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# Chapter 8

## Psychological Well-Being Among Young People Living with HIV: Role of Social Support, Self-Esteem and Socio-Demographic Variables



Charles Magoba Muwonge, Annet Kembabazi, Gladys Nakalema, Margaret Ekatushabe, Diana Kwarikunda, Henry Kibedi, and Joseph Ssenyonga

**Abstract** The focus of the present study was two-fold: (a) to examine the relations between demographic characteristics and the psychological well-being of Young People Living with HIV (YPLWH) and (b) to assess the extent to which self-esteem mediated the relationship between social support and psychological well-being of YPLWH. The sample consisted of 181 YPLWH selected from four Primary Health Care clinics in South-Western Uganda who responded to anonymous self-administered questionnaires. Data were analyzed using t-tests, ANOVA, and path analysis. We noted that females had significantly higher purpose in life scores than males ( $p < .05$ ). General family support exerted direct effects on purpose in life ( $\beta = .40, p < .001$ ) and positive relations ( $\beta = .15, p < .001$ ). The effects of general family support on personal growth were mediated by self-esteem ( $\beta = .14, p < .001$ ). Conversely, the total contributions of support from friends on personal growth and positive relations were mostly direct rather than being mediated by self-esteem. The study highlights a need to enhance the social support networks as a way of enhancing self-esteem and ensuring psychological well-being among YPLWH in Uganda.

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C. M. Muwonge (✉) · A. Kembabazi · G. Nakalema · M. Ekatushabe · J. Ssenyonga  
Department of Educational Foundations and Psychology, Mbarara University of Science and Technology, Mbarara, Uganda

D. Kwarikunda  
Department of Educational Foundations and Psychology, Mbarara University of Science and Technology, Mbarara, Uganda

Department of Educational Psychology, University of Potsdam, Potsdam, Germany

H. Kibedi  
Department of Psychology, Kyambogo University, Kyambogo, Uganda

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**Keywords** Psychological well-being · Self-esteem · Social support · Socio-demographic variables, young people living with HIV

## 8.1 Introduction

According to the Joint United Nations Program on HIV/AIDS (UNAIDS, 2019), globally, HIV and AIDS remain a major public health concern, with over 37.9 million people estimated to have been infected with HIV by 2019. In 2019, worldwide, there were 460,000 new HIV infections among young people aged 10–24 years, of which over 170,000 infections were recorded among adolescents aged 10–19 years (United Nations International Children’s Emergency Fund, 2020). The UNAIDS (2019) report further indicated that 2.8 million young people living with HIV (YPLWH) reside within sub-Saharan Africa. In Africa, HIV/AIDS accounts for the highest number of deaths among young people aged 10–24 years (Avert, 2020). The projected increase in the young people’s population threatens to further escalate the HIV prevalence on the African continent. Low and middle-income countries have the highest number of YPLWH, with over 84% of all YPLWH residing in sub-Saharan Africa (Avert, 2020). According to the Uganda AIDS Commission (UAC), by 2018, approximately 160,000 young people aged 15–24 years were infected with HIV in Uganda (UAC, 2019).

Over an extended period of time, YPLWH experience numerous psychological threats and other forms of challenges to their well-being. These challenges include discrimination, lack of enough social and emotional support, domestic violence, financial constraints, and other challenges related to adherence to antiretroviral therapy (ART) (Ashaba et al., 2018, 2019; Kihumuro et al., 2021; Kimera, Vindevogel, Kintu, et al., 2020). Such challenges emanate from the families, schools, health centers, and communities—where these young people interact with other people daily (Kimera et al., 2019; Osafo et al., 2017). For example, Kimera et al. (2019) indicated that within the East-African region, schools present highly stigmatizing environments for YPLWH due to some insensitive and bullying students and teachers who hold opprobrious views about HIV/AIDS.

Additionally, within their families, YPLWH are taken to low-ranking schools, served meals on separate utensils, and are given little financial and emotional support compared to their counterparts who are HIV negative (Kimera, Vindevogel, Kintu, et al., 2020; Kimera, Vindevogel, Reynaert, et al., 2020). In their study, Kidman and Violari (2018) reported that the perinatal-HIV infected young people experience physical, sexual, and intimate partner-violence as they transition into the dating life. Other challenges include grief and bereavement owing to the death of their caretakers, and the trauma posed by the prospect of their own ‘imminent’ death (Ashaba et al., 2019). There are concerns about the sexuality of YPLWH and the fear of having to disclose their HIV status to family members or spouses before starting family life (Ssali et al., 2010). Coupled with their emerging psychological and physical development, the above threats could trigger several mental problems,

leading to poor psychological well-being and psychosocial adjustment of YPLWH (Ashaba et al., 2018).

