesion	.091	-.005	.019	-.056	.116	.057	.091	.089	.228***	-.025	.305***	.263***	.288***	1.000						
Resilience:																				
15. Perception of Self	.037	.166**	.159*	.271***	-.003	.134*	.077	.143*	.163*	.149*	.005	-.045	.003	-.008	1.000					
16. Perception of Future	-.017	.227***	.114	.243**	.101	.240***	.049	.133*	.109	.149*	.034	.153*	.227**	.013	.355***	1.000				
17. Social Competence	-.002	.140*	.093	.062	.133*	.147*	.162*	.100	.046	.230***	.148*	.243***	.035	.135*	.358***	.299***	1.000			
18. Family Cohesion	.023	.161*	.176**	.312***	.050	.306***	.006	.057	.216***	.063	.045	.012	.075	-.058	.408***	.417***	.322***	1.000		
19. Social Resources	.033	.124*	.177**	.365**	.118	.327**	.035	.123*	.218**	.154*	.082	.138*	.064	.115	.428***	.323***	.509***	.498***	1.000	
20. Structured Style	.047	.048	.085	.119	-.014	.195**	.042	.070	.093	.167**	-.006	.069	-.097	-.002	.400***	.116	.344***	.327***	.424***	1.000

* p < .05 (2-tailed), ** p < .01 (2-tailed), *** p < .001 (2-tailed)

Str. = Structural (social capital), Cog. = Cognitive (social capital)

Coll. Action and Soc. Cohesion = Collective Action and Social Cohesion

Resilience and Subjective Well-Being. To see how these two concepts related to each other, correlations were performed. See Table 4. Interestingly, Perception of Future was the only resilience sub factor to correlate with subjective well-being, with a correlation of r = .222, p = .002.

Table 4. Intercorrelations for Measures of Resilience and Subjective Well-Being

Measure	1	2	3	4	5	6	7
Resilience:							
1. Perception of Self	1.000						
2. Perception of Future	.355**	1.000					
3. Family Cohesion	.408**	.417**	1.000				
4. Social Comptence	.358**	.299**	.332**	1.000			
5. Social Resources	.428**	.323**	.498**	.509**	1.000		
6. Structured Style	.400**	.116	.327**	.344**	.424**	1.000	
Well-Being:							
7. Total Well-Being Scale	.047	.222*	-.056	.129	.059	.013	1.000

* p < .005 (2-tailed), ** p < .001 (2-tailed)

Social Capital and Subjective Well-Being. Correlations were also performed to see how social capital was related to subjective well-being. See Table 5. The four social capital factors that related to the total well-being scale were Groups and Networks, Cognitive on the bonding level (r = .181, p < .01), Collective Action and Social Cohesion, Cognitive on the bonding level (r = .180, p < .01), Trust at linking level (r = .185, p < .05), and Collective Action and Social Cohesion on the linking level (r = -.146, p < .05). As it was expected that trust at linking level would differ depending on the different institutions and groups, correlations between trust at the different groups and subjective well-being were performed. Trust in non-governmental organizations (NGO's) was positively correlated with subjective well-being (r = .411, p < .001), as was Trust in the health system (r = .157, p < .05).

Table 5. Intercorrelations for Measures of Social Capital and Subjective Well-Being

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Social Capital Bonding Level:															
1. Groups and Networks, Str.	1.000														
2. Groups and Networks, Cog.	-.059	1.000													
3. Trust and Solidarity, General	-.034	.006	1.000												
4. Trust and Solidarity	.032	.077	.228**	1.000											
5. Coll. Action and Soc. Cohesion, Str.	.092	.058	.074	.034	1.000										
6. Coll. Action and Soc. Cohesion, Cog.	.095	.167**	.095	.235**	.109	1.000									
Social Capital Bridging Level:															
7. Groups and Networks, Str.	.128*	.011	.102	-.069	-.034	.067	1.000								
8. Groups and Networks, Cog.	.011	.115	.103	.076	.094	.066	-.122	1.000							
9. Trust and Solidarity	.067	-.054	.212***	.226**	.090	.071	-.124	.136*	1.000						
10. Coll. Action and Soc. Cohesion	.047	.061	.202***	.202*	.018	.111	.107	.145*	-.027	1.000					
Social Capital Linking Level:															
11. Groups and Networks, Str.	-.102	.000	-.014	-.055	.096	-.067	.074	-.021	.161**	.028	1.000				
12. Groups and Networks, Cog.	-.135*	.000	.021	.013	.179**	.014	.115	.023	.280***	.004	.596***	1.000			
13. Trust and Solidarity	-.021	.004	.067	.106	.084	.112	.003	-.017	.113	-.070	-.028	.072	1.000		
14. Coll. Action and Soc. Cohesion	.091	-.005	.019	-.056	.116	.057	.091	.089	.228***	-.025	.305***	.263***	.288***	1.000	
Well-Being:															
16. Total Well-Being Scale	-.031	.181**	-.077	-.038	-.029	.180**	.059	-.052	-.084	.088	-.058	.008	.185*	-.146*	1.000

* p < .05 (2-tailed), ** p < .01 (2-tailed), *** p < .001 (2-tailed).

Str. = Structural (social capital), Cog. = Cognitive (social capital).

Coll. Action and Soc. Cohesion = Collective Action and Social Cohesion.

Resilience, Social Capital and Subjective Well-Being. Resilience and social capital were both assumed to be related to subjective well-being, however, previous research has shown that certain demographics, e.g. income and education, are important in regards to subjective well-being (Borge, 2005, 2007; Werner, 1992). To investigate whether resilience and social capital had any predictive value on subjective well-being, hierarchical multiple regressions were performed. See Table 6. It was of interest to explore whether there was an effect of social capital on subjective well-being, after controlling for the effect of demographics, and then to explore whether resilience could predict any additional variance in subjective well-being, after statistically controlling for the effects of demographics and social capital. Demographics that were found to not be correlated to well-being were not included. The demographic variables that were on a nominal level, were transformed to dummy variables (marital status was transformed to ”in a relationship” or ”not in a relationship”, education to ”general education” (grade 0 – 9) or ”further education” (grade 10-12), and monthly household income to ”no monthly income” or ”monthly income”. Preliminary analyses were performed to ensure there were no violations of the assumtions of normality, linearity, multicollinearity and homoscedasticity. Social Capital sub factors that did not correlate with subjective well-being were not included in the regression.

Table 6. Multiple Regression with Subjective Well-Being as Dependant Variable

	Variables entered	B	SEB	β	R^2	R^2 change	Sig.	Sig. F Change
Block 1					.021	.021	.632	.632
	General health	.040	.670	.006			.952	
	Marital status	1.136	1.965	.053			.564	
	Education	-1.173	1.611	-.069			.468	
	Household monthly income	2.470	1.650	.143			.137	
Block 2					.189	.168	.047*	.020**
	General health	.366	.674	.051			.588	
	Marital status	.973	1.952	.044			.632	
	Education	-1.114	1.652	-.065			.501	
	Household monthly income	2.305	1.598	.133			.152	
	Groups and Networks, Cog., bonding	1.098	.614	.159			.076	
	Groups and Networks, Cog., bridging	-.316	.690	-.042			.648	
	Groups and Networks, Cog., linking	.321	.458	.068			.485	
	General Trust	-.403	.349	-.108			.251	
	Trust, bonding	-.164	.119	-.134			.171	
	Trust, bridging	-.182	.389	-.047			.641	
	Trust, linking	.367	.132	.256			.007***	
	Coll. Action and Soc. Coh, Cog., bonding	.898	.543	.151			.101	
	Coll. Action and Soc. Coh., bridging	.547	.400	.127			.175	
	Coll. Action and Soc. Coh., linking	-.914	.380	-.235			.018**	
Block 3					.230	.040	.090	.505
	General health	.274	.690	.038			.692	
	Marital status	.923	1.972	.043			.641	
	Education	-1.015	1.689	-.059			.549	
	Household monthly income	1.589	1.678	.092			.346	
	Groups and Networks, Cog., bonding	.972	.631	.141			.126	
	Groups and Networks, Cog., bridging	-.387	.698	-.051			.580	
	Groups and Networks, Cog., linking	.448	.487	.094			.359	
	General Trust	-.412	.351	-.111			.243	
	Trust, bonding	-.233	.127	-.191			.068	
	Trust, bridging	-.294	.400	-.076			.464	
	Trust, linking	.326	.138	.227			.020**	
	Coll. Action and Soc. Coh., Cog., bonding	.738	.573	.124			.201	
	Coll. Action and Soc. Coh., bridging	.660	.414	.153			.114	
	Coll. Action and Soc. Coh., linking	-.791	.390	-.203			.045*	
	Perception of Self	.035	.115	.034			.759	
	Perception of Future	.174	.142	.132			.222	
	Social Competence	-.273	.147	-.211			.067	
	Family Cohesion	.058	.105	.063			.583	
	Social Resources	.104	.139	.092			.459	
	Structured Style	-.035	.198	-.019			.860	

* p < .05 (2-tailed), ** p < .02 (2-tailed), *** p < .01 (2-tailed).
Coll. Action and Soc. Coh. = Collective Action and Social Cohesion. Cog. = Cognitive.
B, SEB = Unstandardized coefficients, β = Standardized Coefficient.

After the demographic variables were entered in Block 1, the model explains 2.1% of the variance in subjective well-being. After the variables in Block 2 were entered, the demographics and the social capital variables, the model *as a whole* explains 18.9% of the variance. The variables of interest, social capital, explains an additional 16.8% (R square change = .168) of the variance in subjective well-being, when the effects of demographics are statistically controlled for. This contribution is statistically significant, as indicated by Sig. F change value = .020. ANOVA indicates that the model as a whole is significant after entering

these variables, [F (14, 108) = 1.803, p = .047]. After the variables in Block 3 were entered, demographics, social capital and resilience variables, the model *as a whole* explains 23% of the variance in subjective well-being. The variables of interest here, resilience, only explains an additional 4% of the variance in subjective well-being (R square change = .040), when the effects of demographics and social capital are statistically controlled for. This contribution is not statistically significant, as indicated by Sig. F change value = .505, and the model as a whole is not significant after entering the resilience variables [F (20, 102) = 1.522, p = .090]. In the final model, two of the variables were uniquely statistically significant, with Trust at the linking level recording a higher beta value (beta = .227, p = .020) than Collective Action and Social Cohesion at the linking level (beta = -.203, p = .045). The resilience sub factor Social Competence nearly reached statistical significance (beta = -.211, p = .067).

With trust on the linking level being the variable that uniquely explains the most of the variance in subjective well-being, and knowing that different groups and institutions on this level differ in their relations to subjective well-being, separate hierarchical multiple regression analyses were performed where their unique contribution to the variance in subjective well-being were explored. See Table 7.