Among YPLWH, poor psychological well-being has been associated with poor adherence to ART (Leserman, 2008; Mavhu et al., 2013; Okawa et al., 2018), high risk of mental health problems such as depression and suicidal ideation (Abebe et al., 2019; Ashaba et al., 2018; Lyons, 2010; Okawa et al., 2018) and increase in the likelihood of spreading HIV to other people. Additionally, poor psychological well-being among YPLWH has been linked to poor adherence to doctors' advice and lack of compliance with medical prescriptions and treatments (Okawa et al., 2018).

Young adulthood is a very critical period in human development as it is at this stage when individuals develop social and human capital alongside other resources that can enable them to live an enjoyable adult-life later. Among YPLWH, their well-being is even more threatened as their survival and livelihood are already encumbered by AIDS-related morbidity, mortality and low quality of life since some of them are not able to access good medical and psychological support. In Africa, projections have indicated that the number of YPLWH will rise by 40% between 2015 and 2030 (Govindasamy et al., 2020). Therefore, as Govindasamy et al. (2020, p. 2) assert:

Models predict that investment in the quality of life among the growing youth population in sub-Saharan Africa, particularly via addressing health needs, could increase labor productivity and resultantly accelerate economic growth. If long-run economic growth is to be achieved, then public health policies need to also promote the well-being among YPLWH, a vulnerable and growing population in this region.

Researchers in sub-Saharan Africa should even be concerned about the well-being of YPLWH as there is compelling evidence that “the stocks and intergenerational transfer of human capital to young people in this region have already been eroded by the HIV/AIDS epidemic” (Govindasamy et al., 2020, p. 12).

Although Sustainable Development Goal 3 roots for the promotion of well-being among individuals of all ages, campaigns for the advancement of mental well-being and high quality of life among YPLWH have not been satisfactory in sub-Saharan Africa (Govindasamy et al., 2020), Uganda inclusive. Therefore, there is need to focus attention on individual considerations that result in better health-status and general well-being of YPLWH, especially in low and middle-income sub-Saharan African countries.

As Walakira et al. (2014) assert, the psychosocial well-being of HIV-infected people is a growing area of concern, and efforts are being made to understand the factors that relate to or promote their welfare. In order to develop interventions that are context-specific and fit for given sub-Saharan populations, there is need to examine how different socio-demographic variables (e.g., gender, religious affiliation, age, etc.) are related to the well-being of YPLWH, especially in developing countries. There is convincing evidence that such socio-demographic variables are highly associated with various aspects of psychological and mental well-being in the general population (e.g., Keyes & Waterman, 2003; Khumalo et al., 2012). Therefore, there is need to further examine variations in the psychological well-being of

YPLWH with respect to their socio-demographic variables, especially in sub-Saharan Africa.

Social support and self-esteem have also been identified to be protective against mental illnesses and psychological distress among People Living with HIV (PLWH) (Lyons, 2010; Mavandadi et al., 2009) including YPLWH (Abebe et al., 2019). For example, people with HIV who report satisfying social relationships exhibit high life satisfaction, are happier, and are less likely to be depressed (e.g., Mavandadi et al., 2009). Among youth, lower social support is highly correlated with more poor mental-health symptoms (Lam et al., 2007). Lee et al. (2007) have indicated that among young people aged 11–18 years, better social support was significantly associated with lower depression and reductions in general misconduct.

Additionally, low self-esteem among people living with HIV is associated with high stigma and discrimination, depression, and other related mental health issues (Kalomo, 2018). Manhas (2014) also indicated that high self-esteem was positively correlated with high quality of life, high psychological health, and higher levels of independence among PLWH.

Given that social support varies across different cultures (Taylor, 2007), and that many studies examining social support have been conducted in the Western countries (which are more individualistic), there is need to further examine the correlates of social support in African settings which value interdependence. Such studies will inform culturally specific interventions to enhance social support and self-esteem among YPLWH in Uganda with a view to improving their overall quality of life and well-being.

Although the relationships between self-esteem and social support have been well studied (e.g., Kong et al., 2013; Lyons, 2010), the structural relationship among these variables is loosely understood especially among YPLWH in sub-Saharan Africa. Therefore, the present cross-sectional study focused on examining the differences in the psychological well-being of YPLWH in Uganda for different socio-demographic groups, and how social support and self-esteem factors relate to psychological well-being in this group.

### ***8.1.1 Relationship Between Socio-Demographic Variables and Psychological Well-Being Among YPLWH***

Psychological well-being among people living with HIV has been associated with several socio-demographic variables such as age, gender, socio-economic status, number of people in the family, and characteristics of caregivers among other factors (Asante, 2012; Cederfjäll et al., 2001; Liping et al., 2015; Mavandadi et al., 2009; Vorster et al., 2000). Examining how certain demographic variables are linked to well-being provides an insight into which group is most vulnerable, and hence, helps to design interventions consistent with specific sub-Saharan populations. In the

following section, we discuss the relations between socio-demographic variables and psychological well-being among people living with HIV.

Across all age groups of people living with HIV, YPLWH have been, arguably, the most affected group (Avert, 2020). This is partly because they are not only battling challenges associated with their HIV status, but also the emotional, physical, and psychological changes associated with the transitions from childhood and adolescence to adulthood. Although adolescents' awareness of their HIV status has no negative impact on their mental health as compared to those who are unaware of their status (Menon et al., 2007), the disclosure and/or fear of disclosure of the HIV status of YPLWH to schoolmates or other less closely related individuals in the community significantly impacts their psychological health and well-being (Kimera, Vindevogel, Kintu, et al., 2020; Lam et al., 2007). However, disclosure to trusted family and friends who provide emotional support does not threaten the psychological health of YPLWH (Lam et al., 2007).

Some studies have found age to be positively associated with the positive mental health of PLWH. For example, Mavandadi et al. (2009) found that older people (54+ years), especially those who grow up with HIV, have been found to show better psychological well-being and health adjustment compared to the younger ones ( $\leq 54$  years). Older people receive much support from their colleagues and family members thereby reducing social isolation, leading to better mental health. Liping et al. (2015) evaluated the association between socio-demographic variables and quality of life among people living with HIV in China. In contrast with the results of Mavandadi et al. (2009), Liping et al. (2015) found individuals aged 30 years and below had a higher quality of life compared to those who were older. Other studies have indicated no significant differences in psychological well-being between age groups (e.g., Asante, 2012; Flannelly & Inouye, 2001). For instance, Asante (2012) conducted a study among adults, many of whom had received higher education, and although higher levels of social support were associated with lower levels of depression, there were no significant correlations between age and their general psychological well-being.

Although some studies agree that there are no variations in the well-being and mental health of YPLWH based on their gender (Flannelly & Inouye, 2001; Mellins et al., 2006; Worthington & Krentz, 2005), other researchers seem to disagree. For example, a study among people aged 18–58 years living with HIV in Ghana indicated that females experienced higher levels of depression, anxiety, and stress compared to their male counterparts (Asante, 2012). This agreed with earlier studies conducted among adolescents living with HIV (ALWH, e.g., American ALWH between 1993 and 1995 [Lee et al., 2007]; Malawian ALWH [Kim et al., 2015]; and Spanish ALWH [Ramiro et al., 2013]). Among Kenyan YPLWH, depressive symptoms were higher among males than females—which were attributed to exposure to more negative events in life or conflicts at home. Nevertheless, specific phobias were more prevalent among females (Kamau et al., 2012).

Worthington and Krentz (2005) examined the relationships between education level, socio-economic status, and well-being (indicated by health-related quality of life; HRQL) among HIV-positive adults in Canada. After controlling for clinical

characteristics, results indicated that educational levels, employment status, and income significantly predicted HRQL, while other factors like living with a partner and the mode of HIV transmission did not. In China, family annual income was significantly and positively associated with high physical health and mental health scores among adults living with HIV (Xiao et al., 2019). Similarly, Flannelly and Inouye (2001) indicated that among Hawaiian adults aged 25–54 years, socio-economic status combined with other variables such as religious affiliation and faith explained HIV patients' well-being. These studies suggested that high socio-economic status is linked to access to better medical services, better social networks, and better psychosocial support, all of which can lead to improved mental health among people living with HIV.