Table 7. Multiple Regression with Subjective Well-Being as Dependant Variable, and Trust at Linking Level Divided into Separate Variables

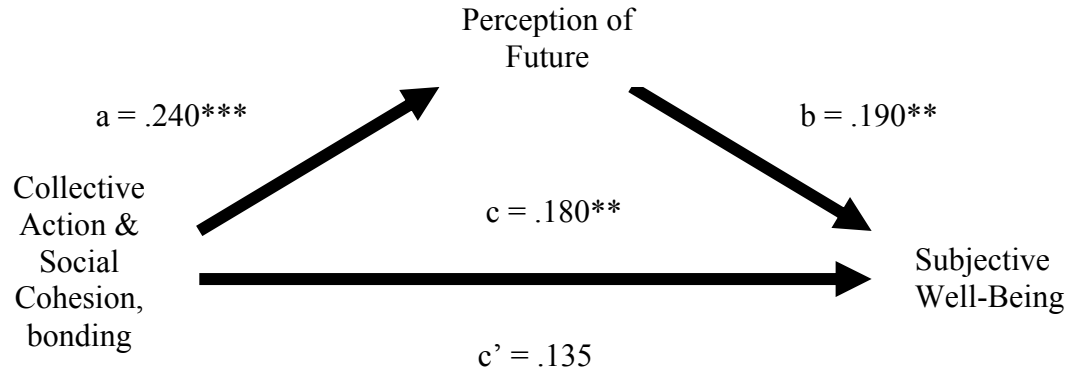
	Variables entered	B	SEB	β	R^2	R^2 change	Sig.	Sig. F Change
Block 1					.021	.021	.620	.620
	General health	.040	.661	.006			.951	
	Marital status	1.136	1.941	.053			.560	
	Education	-1.173	1.591	-.069			.462	
	Household monthly income	2.470	1.630	.143			.132	
Block 2					.348	.328	.000****	.000****
	General health	.332	.618	.046			.592	
	Marital status	1.430	1.813	.067			.432	
	Education	-2.204	1.545	-.129			.157	
	Household monthly income	3.092	1.486	.179			.040*	
	Groups and Networks, Cog., bonding	1.403	.566	.203			.015*	
	Groups and Networks, Cog., bridging	-.332	.638	-.044			.604	
	Groups and Networks, Cog., linking	.095	.432	.020			.826	
	General Trust	-.219	.326	-.059			.504	
	Trust, bonding	-.044	.112	-.036			.698	
	Trust, bridging	-.175	.357	-.045			.625	
	Trust in National Government	1.625	.578	.278			.006**	
	Trust in Provincial Government	-.740	.768	-.105			.338	
	Trust in Local Government	-.021	.585	-.003			.972	
	Trust in Traditional Leadership	-.379	.577	-.062			.513	
	Trust in Health System	.363	.487	.067			.458	
	Trust in Public Services	-.577	.507	-.099			.257	
	Trust in NGO's	2.131	.421	.430			.000****	
	Coll. Action and Soc. Coh, Cog., bonding	.658	.502	.111			.193	
	Coll. Action and Soc. Coh., bridging	.268	.379	.062			.481	
	Coll. Action and Soc. Coh., linking	-.395	.357	-.102			.271	
Block 3					.377	.029	.002***	.592
	General health	.290	.634	.040			.648	
	Marital status	1.473	1.838	.069			.425	
	Education	-2.113	1.589	-.124			.187	
	Household monthly income	2.697	1.570	.156			.089	
	Groups and Networks, Cog., bonding	1.360	.584	.197			.022*	
	Groups and Networks, Cog., bridging	-.463	.649	-.061			.477	
	Groups and Networks, Cog., linking	.055	.469	.011			.908	
	General Trust	-.239	.330	-.064			.471	
	Trust, bonding	-.095	.122	-.077			.441	
	Trust, bridging	-.187	.369	-.048			.612	
	Trust in National Government	1.628	.593	.278			.007**	
	Trust in Provincial Government	-.541	.789	-.077			.495	
	Trust in Local Government	-.029	.590	-.005			.961	
	Trust in Traditional Leadership	-.453	.592	-.074			.446	
	Trust in Health System	.444	.501	.082			.378	
	Trust in Public Services	-.862	.528	-.148			.106	
	Trust in NGO's	1.969	.449	.397			.000****	
	Coll. Action and Soc. Coh., Cog., bonding	.524	.531	.088			.326	
	Coll. Action and Soc. Coh., bridging	.310	.394	.072			.433	
	Coll. Action and Soc. Coh., linking	-.357	.365	-.092			.330	
	Perception of Self	-.030	.106	-.029			.776	
	Perception of Future	.236	.133	.179			.079	
	Social Competence	-.188	.140	-.146			.183	
	Family Cohesion	-.046	.100	-.050			.649	
	Social Resources	.108	.130	.097			.408	
	Structured Style	.058	.184	.030			.755	

* p < .05 (2-tailed), ** p < .01 (2-tailed), *** p < .005 (2-tailed), **** p < .001 (2-tailed).
Coll. Action and Soc. Coh. = Collective Action and Social Cohesion. Cog. = Cognitive.
B, SEB = Unstandardized coefficients, β = Standardized Coefficient.
NGO = non-governmental organization.

After the variables in Block 1 have been entered, the overall model explains 2.1% of the variance in subjective well-being. After the variables in Block 2 have been entered, demographics and social capital variables, the model *as a whole* explain 34.8% of the variance in subjective well-being. The variables of interest, social capital, explain an additional 32.8% of the variance in subjective well-being (R squared change = .328), when the effects of demographics are statistically controlled for. This contribution is statistically significant (Sig. F Change < .001). ANOVA indicates that the model as a whole is significant [F (20, 105) = 2.805, p < .001]. After the variables in Block 3 were entered, demographics, social capital and resilience variables, the model as a whole explains 37.7% of the variance in subjective well-being. The variables of interest here, resilience, only explains an additional 2.9% of the variance in subjective well-being (R square change = .029), when the effects of demographics and social capital are statistically controlled for. This contribution is not statistically significant, as indicated by Sig. F change value = .592, however, the model as a whole is still significant after entering the resilience variables [F (26, 99) = 2.308, p = .002]. In this regression there are three variables that represent a unique contribution to subjective well-being, when the overlapping effects of all the other variables are statistically removed. Trust in NGO's recorded a higher beta value (beta = .397, p < .001) than trust in national government (beta = .278, p = .007), and groups and networks at bonding level (beta = .197, p = .022). Interestingly, Perception of Future nearly reached statistical significance (beta = .179, p = .079), which could indicate that Perception of Future might be a mediating factor between trust at linking level and subjective well-being.

To investigate whether the six resilience sub factors (Perception of Self, Perception of Future, Social Competence, Family Cohesion, Social Resources and Structured Style) mediate the effect of social capital on subjective well-being, separate simple Sobel tests were performed for each potential mediator. As social capital consists of several underlying concepts at different levels, the sub factors that correlated significantly with subjective well-being were tested as separate predictor variables, with subjective well-being as the dependant criterion variable. There was a partial mediation, which reached statistical significance between Collective Action and Social Cohesion at the bonding level, as predictor, with Perception of Future as a mediator, and subjective well-being as the criterion variable. The effect size is listed as standardized beta (β). See Figure 1.

Figure 1.



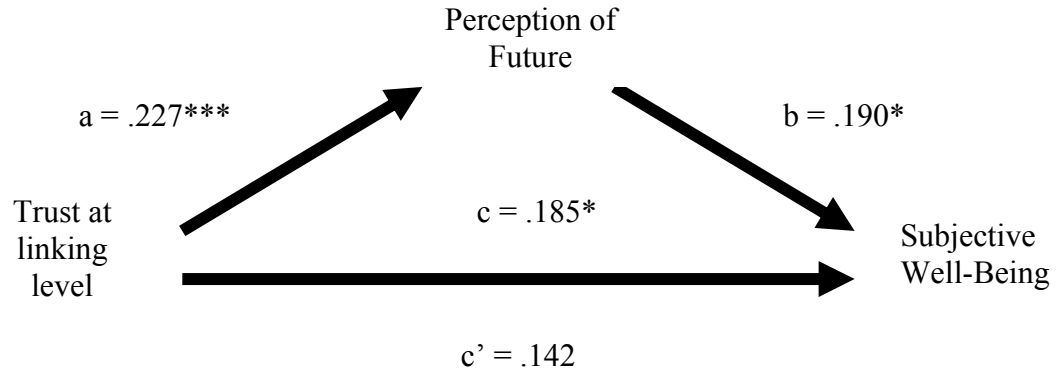
Note: * p < .05, ** p < .01, *** p < .001

Sobel test statistics = 2.196
Sig. (two-tailed) = .0281*

The total effect between Collective Action and Social Cohesion at the bonding level and subjective well-being (c) was beta = .180 (p = .009). After controlling for Perception of Future, the effect of Collective Action and Social Cohesion (c') was not significant, beta = .135 (p = .060). The indirect effect of Collective Action and Social Cohesion on subjective well-being through the mediator Perception of Future is significant, as indicated by Sobel test = 2.196, p = .028.

The mediator Perception of Future approached statistical significance for two additional predictor variables, namely Trust at the linking level, and Trust in NGO's. Although not significant, these findings are reported as the Sobel test is considered and criticized for being strict and conservative (Kenny, 2008; S.E. Maxwell & D.A. Cole, 2007). For trust at the linking level, the total effect (c) with subjective well-being was beta = .185 (p = .024). See Figure 2. After controlling for Perception of Future, the effect of trust at linking level (c') was no longer significant (beta = .142, p = .087), however, the indirect effect of trust at linking level through Perception of Future on subjective well-being approached statistical significance, as indicated by Sobel test = 1.835, p = .066.

Figure 2.

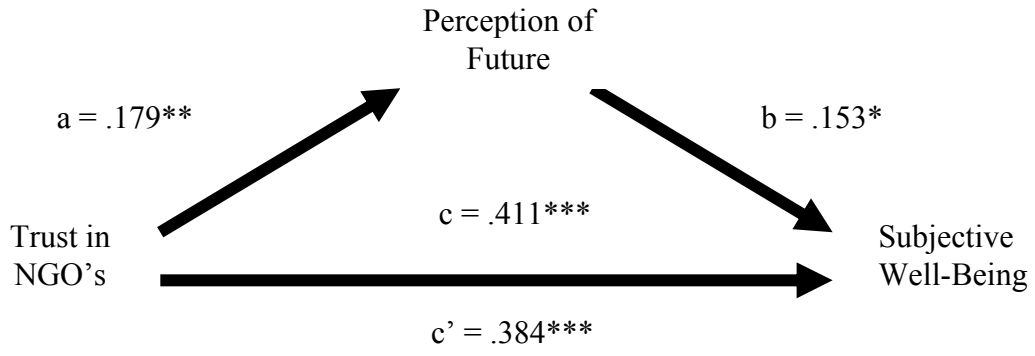


Note: * p < .05, ** p < .01, *** p < .005

Sobel test statistics = 1.835
Sig. (two-tailed) = .066

For trust in NGO's, the total effect with subjective well-being (c) was beta = .411 ($p < .001$). See Figure 3. After controlling for Perception of Future, the effect of trust in NGO's (c') was still significant (beta = .384, $p < .001$). The indirect effect of trust in NGO's through Perception of Future on subjective well-being was not significant, however, it approached statistical significance, as indicated by Sobel test = 1.792, $p = .073$.

Figure 3.



Note: * p < .05, ** p < .01, *** p < .001

Sobel test statistics = 1.793
Sig. (two-tailed) = .073

Differences Between Resilience Groups

Resilience Groups and Subjective Well-Being. It was expected that higher score on resilience would be related to higher score on subjective well-being. A one-way between-groups analysis of variance was conducted to explore the impact of resilience on subjective well-being. See Table 8. The significance value for Levene's test (p = .545) indicated that the assumption of homogeneity of variance had not been violated.

Table 8. ANOVA results, Resilience groups and Subjective Well-Being

Measure	Resilience scores, divided into groups: Group 1: Low Resilience (23.14 or less)			Group 2: Med. Resilience (23.15 - 27.27)			Group 3: High Resilience (27.28 or above)			ANOVA			
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*F*	*df*	*p*	η²
Well-Being	21.88	8.21	51	24.16	8.09	55	21.70	9.02	57	1.443	2,160	.239	.02

Med. Resilience = Medium Resilience.
Post-hoc comparisons using Tukey HSD test.