The psychological well-being of YPLWH can also be influenced by the characteristics of the caregiver. For example, children living with HIV-infected parents or caregivers are at higher risk of psychological stress resulting from uncertainty regarding the health of the caregiver than those living with non-infected ones. Additionally, Lee et al. (2007) have indicated high depression levels among young people whose parents had disclosed their HIV status to them. On the contrary, other studies suggest that the characteristics of the caregiver have no impact on a child's mental health. For example, Mellins et al. (2006) study among an American population indicated that the caregivers' gender, race, and biological relationship had no significant effect on the child's (9–16 years) psychiatric condition. The same study indicated that the caregiver's HIV status had no influence on the child's mental condition. In Uganda, studies have indicated that the mental health of many orphaned YPLWH living with other relatives (e.g., grandparents) or in child-headed homes was poor (Atwine et al., 2005; Sengendo & Nambi, 1997). In a resource-poor Kenya urban community, Kamau et al. (2012) indicated that the characteristics of the primary guardian, parental status (i.e., whether single parent, both parents alive, or orphaned), and ART were not associated with the psychiatric morbidity of a sample of children and ALWH.

In summary, previous studies have indicated variations in the psychological well-being of people living with HIV with respect to their demographic characteristics. Based on the results discussed above, it is evident that the relationship between socio-demographic variables and psychological well-being is context-specific and varies according to the population and circumstances under study. Nevertheless, many studies examining these relationships have been conducted with older people living with HIV/AIDS in Western and Asian countries. In terms of HIV management, Western and Asian societies differ significantly from African societies. For example, leaving aside the cultural differences, there is better access to HIV treatment and psychosocial support for HIV-infected individuals in Western countries compared to their counterparts in sub-Saharan Africa. Consequently, such findings from European, American, and/or Asian contexts cannot necessarily be used to inform practices in Africa. The present study responds to this research gap by exploring whether the psychological well-being of YPLWH differs in accordance with their socio-demographic variables.

### ***8.1.2 Relationships Between Social Support, Self-Esteem, and Psychological Well-Being Among YPLWH***

In the following sections, we highlight the relationships between social support, self-esteem, and psychological well-being.

#### **8.1.2.1 Associations Between Social Support and Self-Esteem**

Social support is defined as “the perception or experience that one is loved and catered for, esteemed and valued, and part of the social network of mutual assistance and obligations” (Kong et al., 2013, p. 152). Perceived social support is significantly associated with high self-esteem (Kong et al., 2013; Lyons, 2010; Sung et al., 2012; Tian et al., 2013). When young people have warm and positive relationships with their colleagues, they experience acceptance, encouragement, and support from interactions in such relationships thereby developing a high positive regard for themselves, high self-confidence, and high self-esteem (Wilson et al., 1990). Among young people aged 10–19 years, high self-esteem has been reported from those who receive a lot of support from fellow peers and their families (Huurre, 2000). When young people have supportive role models (e.g., teachers and parents), they are more likely to have higher self-esteem as such models help in shaping and correcting their attitudes.

#### **8.1.2.2 Relationship Between Self-Esteem and Well-Being**

Self-esteem is a component of self-concept that refers to the person’s positive or negative orientation towards him/herself. People with high self-esteem are highly optimistic, have high hopes about the future, and exhibit high life satisfaction compared to those with low self-worth. Low self-esteem has been associated with unhealthy and anti-social habits such as drug abuse, rape, and engagement in high-risk behaviors that lead to poor mental health and psychological distress (Chernaskey, 2017).

In the general population, self-esteem has been strongly associated with high levels of psychological well-being. For example, high self-esteem correlates strongly with life satisfaction, positive affect (Diener & Diener, 1995) and predict the cognitive component of subjective well-being among young people aged 10–19 years (Zhang & Leung, 2002). In China, Xi et al. (2017) indicated that self-esteem and self-efficacy predicted subjective well-being among Chinese college students. The above results dovetailed with those of Sung et al. (2012) who found that high self-esteem was associated with lower depression levels among institutionalized adolescents in Korea. Compared to individuals with high self-esteem, those with lower self-esteem lack sufficient coping mechanisms necessary to prevent



spiraling downward into depression when faced with traumatic events or challenging situations (Orth et al., 2009).

In summary, individuals with high esteem and self-acceptance develop a positive view about themselves which leads to high optimism and hopes for the future—which consequently boosts their personal growth, psychological adjustment, and well-being compared to those with low self-esteem.

### **8.1.2.3 Social Support and Well-Being**

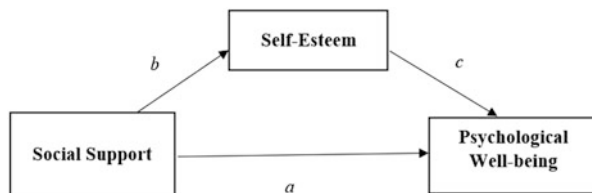
The positive associations between social support and well-being are widely documented. This is also the case for people living with HIV/AIDS or other life-long illnesses (e.g., Asante, 2012; Funck-Brentano et al., 2005; Lee et al., 2007; Mavandadi et al., 2009; Neff et al., 2003; Symister & Friend, 2003; Walker et al., 2004). For example, Asante's study involving a Ghanaian sample of PLWH aged between 18 and 58 years found that individuals who reported receiving more social support were less depressed and had lower levels of anxiety than those who reported receiving less social support. This is consistent with the studies of Lee et al. (2007) and Tian et al. (2013) that involved ALWH from the USA and China respectively, and Sung et al.'s (2012) study with a South Korean sample of PLWH. High social support has been linked to low CD4 lymphocyte count and reduced HIV progression (Persson et al., 1994), lower depression levels (Mavandadi et al., 2009; Schrimshaw & Siegel, 2003; Vyavaharkar et al., 2009), more positive moods ( $r = .374$ ), less negative moods ( $r = -.276$ ; Fleishman et al., 2000) and higher medication adherence practices—all of which are indicative of the better psychological well-being of PLWH. In Ethiopia, Abebe et al. (2019) found that, in addition to age and poor medication adherence, low and moderate social support were highly associated with depressive symptoms among youth infected with HIV. Social support promotes well-being through influencing behaviors, emotions, and cognitions that promote positive affect (Cohen et al., 2000).

### **8.1.2.4 Self-Esteem as Mediator Between Social Support and Well-Being**

There is evidence to suggest that the effects of social support on psychological well-being are mediated by self-esteem (Symister & Friend, 2003; Sung et al., 2012). Social support leads to high self-esteem which in turn, leads to better psychological well-being (Bosson et al., 2000; Diener & Diener, 1995). It is therefore reasonable to hypothesize that self-esteem mediates the relationship between social support and well-being (see Fig. 8.1).

The mediation effect of self-esteem on the relationship between social support and psychological well-being has been demonstrated in some studies conducted with adolescent and adult populations (e.g., Kong et al., 2013; Sung et al., 2012; Tian et al., 2013; Xi et al., 2017). In China, Sung et al. (2012) investigated the

**Fig. 8.1** Hypothesized structural relationship between social support, self-esteem, and psychological well-being



relationship between perceived social support, self-esteem, and depression among adolescents from child welfare institutions. A structural equation model indicated that high social support was associated with high self-esteem ( $\beta = .47$ ) and negatively with depression. The same study indicated that self-esteem mediated the relationship between social support and depression. Xi et al. (2017) examined the mediation effects of self-esteem in the relationship between social support and subjective well-being among college students in China. Results indicated that social support positively influenced subjective well-being and that self-efficacy mediated the relationship between social support and well-being. Similarly, Tian et al. (2013) studied the mediation role of self-esteem in the relation between social support and school well-being among middle and early adolescents in China. Among the early adolescents, the relationship between parental support and school well-being was mediated by self-esteem. Additionally, self-esteem mediated the relationship between teacher support and well-being for both early and middle adolescents.

Despite all available evidence, there is a paucity of studies examining the relationship between self-esteem, social support, and well-being of vulnerable groups including PLWH, especially in low and middle-income countries, and particularly in Africa. Therefore, the current study examined the mediation effect of self-esteem on the relationship between social support and well-being among YPLWH in Uganda. This knowledge is important for designing comprehensive interventions that target different aspects of the psychological well-being of YPLWH in the Ugandan context.

### 8.1.3 The Present Study

In view of the gaps highlighted above, the present study was guided by the following objectives:

- (a) To examine whether psychological well-being differs with respect to the demographic characteristics among YPLWH in Uganda.
- (b) To assess the extent to which the relationship between social support and psychological well-being is mediated by self-esteem among YPLWH in Uganda.