There were no statistically significant differences in mean scores among the three groups at the $p < .05$ level: [F (2, 160) = 1.443, p = .239]. The effect size, calculated using eta squared, was .02, which according to Cohen (1988) is considered a small effect size.

As it was assumed that those who scored high on Perception of Future would also score high on subjective well-being, a separate ANOVA was carried out where the three groups were divided into those who score low, medium and high on Perception of Future. The results confirmed that there was a difference between the groups, [F (2, 195) = 3.636, p = .028], were post-hoc comparison using Tukey HSD test indicated that the significant difference was between those who scored low on Perception of Future (M = 20.05, SD = 8.13) and those who scored high on Perception of Future (M = 23.96, SD = 8.82, p = .021). The effect size, calculated using eta squared, was .04, which according to Cohen (1988) is approaching a medium effect size.

Resilience Groups and Demographics. To test whether there were differences between the resilience groups on demographics, a one-way between groups analysis was performed on the demographic variables on interval level, and Chi-Square tests for independence were performed for the variables on nominal level. The demographic variables on interval level were general health, age, the duration of HIV and importance of religion. See Table 9. The importance of religion was high accross the entire sample (M = 4.67, SD = 0.87)[4].

[4] A measure of religion was included, as religion is important in this culture.

Table 9. ANOVA results, Resilience groups and Demographics

Measure	Resilience scores, divided into groups: Group 1: Low Resilience (23.14 or less)			Group 2: Med. Resilience (23.15 - 27.27)			Group 3: High Resilience (27.28 and above)			ANOVA			
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*F*	*df*	*p*	η²
General Health	2.34	1.21	67	2.58	1.10	66	3.09	1.03	67	7.863	2,197	.001**	.08
Age	35.65	8.33	66	32.33	8.88	66	34.48	10.50	67	2.164	2,196	.118	.02
Duration of HIV	48.11	33.24	62	41.89	34.29	61	35.58	30.04	59	2.235	2,179	.110	.02
Religion	4.60	1.03	67	4.55	0.92	66	4.85	0.45	67	2.526	2,197	.083	.03

** p < .001.
Post-hoc comparisons using Tukey HSD test.
Duration of HIV is measured and reported in months. Med. Resilience = Medium Resilience

The difference between the resilience groups in regards to general self reported health was significant ($p = .001$). The effect size, calculated using eta squared, was .08, which according to Cohen surpasses a medium effect size (Cohen, 1988). Post-hoc comparisons indicated that there were significant differences between group 1 and 3 ($p < .001$) and between group 2 and 3 ($p = .023$).

To test whether there were differences between the resilience groups on the demographic variables on nominal level, chi-square tests for independence were performed for the variables sex, (“male” or “female”), marital status (“in a relationship” or “not in a relationship”), education (“general education” (grade 0 – 9) or “further education” (grade 10 – 12)), monthly income and monthly household income (“no monthly income” or “monthly income”), and area (“rural” or “urban”). See Table 10.

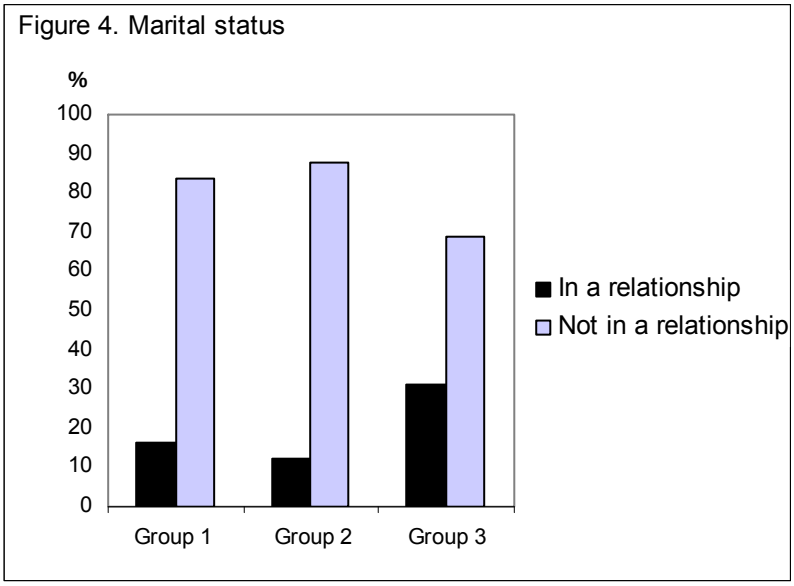
Table 10. Chi-Square Tests for Independence, Resilience groups and Demographics

Resilience scores, divided into groups

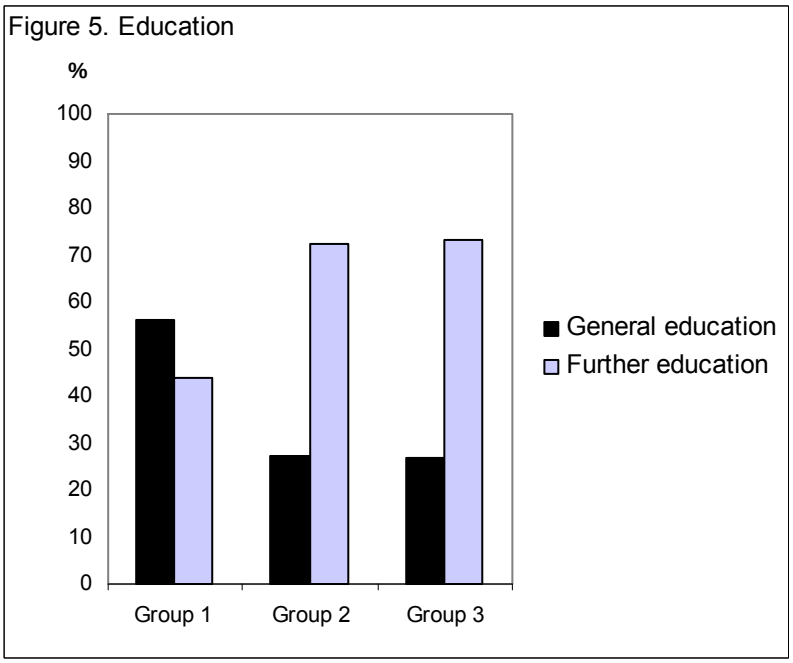
Measure	Group 1: Low resilience (23.14 or less)			Group 2: Med. resilience (23.15 - 27.27)			Group 3: High resilience (27.28 and above)			Chi-Square tests				
	N	% within group	% within meas.	N	% within group	% within meas.	N	% within group	% within meas.	CV	n	df	p	χ^2
Sex										.077	201	2	.553	1.19
Females	56	83.6	34.8	51	76.1	31.7	54	80.6	33.5					
Males	11	16.4	27.5	16	23.9	40.0	13	19.4	32.5					
Marital status										.206	200	2	.014*	8.49
In a rel.	11	16.4	27.5	8	12.1	20.0	21	31.3	52.5					
Not in a rel.	56	83.6	35.5	58	87.9	36.2	46	68.7	28.8					
Education										.284	197	2	.000**	15.87
General ed.	36	56.2	50.0	18	27.3	25.0	18	26.9	25.0					
Further ed.	28	43.8	22.4	48	72.7	38.4	49	73.1	39.2					
Income										.163	201	2	.069	5.34
No m. inc.	41	61.2	37.3	40	59.7	36.4	29	43.3	26.4					
Mon. Inc.	26	38.8	28.6	27	40.3	29.7	38	56.7	41.8					
Househ. inc.										.312	195	2	.000**	19.01
No m. inc.	49	76.6	45.4	33	50.8	30.6	26	39.4	24.1					
Mon. Inc.	15	23.4	17.2	32	49.2	36.8	40	60.6	46.0					
Area										.134	201	2	.163	3.63
Rural	56	83.6	31.5	63	94.0	35.4	59	88.1	33.1					
Urban	11	16.4	47.8	4	6.0	17.4	8	11.9	34.8					

* p < .02, (2-sided), ** p < .001 (2-sided). Pearson's Chi-Square (χ^2) and Cramer's V (CV) is reported. Med. resilience = medium resilience, meas. = measure, rel. = relationship, ed. = education, m. inc./mon. inc. = monthly income.

As shown in Table 10, the chi-square test, calculated using Pearson Chi-Square (χ^2), indicated a significant association between marital status and resilience group, χ^2 (2, n = 200) = 8.49, p = .014. The effect size reported, Cramer's V = .206, is approaching a medium effect size (Cohen, 1988). For ease of interpretation, differences are shown in Figure 4.

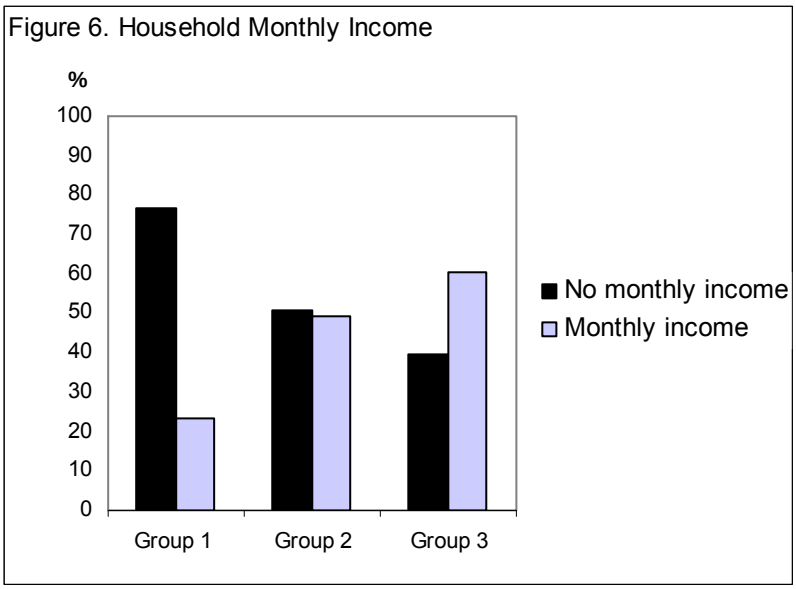


The crosstabulation shows that in Group 1 (low resilience) 16.4% are in a relationship, while 83.6% are single, in Group 2 (medium resilience) 12.1% are in a relationship, while 87.9% are single. In Group 3 (high resilience), however, 31.3% are in a relationship while 68.7% are single. The majority of people (52.5%) who are in a relationship, are in the group that score the highest on resilience. The chi-square test also indicated a significant association between education level and resilience group, χ^2 (2, n = 197) = 15.87, $p < .001$. The effect size reported, Cramer's V = .284, is approaching a medium effect size (Cohen, 1988). For ease of interpretation, differences are shown in Figure 5.



The crosstabulation indicates that the majority in group 1 (56.2%) only have general education. However, the majority of the people in Group 2 (72.7%) and Group 3 (73.1%) have completed further education. Of the individuals that only have general education, 50% belong to the group that score lowest on resilience. Nearly 78% of the people who have further education are either in Group 2 or 3. There was also a significant association between

monthly household income and resilience group, χ^2 (2, n = 195) = 19.01, $p < .001$. The effect size reported, Cramer's V = .312 is considered to be a medium effect size (Cohen, 1988). For ease of interpretation, differences are shown in Figure 6.



The crosstabulation shows that the majority in Group 1 (76.6%) have no household monthly income. In Group 3 the majority of the people (60.6%) do have a household monthly income. In addition, nearly half of the people who have no household monthly income (45.4%) are in the group that score lowest on resilience, while nearly half of the people who do have a household monthly income (46%) are in the group that score the highest on resilience.