## 8.2 Method

### 8.2.1 Design and Sampling

The study was conducted at four Primary Health Care clinics in South-Western Uganda that provide ART to YPLWH. At the time of the study, there were 400 YPLWH receiving services from these health facilities. In line with the recommendations of Krejcie and Morgan (1970) regarding sample selection, we anticipated including a randomly selected sample of 196 respondents. The study adopted a cross-sectional research design.

### 8.2.2 Participants

The sample consisted of 181 YPLWH (92% response rate), females (56.9%), aged 12–20 years with a mean age of 16.67 years ( $SD = 2.2$ ). Most of the participants were not in a romantic relationship (102, 56.4%). The sample consisted of Catholics (29.3%), Moslems (24.3%), Anglicans (24.3%), Pentecostals (10.5%), Seventh Day Adventists (5.0%) and other unidentified religions (0.6%). Eleven respondents (6.1%) did not indicate their religion. Most respondents (45.3%) indicated that both biological parents were alive, 32% had one parent who was alive, and 19.9% had lost both parents. Five respondents (2.8%) did not indicate whether their parent (s) were alive or dead. Seventy-one respondents indicated that they lived with both parents compared to 51 and 29 respondents who indicated that they lived with one parent and relatives respectively. Twenty-two respondents indicated they lived with other guardians yet one respondent indicated that he/she lived in a child-care institution. Seven respondents did not indicate whom they lived with at home. Most respondents were taking antiretroviral (ARV) drugs (157, 84.5%) yet 24 respondents (13.3%) indicated that they were not taking ARV drugs. The majority of the participants (42%) were born with HIV, 32.6% acquired HIV through sexual intercourse, and 25.4% acquired HIV through other means such as needle sharing and accidents.

### 8.2.3 Instruments

A self-report questionnaire consisting of two sections was used to assess the study variables. The first section consisted of items about the YPLWH demographic characteristics such as age, sex, religion, whether one is in a romantic relationship (i.e., relationship status), whether all biological parents were alive, who they live with at home, whether they were taking ARV's or not, and mode of transmission of

HIV. The second section consisted of several subscales that assessed the respondents' psychological well-being, social support, and self-esteem as described below.

### 8.2.3.1 Psychological Well-Being

Ryff's psychological well-being questionnaire (Ryff, 1989) assessed psychological well-being. This scale comprises six subscales including autonomy, environmental mastery, personal growth, positive relationships, purpose in life, and self-acceptance subscales. Previous studies (e.g., Gao & McLellan, 2018; Springer & Hauser, 2006) have indicated high correlations between subscales of autonomy, environmental mastery, and self-acceptance, indicating a poor discriminant validity of these scales. Consequently, in the present study, only three subscales were adopted as indicators of psychological well-being including the positive relations subscale (4 items), the purpose in life subscale (4 items), and the personal growth subscale (4 items). Sample items from the above subscales included; (a) positive relationships ("I enjoy personal and mutual conversations with family members or friends" and "I know that I can trust my friends, and they know they can trust me"), (b) purpose in life ("I have a sense of direction and purpose in life" and "I enjoy making plans for the future and working to make them a reality"), and (c) personal growth ("For me, life has been a continuous process of learning, changing and growth", and "I think it is important to have new experiences that challenge how I think about myself and the world"). In the present study, Cronbach's alpha values for the positive relations, purpose in life and personal growth subscales were .73, .72 and .81 respectively.

### 8.2.3.2 Social Support

A 12-item multidimensional scale of perceived social support (Zimet et al., 1988) assessed the YPLWH perceived social support from sources including; (a) family (4 items), (b) friends (4 items), and (c) significant others (4 items).

Initial analysis indicated a very high correlation between the family and significant others' social support subscales ( $r = .98, p < .01$ ). In our context, significant others would include the immediate helpers of the young people with whom they share their joys and sorrows, which, in the present study, were the family members of the YPLWH. This could explain the high correlations between these two factors. In fact, previous research indicates that Ugandan adolescents and YPLWH mainly receive social support from their immediate family members (e.g., Damulira et al., 2019; De Nutte et al., 2015; Nabunya et al., 2020; Osafo et al., 2017), hence YPLWH in Uganda consider their family members as also their significant others. Consequently, we merged items from these scales to create a new factor—general family social support (8 items). Sample items from the above subscales included; (a) general family support ("My family really tries to help me" and "I get the emotional help and support I need from my family") and (b) support from friends ("I can talk about my problems with my friends" and "I have friends with whom I

can share my joys and sorrows’). In the present study, Cronbach’s alpha values for the general family social support and friends’ subscales were .94 and .80 respectively.