Resilience Groups and Total Social Capital. Another aim of the present study was to explore how resilience is related to social capital. It was expected that higher score on resilience would be related to higher score on social capital in general, and it was examined if there were differences between the resilience groups in terms of total social capital. A one-way between-groups analysis of variance was conducted, and the same division into low, medium and high resilience groups was used for the analysis. The significance level for Levene's test ($p = .250$) indicated that the assumption of homogeneity had not been violated. See Table 11.

Table 11. ANOVA results, Resilience groups and total Social Capital

Measure	Resilience scores, divided into groups									ANOVA			
	Group 1: Low Resilience (23.14 or less)			Group 2: Med. (23.15 - 27.27)			Group 3: High Resilience (27.28 and						
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*F*	*df*	*p*	η²
Social Capital	21.90	3.25	26	25.05	2.74	37	26.75	3.35	38	18.77	2,98	.000**	.28
Social Capital, F	21.59	3.07	19	24.56	2.67	25	26.97	3.58	28	16.487	2,69	.000**	.32
Social Capital, M	22.75	3.83	7	26.06	2.71	12	26.12	2.65	10	3.322	2,26	.052	.20

* p < .05, ** p < .001. F = Females, M = Males. Med. Resilience = Medium Resilience
Post-hoc comparisons using Tukey HSD test.

There was a statistically significant difference in social capital scores for the three groups [F (2, 98) = 18.78, p < .001]. The effect size, calculated using eta squared, was .28, which is considered a large effect size (Cohen, 1988). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 1 (M = 21.90, SD = 3.25) was significantly different from Group 2 (M = 25.05, SD = 2.74, p < .001), and from Group 3 (M = 26.75, SD = 3.35, p < .001). Group 2 did not differ significantly from Group 3, however, it nearly reached statistical significance (p = .053). It was tested whether there was an interaction effect of gender, however, this was not found. Men and women did, however, score differently on social capital. For women, there was a significant difference among all resilience groups, between Group 1 and 2 (p = .008), between Group 1 and 3 (p < .001), and between Group 2 and 3 (p = .019). The effect size, calculated using eta squared, was .32, which is considered a large effect size (Cohen, 1988). For men, differences between the groups nearly reached statistical significance [F (2, 26) = 3.332, p = .052], and the effect size, calculated using eta squared, was .20, and considered a large effect size (Cohen, 1988). However, post-hoc comparisons did not indicate statistical significance between the groups for men.

Resilience Groups and Social Capital Sub Factors. After exploring the differences in resilience groups in total social capital, another one-way analysis of variance was performed between the resilience groups to determine what *specifically* differed between these groups in terms of social capital. The sub factors at all levels of social capital were included. See Table 12.

Table 12. ANOVA results. Differences between resilience groups on social capital sub factors

Measure	Resilience scores, divided into groups									ANOVA			
	Group 1: Low Resilience (23.14 or less)			Group 2: Medium Resilience (23.15 - 27.27)			Group 3: High Resilience (27.28 and above)						
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*F*	*df*	*p*	η²
Groups and Networks, Str.., bonding	8.22	7.57	65	11.32	10.18	65	7.91	7.40	67	3.252	2,194	.074	.03
Groups and Networks, Cog., bonding	3.31	1.38	67	3.70	1.15	67	3.94	1.01	67	4.705	2,198	.010**	.05
Groups and Networks, Str., bridging	2.21	1.14	66	3.46	4.36	65	2.48	1.09	65	3.971	2,193	.056	.04
Groups and Networks, Cog., bridging	3.97	1.26	65	4.16	1.15	67	4.60	0.82	67	5.749	2,196	.004***	.06
Groups and Networks, Str., linking	0.88	1.24	65	0.83	1.09	66	1.29	1.19	66	3.003	2,194	.053	.03
Groups and Networks, Cog., linking	2.48	1.74	65	2.58	1.79	67	3.24	1.76	66	3.633	2,195	.028*	.04
Trust, general	7.80	2.30	64	8.64	2.34	67	8.96	2.17	67	4.676	2,195	.010**	.05
Trust, bonding	28.58	7.29	36	31.76	5.96	46	34.76	6.40	46	9.378	2,128	.000****	.13
Trust, bridging	4.65	2.30	65	5.33	2.07	66	5.91	2.17	67	5.532	2,195	.005***	.05
Trust, linking	20.26	6.21	39	20.19	5.17	54	21.39	6.34	51	0.659	2,141	.519	.00
Coll. Action and Soc. Cohesion, Str., bonding	0.69	1.58	65	1.14	3.80	64	1.33	1.53	64	1.076	2,190	.343	.01
Coll. Action and Soc. Cohesion, Cog., bonding	3.16	1.45	67	3.91	1.29	67	4.31	1.14	67	13.462	2,198	.000****	.12
Coll. Action and Soc. Cohesion, bridging	6.58	2.15	66	6.99	1.88	67	7.60	1.53	67	5.041	2,197	.007**	.05
Coll. Action and Soc. Cohesion, linking	4.50	2.31	66	4.68	2.02	65	4.92	2.34	64	0.586	2,192	.557	.00

* p < .05, ** p < .01, *** p < .005, **** p < .001
Post-hoc comparisons using Tukey HSD test.
Coll. Action and Soc. Cohesion = Collective Action and Social Cohesion. Str. = Structural, Cog. = Cognitive.

In *Groups and Networks*, Cognitive on the bonding level there is a difference between the groups [F (2, 198) = 4.705, p = .010]. The effect size, calculated using eta squared, was .05, which is approaching a medium effect (Cohen, 1988). Post-hoc comparisons indicated that the significant differences are between Group 1 and Group 3 (p = .008). Differences in Groups and Networks, Cognitive on the bridging level is also significant [F (2, 196) = 5.749, p = .004]. The effect size, calculated using eta squared, was .06, which is considered a medium effect size (Cohen, 1988). The differences were significant between Group 1 and 3 (p = .003). There were also significant differences in Groups and Networks at the cognitive linking level [F (2, 195) = 3.633, p = .028], between Group 1 and 3 (p = .037). The effect size, calculated using eta squared, was .04, which is approaching a medium effect (Cohen, 1988). In regards to *Trust and Solidarity*, there are significant differences between the groups when it comes to general trust, as well as trust at bonding and bridging level. Again the differences are between those who score low and those who score high on resilience, with general trust at a significance level of p = .010 and effect size using eta squared at .05, bonding level p < .001 and effect size using eta squared at .13, and bridging level p = .003 and effect size using eta squared at .05. The effect size at trust at bonding level is considered to be large (Cohen, 1988). In regards to *Collective Action and Social Cohesion*, the groups are significantly different on the cognitive bonding level and on a bridging level. On the bonding level the effect size, calculated using eta squared, was .12, and considered large (Cohen, 1988). Group 1 is significantly different from both group 2 (p = .003) and group 3 (p < .001), but group 2 is not different from group 3. On the bridging level, there is a difference between group 2 and 3 (p = .005), and there is a medium effect size of .05. Although these three groups are divided according to their total score on resilience, a one-way analysis of variance was performed to look into whether the groups differed on all resilience sub factors, or if there where some sub factors that the groups were not significantly different from one another on. However, all groups differed from each other on a p < .001 level on all sub factors.

Discussion

This study revealed associations between resilience and social capital, between several of the sub factors of the two concepts, and at all levels of social capital. There were considerably more and stronger relations between resilience and cognitive social capital, than structural social capital. There were also several relations between subjective well-being and cognitive social capital on bonding and linking levels, however, not with structural measures of social capital. The study also showed that resilient individuals were different from less resilient

individuals, in several elements of cognitive social capital, and in objective and external measures of well-being, namely general self-reported health, marital status, education and household income. The only relation between resilience and subjective well-being was with the resilience factor Perception of Future. Individuals who view their future in a positive and optimistic way have better subjective well-being than individuals who perceive their future to be less positive and promising. Although resilience do not predict subjective well-being by itself, the findings indicate that having a positive and optimistic perception of one's future might also partially mediate how some social capital features relates to subjective well-being.

Demographics and Overview

All our informants were HIV-positive, and the majority were women. According to TAC, members of the support groups are mainly women. Previous research also report that in this culture, it is mostly women who participate in support groups (TAC, personal communication, September, 2008). A majority had only completed general education, over half reported having no monthly income or monthly household income, while the rest earned little, also relative to South African standards. Their general physical health was reported as neither good nor poor, and they reported that religion was very important in their lives. Based on the demographics, the informants are representative of black South Africans living in adverse environments in townships and informal settlements (Williams et al., 2007), and can be characterized along the survival dimension (Kuppens et al., 2008). Most South Africans living in the described environments live together with family and extended family, and very few live alone, which is characteristic of collectivistic cultures, and this can be an explanation to why there are differences in measures of household income, as opposed to personal income.

Resilience. The informants are in general reporting quite high levels of resilience, which are slightly lower or equal to resilience levels that other studies using the same measurement have reported, however, the participants of these previous studies were university students at a Norwegian university (Friborg & Hjemdal, 2004; Friborg, Martinussen et al., 2006), or patients at an adult outpatient clinic in Norway (Friborg et al., 2003). The dispositional factor Structured Style was the factor that had the highest mean, however, this factor has in the current and previous studies shown the least internal consistency with the other resilience factors. Being a structured person was the resilience factor that showed the least relations to social capital, and no relation to subjective well-being.

The factor which had the lowest mean was Perception of Future, however, having a positive outlook on one's own future was generally associated with several positive outcomes in regards to social capital, in particular cognitive social capital, and subjective well-being. This is in support of previous findings on resilience, optimism about one's future, and subjective well-being (Constantine & Sue, 2006; Møller, 1998; Møller & Saris, 2001; Utsey et al., 2008).

Social Capital. In previous studies social capital is measured in dissimilar samples, in different cultures with various versions of measurement tools. As advised by The World Bank they are adapted to the specific cultures that the studies have been conducted in (Grootaert & Bastelaer, 2001; Krishna & Shrader, 1999). The current study's levels of social capital has not been directly compared to other studies, and this was not within the scope of the current study. Previously, concerns have been raised about whether it is possible to mobilize social resources in communities that are struggling with high levels of adversities such as poverty, and whether it is possible to expect communities to address problems for themselves when there is a clear renunciation of responsibility and funds from the state (McKenzie & Harpham, 2006b). However, Thomas (2006) did a study in a poor settlement in KwaZulu-Natal, South Africa, where women's social capital was measured, as well as their self-rated general and mental health. Although the women reported having limited bridging social capital, the social capital that they did report could be described as bonding social capital. Thomas suggests that it may be that in the context of poverty and social stress, which these women reported, the possibility to build bonding social capital can form a first step towards the building and realization of structural social capital, which, together with cognitive social capital at the bonding level, can help individuals to move from 'getting by' to 'getting ahead'. The current study supports this, as the levels of social capital in this study were generally higher at the bonding social capital, apart from Groups and Networks, bridging, where the informants reported that groups in the community were very important. In the present study, a support group can provide an individual with both bonding and bridging networks, and this can be interpreted to that the support group they are members of are of high importance to most people. In addition, it was found that cognitive social capital was overall the most important feature in regards to both resilience and subjective well-being, and this is in support of previous findings (Kawachi et al., 2008a; McKenzie & Harpham, 2006a; Poortinga, 2005, 2006; Silva et al., 2006; Silva et al., 2005).