### **8.2.3.3 Self-Esteem**

Self-esteem was assessed using the unidimensional 10-item Rosenberg self-esteem subscale (Rosenberg, 1985). Sample items from this section included; “I feel that I have a number of good qualities and I am able to do things as well as most other people”. The Cronbach’s alpha for the self-esteem scale was .80 in the present study.

### **8.2.4 Procedure**

Ethical clearance for the study was sought from the Research Ethics Committee of Mbarara University of Science and Technology, Uganda. Later on, we sought permission from the health clinic’s authorities to administer the questionnaires to the YPLWH attending the ART clinic on particular days. The first author explained the aims of the study to the young people before enrolling them in the study. Besides, the potential participants were informed that participation in the study was voluntary and that they were free to withdraw from the study at any time. Additionally, all information that was to be collected was anonymous, confidential, and used for research purposes only. YPLWH were allowed to ask questions on issues where they needed clarifications. Before the participants were enrolled in the study, written assent and parents’/guardians’ written consent for participants aged below 18 years, and written consent for participants aged 18–20 years were sought. The participants used approximately 20 min to fill in the questionnaires. The completed questionnaires that were received from the respondents were further checked during submission and participants were encouraged to complete any missing items identified.

### **8.2.5 Data Analyses**

Our analytic strategy followed two main stages including; (a) initial data screening, and (b) analyses related to the study questions—as described below.

Data were screened for (a) multicollinearity, (b) outliers, and (c) missing values—as required before the use of some analyses such as t-tests and structural equation modeling in the subsequent steps. Some subscales’ items had missing values of <1%, and hence the full information maximum likelihood method for handling missing values was used, as it is more efficient and less biased compared with other techniques such as list-wise deletion (Geiser, 2013). In line with Kline’s (2005) recommendation, all correlations between the variables were below 0.85 (see

**Table 8.1** Descriptive statistics and correlations for the Likert-type questionnaires

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. General family support	39.31	10.69					
2. Friends support	19.02	4.41	.57*				
3. Self-esteem	12.37	3.64	.56*	.45*			
4. Positive relations	16.37	4.37	.49*	.51*	.49*		
5. Purpose in life	17.64	3.72	.53*	.29*	.47*	.47*	
6. Personal growth	16.91	4.42	.40*	.42*	.48*	.58*	.52*

\* $p < .01$

Table 8.1); hence, there was no significant multicollinearity among the study variables. No outliers were identified in the dataset.

Analysis of Variance (ANOVA) and t-tests were used to examine statistical differences in psychological well-being among YPLWH related to their socio-demographic characteristics. We used a path model (using manifest variables) to examine the mediation effects of self-esteem on the relation between social support and psychological well-being. The use of manifest variables in the structural models is justified when the variables show high levels of reliability indicated by Cronbach's  $\alpha > .70$  (Pedhazur, 1982) and when one has many parameters to estimate, as was the case in the present study. We followed the acceptable model fit criteria stated by Hu and Bentler (1999), who proposed Comparative Fit Index (CFI) and Tucker–Lewis index (TLI) values above .90, Standardized Root Mean Square Residual (SRMR)  $\leq .08$ , and Root Mean-Square Error of Approximation (RMSEA)  $\leq .06$  are indicative of adequate fit. Analyses to answer the first research question were conducted in SPSS Version 25 while Mplus 7.4 (Muthén & Muthén, 1998–2015) was used in analysis related to the second research question. The robust maximum likelihood (MLR) estimator was used in model estimations as it is not affected by violations of assumptions of normality (Wang & Wang, 2012).

## 8.3 Results

### 8.3.1 Descriptive Statistics

Descriptive statistics of the different Likert-type scales and correlations between scale scores are presented in Table 8.1. Social support variables were positively correlated with self-esteem and psychological well-being.

### **8.3.2 Variations in Psychological Well-Being with the Respondents' Demographic Characteristics**

We noted significant differences in purpose in life subscale with respect to gender of YPLWH.