Subjective Well-Being. This study has not been directly compared to other studies of subjective well-being, as various measurement tools are used in various studies. In addition, this was not within the scope of the current study. The results indicate that levels of subjective well-being were neither high nor low. To the best of my knowledge, not many studies have measured subjective well-being in HIV-infected individuals in similar adverse environments. The findings of this study support previous research indicating that there are clear cultural differences as to how important subjective well-being and emotional experiences are to people's judgements of the quality of their lives (Kuppens et al., 2008). What constitutes a good life and well-being is culturally and contextually bound (Borge, 2005; Diener & Diener, 1995; Kuppens et al., 2008; Utsey et al., 2008). This supports Maslow's theory (1943; 1970), where physiological and security needs must be fulfilled before expressions of self-actualizations and self-expressions can be fulfilled. In the parts of the world where basic needs are generally met, like the western developed world, subjective well-being has become more and more central, however, the assumptions of having basic needs covered are not met in our sample.

The Relations Between Resilience, Social Capital and Subjective Well-Being

Resilience and Social Capital. Previous finding underline the importance between resilience and social relationships (Bromley, 2005; Pinkerton & Dolan, 2007) and cognitive aspects of social relationships and support from others (Silva et al., 2005), and this study support these findings. Not many studies have investigated these relationships (Silva et al., 2005). In general, cognitive social capital showed a stronger relation to resilience than structural social capital at bonding, bridging and linking level of social capital. In addition, it was found support for previous research stating that the strongest relations between social capital and resilience are at the bonding level of social capital (Bromley, 2005; Pinkerton & Dolan, 2007; Rutter, 1994; Silva et al., 2005; Sreter & Woolcock, 2004; Thomas, 2006). The socialization practices factor Social Competence was the only resilience factor showing a relation to structural social capital, indicating that the better skills, knowledge and behavior one has to interact with other people, the more groups one is a part of in and outside the community. The dispositional / psychological factors of resilience, Perception of Future and Perception of Self, show stronger relations at the bonding level, while having a positive outlook and hope for one's future is the only dispositional factor to be related to social capital at linking level. To be socially comptetent was important at all levels of social capital, while

Family Cohesion was important for cognitive social capital at bonding and bridging level. Previous reseach has also shown that having a well-functioning external support system is an important resilience attribute (Borge, 2005; Bromley, 2005; Friborg et al., 2003; Werner, 1992), and the current study also found this, however, it was mainly related to bonding and bridging cognitive social capital.

There were several factors of social capital that were characteristic for resilient individuals that were less typical of less resilient individuals. The more resilient an individual is, the more social capital he or she possesses and takes advantage of. It is likely that by possessing more social capital and having a stronger support system in general, one is better equipped to successfully handle stressful situations and conditions (Borge, 2005, 2007; Bromley, 2005; Werner, 1992). One objective of the study was to explore what specifically characterized resilient individuals in this context of adversity. In regards to the groups and networks a person is associated with, the significant differences between the resilience groups were only along measures of cognitive social capital. This means that for resilient individuals, friends and groups they are a member of mean a lot more to them, and are rated as more important, than for less resilient individuals. The amount of friends they have or the number of groups and networks they are a part of does not matter in regards to resilience. With reference to trust and solidarity, resilient individuals generally trust other people more than less resilient individuals, and particularly close friends, family and people at bridging levels, such as the support group. The support group they are a member of can be characterized both as bonding group and as a bridging group, as it consist of people who are similar to themselves, and people in the community who are different from themselves in many ways. As such, the support group helps people to 'get by', by means of mutual support and solidarity, and to 'get ahead', as various people in the support group may have different connections, including connections upward in society, that can give access to various important resources (Kawachi et al., 2008a; Woolcock & Narayan, 2000). Resilient individuals may have dispositional attributes that elicit positive responses from others, they may be more socially competent and evoke e.g. trust from others that make them better at taking advantage of such relations and resources (Goldstein & Brooks, 2005). There were no differences between the groups on trust at linking level, however, this may be because all participants display high levels of trust at this level. A reason for this can be that as they are all members of TAC, and mainly think of TAC as a group on linking level, and they generally place a lot of trust in this organization.

Resilient individuals are also different from less resilient individuals in cognitive Collective Action and Social Cohesion on bonding and bridging level.

Resilience and Subjective Well-Being. It was assumed that resilience and subjective well-being would show a strong relation to each other, as this is what has been reported in previous research (Barroso, 1997). However, research on well-being have shown that there are differences accross individuals, cultures and nations in regards to what constitutes a good quality life (Borge, 2005, 2007; Diener, 2006; Kuppens et al., 2008). In cultures where people's basic needs are generally met, and objective and external elements of their life are satisfactory, subjective well-being is central. In reality this mostly translates to developed nations, and in particular more individualistic cultures (Diener et al., 1998). In most developing countries people are generally rated along a survival dimension in contrast to the self-expression dimension. If a person's basic needs are not covered, one expects that the subjective well-being is less central, and the more objective and external measures of well-being are more important in regards to a good quality life (Diener & Diener, 1995; Møller & Saris, 2001; Pavot & Diener, 2008; Suh et al., 1998). This is in line with Maslow's theory that state that there's a hierarchy of values where lower level values, such as security and basic needs, must be satisfied before higher values become salient (Maslow, 1943, 1970). South Africa is a country which is characterized as a developing country, however, large contrasts exist within the nation, with disparities in living conditions, objective measures of well-being, and reactions to living conditions between different socio-economic groups, in particular between rural blacks, urban blacks, coloured people, Asians and whites (Møller, 1998; Møller & Saris, 2001). All our informants are mainly rural blacks, and they live their lives in adverse environments (Møller & Saris, 2001; Williams et al., 2007), which would be characterized along the survival dimension, as opposed to the self-expression dimension (Kuppens et al., 2008). In addition to living with HIV/AIDS, most live in poverty-stricken townships with bad housing, scarce electricity supply and running water, high crime rates, and high unemployment rates (Hirschowitz & Orkin, 1997; Møller & Saris, 2001; Williams et al., 2007), to mention a few. Over half do not have a monthly income, and the ones that do have an income earn very little.

Our results indicated that, in general, resilience and subjective well-being were not highly related in this sample. This is contrary to most research on resilience and well-being (Barroso, 1997; Borge, 2005, 2007; Bromley, 2005; Friborg, Hjemdal et al., 2006; Goldstein & Brooks,

2005; Rutter, 1990, 1993, 1999, 2006), however, most research has taken place in western and more individualistic environments. Resilience and well-being have not been widely researched among HIV-positive individuals in collectivistic cultures in developing countries, and it is likely that subjective well-being is not central to how a person in such environments and condition judges the quality of their life (Diener & Diener, 1995; Kuppens et al., 2008; Pavot & Diener, 2008; Whetten et al., 2008), and the current study gives support to this. Perception of Future was the only resilience factor related to subjective well-being. Previous research suggest that resilient individuals will display more positive subjective well-being than less resilient individuls, as most studies has shown that an outcome of successful handling of stress and adversity, which characterizes resilient individuals, is improved quality of life, and better subjective well-being than individuals that do not handle it as successfully (Borge, 2005, 2007; Bromley, 2005; Rutter, 1990, 1993, 1994, 2006). However, the present study found that the typical positive outcome subjective well-being was not associated with being resilient or not. This gives support to the research that has found that measures of a good life differs between cultures, in particular between individualistic and collectivistic cultures. For individuals that have not got their basic needs covered and are struggling to survive, emotional experiences and subjective evaluations may be less relevant to their overall well-being, and it is rather the objective and external measures of well-being that are the most important (Borge, 2005; Diener & Diener, 1995; Kuppens et al., 2008; Maslow, 1943, 1970; Pavot & Diener, 2008; Suh & Oishi, 2004; Suh et al., 1998; Utsey et al., 2008). Optimal human functioning has been described as a combination of optimism and hope for the future, resilience, happiness and subjective well-being. However, the "good life" is tied to and cannot be separated from the culture and the society's values (Constantine & Sue, 2006).

Resilience and Demographics. Research has indicated that objective and external measures of well-being are more central in collectivistic cultures, and in developing countries (Borge, 2005; Diener & Diener, 1995; Kuppens et al., 2008; Maslow, 1943, 1970; Pavot & Diener, 2008; Suh & Oishi, 2004; Suh et al., 1998). In this study the results indicated that the resilience groups differed on self-rated general health. More positive rating of general physical health is related to being more resilient in this sample. There were no significant differences between the groups in age, how long they had known they had been infected with HIV, or in regards to how important religion was in their life. The results also indicate clear trends that marital status, together with education and monthly household income, are important in regards to resilience. This can indicate that by being in a relationship, having

completed further education and having a monthly household income, i.e. that a spouse, parent, child or other relative provides an income for the family, there's a greater chance that one is also a resilient individual, which makes one better adjusted and equipped to successfully handle stressful situations and conditions. Or vice versa, that being a resilient individual makes it more likely that one is able to be in a steady relationship, complete further education, and being in a household that generate a monthly income. These results are in support of previous research that state that for individuals in cultures where one's basic needs are not sufficiently covered, and one can be characterized along a survival dimension, objective and external measures of well-being are the most central. Therefore, differences in resilience in people are more likely to be associated with differences in objective measures of well-being (Borge, 2005; Diener & Diener, 1995; Kuppens et al., 2008; Maslow, 1943, 1970; Pavot & Diener, 2008; Suh & Oishi, 2004; Suh et al., 1998)

Social Capital and Subjective Well-Being. The current study found that, for the sample as a whole, neither resilience nor the demographics and objective measures of well-being were able to predict variation in subjective well-being, rather social capital was. Although separate constructs, the positive 'well-being' is inversely related to the negative 'mental illness' (Diener et al., 1998; Greenspoon & Saklofske, 2000). In a systematic review by Silva et al. (2005), investigating relationships between social capital and mental illnesses, converse associations between mental illnesses and cognitive social capital were found, however, no clear patterns were found between mental illnesses and structural social capital. It has been said that the levels of trust vary between societies with the level of social connectedness (Mohseni & Lindström, 2007), and in this study trust and solidarity was generally more pronounced at the bonding level. The current study found relations between subjective well-being and cognitive social capital, and not with structural social capital, which support previous findings (Silva et al., 2006; Silva et al., 2005). The results also support previous studies in that the relations were generally stronger at the bonding level of social capital (Kawachi et al., 2008b; Poortinga, 2005, 2006; Silva et al., 2005). In a study by Kuppens et al. (2008) it was found that societies that can be said to be high in 'survival', people report relatively poor health, and low interpersonal trust. This was not found in this study, and a reason for this can be that the support group and TAC are very important to people's lives and are fostering a climate of trust. Interestingly, there were also relations between linking social capital and subjective well-being, while other studies including HIV-positive individuals frequently report a lack of trust in the national government and the healthcare system

(Whetten et al., 2008). In a study by Whetten et al. (2006) among HIV-positive individuals, it was found that trust in one's care providers was positively associated with more clinic visits, adherence to medication as well as better overall physical and mental health. Trust in the government was also associated with better physical and mental health. The current study support this finding, with trust in NGO's being most important to subjective well-being, followed by trust in the national government. In addition, collective action at bonding level and trust in groups at linking level are associated with optimism and hopes for the future, which again is positively associated with subjective well-being. While collective action and social cohesion at the bonding level was positively related to subjective well-being, collective action and social cohesion at the linking level was negativly related to subjective well-being. These findings could be interpreted to: if you generally trust social institutions, which are the institustion that have power in a society, then you generally feel good about yourself and your life. However, if you are involved in society and have taken action in local society and above, this generally affects subjective well-being in a negative way. It can look like actively doing things for the society and the group one is a member of, to use time and resources on work that one may not see the results from, at least not immediately, can lead to lower levels of positive affect and satisfaction with life. All our informants are members of TAC, and most probably think of TAC as the NGO they place a lot of trust in. Some TAC members are very much involved with actions towards government and groups on linking levels that concerns them, and others are more passive members. TAC has done a lot for HIV-positive people in South Africa, however, to stand up against local, provincial and national government is hard work and, as the history of TAC's battles shown, one is bound to experience many set backs.

Perception of Future. Although resilience per se did not show associations with subjective well-being, Perception of Future did. For those individuals that were in the group that were the most hopeful and optimistic about a better future, subjective well-being was more central than for individuals that viewed the future as more or less gloomy. An explanation to this finding can be that in our sample, and in this culture, a positive perception of one's future can be a form of optimism and hope, rather than a realistic perception and expectation to one's own future. Møller et al. (2001) found exactly this in their study on subjective well-being and more objective and external measures of well-being in poor, black South Africans, where expectations for one's future ran opposite to how they evaluated their current and past subjective well-being. In this culture it is not common to talk about negative

feelings and it could be that this resilience sub factor is measuring an idealistic, optimistic idea, a hope and a wish that things may change in the future, and as such, they pin their hope on the future rather than the present and the past, and derive their sense of subjective well-being from optimism. Such high levels of optimistic thinking has been positively related to subjective well-being (Møller & Saris, 2001). Resilient individuals that have marked optimism and hopes for the future, may generally be better at pursuing positive accommodations and adaption, and may also possess dispositional characteristics that enable them to evaluate the quality of their life as generally positive, even in the face of adversity. This is supportive of the findings in Barroso's (1997) study of long term survivors of HIV/AIDS, where a common feature about these resilient individuals was an existential ability to 'transcend' the illness. These individuals felt like they had to rise above the illness to be able to survive it, and this involved a certain degree of hope, faith, and a belief in the possibility of miracles. A contextual reason for the findings in the current study can be that, in contrast to how the past was for black South Africans, people are now generally more optimistic about the future of the country. According to Møller (Møller, 1998; Møller & Saris, 2001), disparities in perceptions of life quality can be related to South Africa's history of social divides. Black South Africans are generally dissatisfied with their past, but hold predominantly positive expectations for their future. For HIV-positive individuals, this optimism for the future can also communicate positive affect and hope in regards to the fact that the new health minister in the country, Barbara Hogan, now recognizes the depth and severity of the HIV/AIDS crisis in South Africa, and has marked a historic turning point in the South African government's response to the HIV/AIDS epidemic.

In the entire sample, the importance of religion to people was high. This may also offer an explanation for the role of optimism about ones future. Previous research has found that religiosity has a positive effect on optimism (Utsey et al., 2008). Although conducted in the US, Utsey et al.'s (2008) study was conducted with African American informants, and they found that future time orientation had a positive effect on optimism, which again had a positive effect on subjective well-being. Even though their study was conducted in a different culture, their findings are in line with the findings of the current study. They found that people who were more religious were more optimistic, which again increased subjective well-being. As we have too little variation in religiosity in our sample, we will not see these differences, however, it is plausible that we would see the same tendencies had we compared with a group that did not display such high levels of religiousness. Other studies have also found that

spirituality and religion are important for well-being and social support (Constantine & Sue, 2006; Utsey et al., 2008). Religion may provide our informants with hopes of a better future when times are hard, by e.g. looking toward heaven (Utsey et al., 2008).

Cognitive social capital at the bonding level was related to subjective well-being for the entire sample, and the resilience factor Perception of Future acts as a mediator in this relation. A possible interpretation for this relation can be that for these individuals, the support group for HIV-positive people that they are members of is a group at bonding level, and an optimistic belief that the support group can actively advocate for their cause, e.g. towards national government, and fight for a common good for them, affects their subjective well-being in a positive way. In regards to trust at linking level, there were tendencies of a partial mediation of having an optimistic view on the future, which can refer to the new hopes and optimism for the new government and their promise of a better future for HIV-positive people in South Africa. Having a positive outlook on the future also revealed tendencied of partially mediating the relation between trust in NGO's and subjective well-being. With TAC being one of the most important NGO's for these individuals, hopes and beliefs that TAC are able to front important issues toward different levels of government and fight for the rights of HIV-infected people, which may lead to better a better life and a better future for someone who is HIV-positive in South Africa, is associated with subjective well-being. The aforementioned exemplifications can indicate that having a positive outlook on the future, be it in regards to a dispositional attribute of optimistic thinking, signs and hopes of positive societal or political changes, or in regards to looking toward heaven, in combination with a strong feeling of cohesion and collective action with one's friends, family or support group members, is related to more positive subjective well-being. Again, optimism and hope of a good future, comes out as an important factor, which support previous research on this topic (Constantine & Sue, 2006; Møller & Saris, 2001; Utsey et al., 2008).

Limitations

One possible limitation about our sample can be that it is a highly homogenous group. In several variables that were expected to be associated with the concepts of interest, i.e. socioeconomic status and religion, there was too little variation in these variables for any relations to be disclosed. As an example, religion was very important to all informants, and although religion has been associated with both resilience and well-being in previous research

(Constantine & Sue, 2006; Utsey et al., 2008), no such relations were apparent here. However, having a homogenous group is an advantage as any variation over and above the variables that normally relates to the concepts of interest, and everybody score high on, can reveal new and important findings. Our sample was a non-random sample of poor, black South Africans. All informants were members of TAC support groups, and it is possible that they are not representative of HIV-positive people in South Africa in general, and therefore the findings may not generalize beyond the parameters of the current sample. It is plausible that these individuals score over and above the population mean in regards to resilience, social capital and subjective well-being. In this paper we are including informants who are infected with HIV/AIDS, and it is assumed that living with such a diagnosis is or has been, to various degrees, traumatic for an individual (Kalichman et al., 2002; Olley et al., 2006; Whetten et al., 2008; Williams et al., 2007). Measures where people rate how being HIV-positive specifically has affected them was not included, as it was deemed important to minimize the length of the questionnaires as well as avoiding potential biases by emphasizing the HIV topic. As people in the context of this study most likely have experienced multiple risks and traumatic events (Kalichman et al., 2002; Whetten et al., 2008; Williams et al., 2007), an index of life stressors could have been included, to account for the effect of cumulative risks on resilience and subjective well-being. Again, due to the prioritized issue of avoiding exhausting the informants in regards to their time, and avoiding unnecessary reminiscing potential traumatic experiences, it was decided to not include such a measure. However, the measures of demographics give indications that this sample is representative of rural, poor, black South Africans. In addition, the current study is on a conceptual level, where the important concepts are resilience, social capital and well-being. Types and numbers of risks and traumatic experiences were not a focus of this study, however, it is recognized that this is an important context and framework of our study. The study relied exclusively on self-report data from participants. Several limitations of self-report data have previously been established, including accuracy of recall, recall-bias, as well as a tendency to embellish or minimize behaviour or attitutes. The Sobel test was used to explore possible mediation, even though the test was developed for use in longitudinal designs, as it assumes a causal direction. This test has been criticized for being very conservative and strict (Kenny, 2008), and research has demonstrated that cross-sectional approaches to mediation typically generate substantially biased estimates of longitudinal parameters, even under the ideal conditions when mediation is complete (S. E. Maxwell & D. A. Cole, 2007). As this is a cross-sectional, correlational study, it precludes any inference of causality and directionality of the association

between resilience, social capital and subjective well-being.

Implications and Recommendations

Future research could test the relations between resilience, social capital and subjective well-being in other samples. Also, research should examine these variables using sophisticated and flexible designs, for instance by using a longitudinal prospective design where one is able to measure changes and disclose causual relations and developments in resilience attributes and social capital to view their impact on subjective and more objective measures of well-being. Based on this, interventions can be made that aim to strengthen and emphasize common individual attributes and features of the social environment, in particular in those individuals who don't display these attributes to the same extent. It is, however, important to state that not all individuals who are exposed to risk and adversity will develop resilience (Borge, 2005). Those that don't develop resilience need help and therapy, and this help can improve if we are able to understand processes that facilitate and promote resilience (Borge, 2005, 2007). Further research into how subjective well-being varies across nations is important, as it can give clues as to what constitutes a good life and how it may be shaped by one's culture and life circumstances (Kuppens et al., 2008; Utsey et al., 2008). In South Africa most care and support for people living with HIV/AIDS is carried out in the local communities, with little support and funds from the government (UNAIDS/WHO, 2008; UNAIDS/WHO/UNICEF, 2008). Hopefully, with the new government and new health minister in South Africa, who have initiated new hope and anticipation in regards to how the government will respond to the HIV/AIDS epidemic, there will be changes for the infected and affected. However, it is still important to improve and strengthen features, social networks and care and support in the local communities. Previous research has suggested that the possible reason for the fast spreading and progress of HIV, especially among black South African women, can be partly because of low levels of social capital and increased vulnerability (Gilbert & Walker, 2002). This is a complex picture as it involves material, psychological, social, cultural as well as behavioural factors.

Conclusion

This explorative study indicates that several elements of resilience and cognitive social capital are associated, at all levels of social capital, but particularly at bonding level. Trust and solidarity and collective action and social cohesion were especially salient. Possessing

cognitive social capital at bonding and linking levels is associated with subjective well-being, but, interestingly, the only resilience factor associated with subjective measures of well-being was the factor that involves having a positive and optimistic view of the future. Seemingly, for individuals who are infected with HIV and living in adverse life circumstances where they are struggling to survive, subjective well-being is not central or associated with being resilient. Instead, physical health, cognitive social capital and objective and external measures of what constitutes a good quality life is essential for these individuals. Nevertheless, for resilient individuals that have distinctive hopes and optimistic views about their future, subjective well-being is central. Although the ”good life” is tied to people’s culture, society and life circumstances, in such an adverse environment as this one, a good life seems to be a combination of cognitive social capital, essential objective measures of well-being, resilience and optimism and hope for a better future.

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Appendix

Appendix A: Approval from REK

UNIVERSITETET I OSLO
DET MEDISINSKE FAKULTET

Wenche Dageid
Psykologisk institutt
Universitetet i Oslo
Pb. 1094 Blindern

Regional komité for medisinsk og helsefaglig forskningsetikk Sør-Øst A (REK Sør-Øst A)
Postboks 1130 Blindern
NO-0318 Oslo

Telefon: 22 84 46 66
Telefaks: 22 85 05 90
E-post: : jorgen.hardang@medisin.uio.no
Nettadresse: www.etikkom.no

Dato: 21.10.08
Deres ref.:
Vår ref.: S-08693a 2008/18061

S-08693a The relationship between resilience and social capital, and their influence on Quality of Life for people living with HIV in KwaZulu-Natal, South Africa [6.2008.2216]

Vi viser til søknad mottatt til fristen 16. september

Komiteen behandlet søknaden i sitt møte tirsdag 14. oktober 2008. Prosjektet er vurdert etter lov om behandling av etikk og redelighet i forskning av 30. juni 2006 nr. 56, jfr. Kunnskapsdepartementets forskrift av 8. juni 2007 og retningslinjer av 27. juni 2007 for de regionale komiteer for medisinsk og helsefaglig forskningsetikk.

Dette prosjektet er nær knyttett til S-08635a. Begge prosjektene er igjen delprosjekter under et prosjetk med tittelen: "The role of social capital in promoting community based care and support for people living with HIV/AIDS in KwaZulu-Natal, South Africa". Dette prosjektet er tidligere godkjent av REK.

Hovedspørsmålet i dette delprosjektet er hvordan ulike aspekter av "resilience", sosial kapital og demografiske variabler samvarierer med og er relatert til livskvalitet. Informantene er HIV positive menn og kvinner som skal ha hatt kjennskap til diagnosen minst 6 måneder. Data skal innhentes ved hjelp av spørreskjemaer og dybdeintervjuer.

Det skal samles inn nokså mye data, men det argumenteres tilfredsstillende for nødvendigheten av dette for å kunne komme videre med de teoretiske problemstillingene.

Prosjektleder bør vurdere om det er såkalte "gatekeepers" (pkt 3) eller assistent (pkt 11) som skal kontakte potensielle deltakere for forespørsel om deltakelse.

Vedtak:

Komiteen godkjenner at prosjektet gjennomføres i samsvar med det som fremgår av søknaden.

Med vennlig hilsen

Kristian Hagestad
Fylkeslege cand.med., spes. i samf.med
Leder

Jørgen Hardang
Komitésekretær

Kopi: Anette Arnesen, anettar@student.uio.no

Norsk samfunnsvitenskapelig datatjeneste AS
NORWEGIAN SOCIAL SCIENCE DATA SERVICES

NSD

Harald Hårfagres gate 29
N-5007 Bergen
Norway
Tel: +47-55 58 21 17
Fax: +47-55 58 96 50
nsd@nsd.uib.no
www.nsd.uib.no
Org nr: 985 321 884

Wenche Dageid
Psykologisk institutt
Universitetet i Oslo
Postboks 1094 Blindern
0317 OSLO

Vår dato: 12.06.2008 Vår ref: 18806 / 2 / JE Deres dato: Deres ref:

TILRÅDING AV BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 07.03.2008. All nødvendig informasjon om prosjektet forelå i sin helhet 10.06.2008. Meldingen gjelder prosjektet:

18806	*The Role of Social Capital in Promoting Community Based Care and Support for People Living With HIV/AIDS in KwaZulu-Natal, South Africa*
Behandlingsansvarlig	*Universitetet i Oslo, ved institusjonens øverste leder*
Daglig ansvarlig	*Wenche Dageid*

Personvernombudet har vurdert prosjektet, og finner at behandlingen av personopplysninger vil være regulert av § 7-27 i personopplysningsforskriften. Personvernombudet tilrår at prosjektet gjennomføres.

Personvernombudets tilråding forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i meldeskjemaet, korrespondanse med ombudet, eventuelle kommentarer samt personopplysningsloven/-helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.

Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, http://www.nsd.uib.no/personvern/forsk_stud/skjema.html. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, http://www.nsd.uib.no/personvern/prosjektoversikt.jsp.

Personvernombudet vil ved prosjektets avslutning, 31.12.2015, rette en henvendelse angående status for behandlingen av personopplysninger.

Vennlig hilsen

Bjørn Henrichsen

Janne Sigbjørnsen Eie

Kontaktperson: Janne Sigbjørnsen Eie tlf: 55 58 31 52
Vedlegg: Prosjektvurdering

Avdelingskontorer / District Offices
OSLO: NSD, Universitetet i Oslo, Postboks 1055 Blindern, 0316 Oslo. Tel: +47 22 85 52 11. nsd@uio.no
TRONDHEIM: NSD, Norges teknisk-naturvitenskapelige universitet, 7491 Trondheim. Tel: +47-73 59 19 07. kyrre.svarva@svt.ntnu.no
TROMSØ: NSD, SVF, Universitetet i Tromsø, 9037 Tromsø. Tel: +47 77 64 43 36. nsdmaa@sv.uit.no

Personvernombudet for forskning

Prosjektvurdering - Kommentar

18806

Personvernombudet forstår det slik at prosjektet er et samarbeid mellom University of Kwa-Zulu Natal i Sør Afrika og Universitetet i Oslo hvor sistnevnte er behandlingsansvarlig institusjon. Ombudet forutsetter at denne behandling/ansvarsfordeling formelt er avklart mellom institusjonene og anbefaler at det utarbeides en avtale som bl.a. omfatter ansvarfordeling, ansvarsstruktur, hvem som initierer prosjektet, bruk av data og eventuelt eierskap.

Utvalget består av voksne kvinner og menn i KwaZulu-Natal, Sør-Afrika.

Data samles inn gjennom blant annet spørreskjema, dybdeintervju, fokusgrupper, deltakende observasjon, notater, tegninger og narrativt teater. Alle instrumenter vil bli adaptert til den lokale konteksten og oversatt til isiZulu.

Det registreres sensitive opplysninger om helseforhold og medlemskap i fagforeninger, jf. personopplysningsloven § 2 punkt 8 c) og e).

Det gis skriftlig informasjon og innhentes skriftlig samtykke fra alle deltakerne. Informasjonsskrivet som forelå 10.06.2008 finnes tilfredsstillende forutsatt at dato for prosjektslutt oppdateres til 31.12.2015 og teksten "unless the information has already been analysed or used in academic publications" slettes i avsnittet "The right to access personal information and maculate information about you". Dette unntaket i trekkmulighet gjelder kun for biologisk materiale og kan dermed ikke benyttes i det foreliggende prosjektet.

Behandlingen kan hjemles i personopplysningsloven §§ 8 første ledd og 9 a), samtykke.

Prosjektleder opplyser at det skal ikke foretas datainnsamling om husholdet likevel. Det skal dermed ikke etterspørres informasjon om tredjepersoner. Det tas likevel høyde for at informasjon om tredjepersoner etter all sannsynlighet kan dukke opp gjennom datainnsamlingen, særlig i narrativer og intervjuer. Ombudet legger til grunn at opplysningene vil være av begrenset omfang og av betydning for prosjektets formål. Personvernombudet finner at behandlingen kan hjemles i personopplysningsloven §§ 8 d) og 9 h). Med bakgrunn i at opplysningene om eventuelle tredjepersoner avgis tilfeldig og gjerne uten direkte personidentifiserende opplysninger, er det ombudets vurdering at prosjektleder kan unntas for sin informasjonsplikt overfor tredjepersonene, jf. personopplysningsloven § 20 annet ledd b).

I tillegg til prosjektleder Wenche Dageid og forskerteamet vil også masterstudenter, forskerassistenter og en PhD-student ha tilgang til materialet.

Prosjektet skal avsluttes 31.12.2015 og datamaterialet skal da anonymiseres og lydopptak slettes. Anonymisering innebærer at direkte og indirekte personidentifiserende opplysninger slettes eller omkodes (grovkategoriseres), navneliste/koblingsnøkkel slettes.

Prosjektet er meldt til Regional komité for medisinsk og helsefaglig forskningsetikk som har vurdert prosjektet som ikke fremleggelsespliktig.

Appendix C: Informed Consent

Request for participation in the research project

‘The relationship between resilience and social capital, and their influence on mental Well-being for people living with HIV in KwaZulu-Natal, South Africa’

Background and purpose

This is a request for your participation in a research project which deals with examining the role of social capital (social networks, trust and norms, and collective action) and resilience (personal attributes, social competence, family cohesion and support, as well as support among friends and neighbours in the community), in promoting mental Well-being for people living with HIV in KwaZulu-Natal, South Africa. Relevant participants for this study are adult (18 years or more), Zulu-speaking women and men, infected with HIV, living in and around the eThekwini municipality. The study is part of the main project: ‘The role of social capital in promoting community based care and support for people living with HIV/AIDS in KwaZulu-Natal, South Africa’, and is conducted by a research team from the University of KwaZulu-Natal and the University of Oslo, Norway.

Procedure

Information will be collected through questionnaires, and you only participate and answer the questions if you are willing to do so. You have the right to withdraw from the research any time you want to.

Possible advantages and disadvantages

A possible disadvantage for you is that some questions might make you feel uncomfortable and some can be time-consuming. The information you give can however contribute to new knowledge on how personal dispositions, family support and cohesion relate to social networks, trust and norms, and collective action, and how these operate in relation to mental Well-being in HIV positive individuals, in your community and elsewhere. Based on this information, recommendations and programmes can be made to strengthen resilience and social capital and improve HIV/AIDS related care and support in your community.

What will happen to the information you give in this study?

The information given by you will be registered and used only in accordance with the purpose of this study. A code will be used to identify the information you give. This means that the information you provide is treated with anonymity and confidentiality.

Only authorized personnel that are part of this research project will have access to the information you provide us with. It will not be possible to identify you through the results of the study when these are published.

Voluntary participation

Participation in this study is voluntarily**.** You may at any time and without stating a reason withdraw from the study. If you wish to participate in the study, please sign the informed consent on the last page of this document. If you at this stage agree to participate, you may

still withdraw your consent at any point of the study. If you at a later stage wish to withdraw, or have any questions regarding the study, please contact researcher Anette Arnesen on e-mail: anettar@student.uio.no or Dr. Wenche Dageid on telephone +47 22845184 or 072 760 2448, address: Department of Psychology, University of Oslo, Forskningsveien 3, P. O. Box 1094, NO-0317 Oslo, Norway, or email: wencheda@psykologi.uio.no

Additional information about the study can be found in **Section A**

Additional information about protection of personal data and economy can be found in **Section B**
Statement of informed consent follows after section B.

Section A. Thorough explanation of the study

Criteria for participation
Informants must be Zulu-speaking adults (minimum 18 years old) residing in eThekwini municipality, KwaZulu-Natal, South Africa. Equal numbers of men and women will be recruited where possible. Informants will consist of randomly selected HIV positive individuals through community- and non-governmental organizations and external agencies operating in the area.

Background information about the study
This research project aims to examine the role of social capital and resilience in relation to mental Well-being for people living with HIV in the eThekwini municipality, KwaZulu-Natal, South Africa, and is a study under the superior project: 'The role of social capital in promoting community based care and support for people living with HIV/AIDS in KwaZulu-Natal, South Africa'.
Social capital has been thought of as a web of cooperative relationships between people that facilitates resolution of collective problems, promote sustainable development and increase well-being. Dimensions of social capital include: social roles, networks, shared norms, values, trust, attitudes, and beliefs, information sharing, collective action, and decision-making. In this study we will look at dimensions of trust, groups and networks, social cohesion, and collective action.
Resilience can be described as a person's ability to adjust and adapt in a positive or satisfactory way, after and despite having been through stress and adversity. Dimensions of resilience are: dispositional attributes of the person, family support and cohesion, socialization practises, and external support in the neighbourhood and community. The study is conducted by a research team from the University of KwaZulu-Natal and the University of Oslo, Norway.

Specific research objectives
1. To identify how elements of resilience in HIV positive individuals in the community manifest themselves and are related to their mental Well-being, through exploration of:
    a. The individual's perception of their personal strengths, including self and future, and of their own social competence and structured style.
    b. The individual's perception of family cohesion and support, as well as support among friends and neighbours in the community.
2. To identify how elements of social capital in HIV positive individuals are related to their mental Well-being, through exploration of:

a. Individual community member's perception of social capital in the area, including dimensions of trust, groups and networks, social cohesion, and collective action.
b. Individual involvement in social capital related activities.

3. To explore how the dimensions and elements of resilience and social capital are inter-related and related to mental Well-being.

Procedure and instruments

The study takes place in fall 2008 and spring 2009. The methods and instruments include questionnaires and field notes. All instruments will be adapted to the local context and translated into isiZulu, and Zulu-speaking interpreters and university students will be trained to assist with the different methods.

Advantages and disadvantages

The study will inform the community about the levels and mechanisms of social capital and how it is related to resilience in the form of personal dispositions, family support and cohesion, among others, and how they operate together in relation to mental Well-being in HIV positive individuals, in your community and elsewhere. Based on this information, recommendations and programmes can be made to strengthen resilience and social capital and improve HIV/AIDS related care and support in your community. Groupings and organizations could be assisted in improving their functioning, and new knowledge can be obtained at individual and group levels. Disadvantages include time-consuming procedures and possible discomfort in answering some of the questions.

Section B – Protection of personal data, and economy

Protection of personal data

The information that will be registered about you will be treated with confidentiality by the research team at all stages of data collection, analysis, and during report writing. The research team is responsible for making sure that all participants are informed of the nature and purpose of the research and have autonomy to choose whether to participate in the research.

The right to access personal information and maculate information about you

If you agree to participate in this study, you have the right to access registered information about you.

You also have the right to correct eventual mistakes in the information we have registered about you. If you withdraw from the study, you can demand that all information about you should be maculated, unless the information has already been analysed or used in academic publications.

The study is financed by the Norwegian Research Council and the National Research Foundation South Arica.

Information about the results of the study

Participants have the right to know the results of the study. The project emphasises continuous dissemination and discussion of findings. A final report will be distributed after

the completion of the project. The results will also be published in academic journals, books, and other media.

CONSENT TO PARTICIPATE IN THE STUDY

I am willing to participate in the study

(Signed by respondent, date)

I confirm that I have conveyed correct information about the study
I will observe the anonymity and confidentiality of the respondent

(Signed by the interviewer/researcher, date)

Appendix D: Resilience Scale for Adults (RSA)

Views of your self and other people

Please think of how you usually are, or how you have been in general the last month, how you think and feel about yourself, and about important people surrounding you. Please check the option box that is closest to the end statement that describes you best. Thank you!

Name/id: _____ Date: ___/___/___

1. My plans for the future are	**difficult to accomplish**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**possible to accomplish**
2. When something unforeseen happens	**I always find a solution**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**I often feel bewildered**
3. My family's understanding of what is important in life is	**quite different than mine**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**very similar to mine**
4. I feel that my future looks	**very promising**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**Uncertain**
5. My future goals	**I know how to accomplish**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**I am unsure how to accomplish**
6. I can discuss personal issues with	**no one**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**Friends / family-members**
7. I feel	**very happy with my family**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**very unhappy with my family**
8. I enjoy being	**together with other people**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**by myself**
9. Those who are good at encouraging me are	**some close friends / family members**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**Nowhere**
10. The bonds among my friends is	**weak**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**Strong**
11. My personal problems	**are unsolvable**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**I know how to solve**
12. When a family member experiences a crisis / emergency	**I am informed right away**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**it takes quite a while before**

			I am told
13. My family is characterized by	**disconnection**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**healthy coherence**
14. To be flexible in social settings	**is not important to me**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**is really important to me**
15. I get support from	**Friends / family members**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**No one**
16. In difficult periods my family	**keeps a positive outlook on the future**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**Views the future as gloomy**
17. My abilities	**I strongly believe in**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**I am uncertain about**
18. My judgements and decisions	**I often doubt**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**I trust completely**
19. New friendships are something	**I make easily**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**I have difficulty making**
20. When needed, I have	**no one who can help me**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**always someone who can help me**
21. I am at my best when I	**have a clear goal to strive for**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**can take one day at a time**
22. Meeting new people is	**difficult for me**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**something I am good at**
23. When I am with others	**I easily laugh**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**I seldom laugh**
24. When I start on new things/projects	**I rarely plan ahead, just get on with it**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**I prefer to have a thorough plan**
25. Facing other people, our family acts	**unsupportive of one another**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**loyal towards one another**
26. For me, thinking of good topics for conversation is	**difficult**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**Easy**

27. My close family members	**Appreciate my qualities**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**dislike my qualities**
28. I am good at	**Organizing my time**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**wasting my time**
29. In my family we like to	**do things on our own**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**do things together**
30. Rules and regular routines	**are absent in my everyday life**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**simplify my everyday life**
31. In difficult periods I have a tendency to	**view everything gloomy**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**find something good that help me thrive**
32. My goals for the future are	**Unclear**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**well thought through**
33. Events in my life that I cannot influence	**I manage to come to terms with**	☐ ☐ ☐ ☐ ☐ ☐ ☐	**are a constant source of worry / concern**

Appendix E: Well-Being Scale

We would like to present a few statements for you, describing how you have been feeling *in general* over the last two weeks. Please circle the number that is most appropriate for you, with 1 being '*all of the time'* through 6 being '*at no time'*. Remember that there are no right or wrong answers. Please answer all statements. Thank you!

Name/id: _____ Date: ___/___/___

	Over the last two weeks	**All of the time**	**Most of the time**	**More than half of the time**	**Less than half of the time**	**Some of the time**	**At no time**
1	I have felt cheerful and in good spirits	1	2	3	4	5	6
2	I have felt calm and relaxed	1	2	3	4	5	6
3	I have felt active and vigorous	1	2	3	4	5	6
4	I woke up feeling fresh and rested	1	2	3	4	5	6
5	My daily life has been filled with things that interest me	1	2	3	4	5	6
6	I have been dealing with problems well	1	2	3	4	5	6
7	I have been feeling good about myself	1	2	3	4	5	6
8	I have been feeling loved	1	2	3	4	5	6

Appendix F: Social Capital Questionnaire

We would like to ask you some questions about your views on the social networks and norms in your community. Some questions are of a general nature, while others are related to HIV/AIDS, specifically to care and support activities in the community. Remember that there are no right or wrong answers. Please circle or write the most appropriate answer to each question. Please answer all questions. Thank you!

Questionnaire nr.: …… Date: ___/___/___

1. Age:……

2. Gender: Male: 1 Female: 2

3. Marital status:

Married	1
Single	2
Widow / widower	3
Divorced	4
Separated	5
Engaged to be married	6

Other (specify) …….

4. Level of highest education (grade / degree completed):

……...

5. What is your estimated monthly income?

No income	1
1 – 499 Rands	2
500 – 999 Rands	3
1000 – 1999 Rands	4
2000 – 2999 Rands	5
3000 – 5999 Rands	6
6000 Rands or more	7

6. Monthly income (estimated total, household):

No income	1
1 – 499 Rands	2
500 – 999 Rands	3
1000 – 1999 Rands	4
2000 – 2999 Rands	5
3000 – 5999 Rands	6
6000 Rands or more	7

7. Do you live in a rural or urban area? Please tick the appropriate box.

Rural ☐

Urban ☐

Groups and networks

We would like to ask you about the groups and organizations, networks, associations *to which you belong*. These could be formally organised groups or just groups of people who get together regularly to do an activity or talk about things.

8. About how many close friends do you have these days? These are people you feel at ease with, can talk about private matters, or call on for help.

…….

9. To what extent would you say that your close ones, family and friends, are there for you when you need them, both when it comes to material things and emotionally?

To a very great extent	1
To a somewhat great extent	2
Neither great or small extent	3
To a somewhat small extent	4
To a very small extent	5

10. How many groups in your community that are important to you are you a part of?

…….

11. Of the groups that you are a part of, how important and useful are they to you?

Very important and useful	1
Quite important and useful	2
A little important and useful	3
Neutral	4
Not important and useful	5

12. Thinking about the members of the groups that are important to you, are they of the same…

A. Religion	1
B. Gender	2
C. Ethnic or linguistic background/tribe	3
D. Race	4
E. Socio-economic status	5
F. Educational background or level	6

13. Of all the people you know, are they different than you? Please tick all appropriate boxes. Are they…

A. Of different ethnic or linguistic background / tribe?	Yes	No
B. Of a different race?	Yes	No
C. Of different socio-economic status?	Yes	No
D. Of different religious groups?	Yes	No
E. Of a different gender?	Yes	No

14. How many groups outside your community are you a part of? NGO's, political groups, international groups etc.

…….

15. How important to you is / are the group(s) outside the community?

Very important	1
Quite important	2
A little important	3
Neutral	4
Not important	5

Trust and solidarity

Trust can be directed towards specific people and institutions. It can also be a general feeling of trust and trustworthiness. Solidarity can be defined as a unity of purpose and togetherness. We now want to ask you some questions about trust and solidarity in this community.

16. Generally speaking, would you say that people can be trusted or that people cannot be trusted?

All people can be trusted	1
Some people can be trusted	2
Unsure / neutral	3
Some people can be trusted	4
People cannot be trusted	5

17. Would you say that most of the time people try to be helpful, or are they mostly looking out for themselves?

Mostly very helpful	1
Somewhat helpful	2
Neither helpful nor unhelpful	3
Not very helpful	4
Mostly looking out for themselves	5

18. If you suddenly had to go away for a day or two, could you trust on your neighbours to look after something that is important to you, e.g. your children, your house etc?

Definitely	1
Probably	2
Unsure	3
Probably not	4
Definitely not	5

19. Do you think that most people would take advantage of you if they got the chance, or would they try to be fair?

Definitely try to take advantage	1
More often than not try to take advantage	2
Neither take advantage nor be fair	3
More often than not try to be fair	4
Definitely try to be fair	5

20. I can trust each of the following to act in my best interest and be there for me:

	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree
A: My partner	1	2	3	4	5
B: My close family	1	2	3	4	5
C: My extended family	1	2	3	4	5
D: My friends	1	2	3	4	5

21. When I need advice or emotional support I can count on the following to provide it:

	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree
A: My partner	1	2	3	4	5
B: My close family	1	2	3	4	5
C: My extended family	1	2	3	4	5
D: My friends	1	2	3	4	5

22. Do you trust community based groups to provide support for people living with HIV/AIDS? E.g. homebased care, saving groups (funeral), traditional healers.

Totally	1
To a somewhat great extent	2
Neutral	3
To a somewhat small extent	4
Not at all	5

23. How much do you trust, or how confident are you with, people that are different than you?

To a very great extent	1
To a somewhat great extent	2
Neither great or small extent	3
To a somewhat small extent	4
To a very small extent	5

24. How much do you trust, or how much confidence do you have in the following groups?

Group	Totally	To a somewhat	Neutral	To a somewhat	Not at all

		great extent		small extent	
A: National government	1	2	3	4	5
B: Provincial government	1	2	3	4	5
C: Local government	1	2	3	4	5
D: Traditional leadership	1	2	3	4	5
E: The Health system	1	2	3	4	5
F: The Public services	1	2	3	4	5
G: NGO's	1	2	3	4	5

25. To what extent do you trust local government and local leaders to take into account concerns voiced by you and people like you when they make decisions that affect your community?

A lot	1
To a certain extent	2
Unsure	3
A little	4
Not at all	5

Social cohesion and action

Now we would like to ask you some questions about community member's participation in, and influence on important decisions that is made in the community.

26. How strong is the feeling of togetherness or closeness in your family? Use a five-point scale where 1 means feeling very distant and 5 means feeling very close.

Very distant	1
Somewhat distant	2
Neither distant nor close	3
Somewhat close	4
Very close	5

27. How many times in the past month have you got together with friends to have food or drinks, either in their home or your home?

……..

28. If a community project does not directly benefit you but has benefits for many others in the community, would you contribute time or money to the project?

Definitely	1
Probably	2
Unsure / neutral	3
Probably not	4
Definitely not	5

29. How likely is it that people in the community would get together to help a family that have lost a family member to AIDS and that cannot afford a funeral?

Very likely	1

Somewhat likely	2
The chance is 50/50	3
Somewhat unlikely	4
Very unlikely	5

30. In the past 12 months, how often have people in this community got together to jointly request something from government officials or political leaders that could be benefiting for the community?

Never	1
Once	2
A few times (three or less)	3
Many times (six or less)	4
Very often (seven and more)	5

31. To what extent have the local government and local leaders in the past taken into account concerns voiced by you and people like you when they have made decisions that have affected this community?

A lot	1
To a certain extent	2
Unsure	3
A little	4
Not at all	5

32. How would you describe your overall state of health these days? Would you say it is excellent, good, average, fair, or poor?

Excellent	1
Good	2
Neither good nor poor	3
Fair	4
Poor	5

33. Approximately how long have you known that you are HIV-positive?

……

34. How important is religion in your life?

Very important
Quite important
A little important
Neutral
Not important