( $t(174) = -2.2, p = .03$ ) with females expressing a higher purpose in life ( $M = 18.18, SD = 3.33$ ) compared to males ( $M = 16.99, SD = 3.92$ ). There were no significant differences in the psychological well-being of YPLWH with respect to: relationship status, religion, whether parents are alive or not, who they live with at home, whether they are taking ARV's or not, and mode of HIV transmission.

### **8.3.3 Mediation Effect of Self-Esteem on the Relationship Between Social Support and Psychological Well-Being**

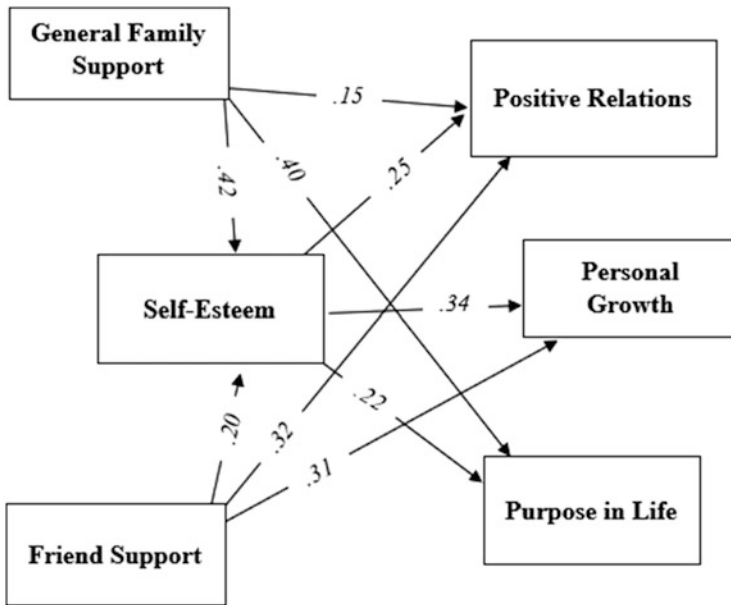
We examined the mediating effects of self-esteem on the relation between social support and psychological well-being using the two steps below:

#### **8.3.3.1 Analysis of the Direct Effect Model**

Prior to the analysis of the indirect model, we first analyzed the direct role of social support on psychological well-being. The effects of gender on purpose for life were controlled for in the analyses. The direct model fitted with the data [CFI = 1.00, TLI = 1.00, RMSEA = .00, SRMR = .00]. General family support had a significant direct effect on personal growth ( $\beta = .20, p = .03$ ), positive relations ( $\beta = .29, p < .001$ ) and purpose in life ( $\beta = .53, p < .001$ ). Support from friends had a direct effect on personal growth ( $\beta = .34, p < .001$ ) and positive relations ( $\beta = .34, p < .001$ ) but not purpose in life ( $\beta = -.03, p = .74$ ).

#### **8.3.3.2 Analysis of Multiple Indirect Effects Model**

Based on the direct effect model above, we placed self-esteem in the relation between social support and psychological well-being. The structural equation model was based on the diagrammatic illustration shown in Fig. 8.1. The mediating effect model fitted the data well [CFI = 1.00, TLI = 1.00, RMSEA = .00, SRMR = .01] upon deletion of one non-significant path (from general family support to personal growth). In this model (see Fig. 8.2), both friends support ( $\beta = .20, p < .001$ ) and general family support ( $\beta = .42, p < .001$ ) significantly contributed to the YPLWH self-esteem. Additionally, self-esteem significantly contributed to YPLWHs' positive relations ( $\beta = .25, p < .001$ ), personal growth



**Fig. 8.2** Path model showing the mediation effect of self-esteem on the relation between social support and the indicators of psychological well-being *Note:* Only significant paths have been shown in the model (\*\* $p < .05$ )

**Table 8.2** Direct and Indirect Effects of Family Support on the Indicators of Psychological Well-being

Path	Direct effect	Indirect effect	Total effect
General family support effect on purpose in life	.40**	.09**	.49**
General family support effect on personal growth	–	.14**	.14**
General family support effect on positive relations	.15**	.11**	.26**
Support from friends’ effect on positive relations	.32**	.05	.37**
Support from friends effect on personal growth	.31**	.07**	.38**

\*\* $p < .05$

( $\beta = .34, p < .001$ ), and purpose in life ( $\beta = .22, p < .001$ ). These results indicated that self-esteem mediated the relationship between the social support and psychological well-being of YPLWH.

We then estimated the indirect effects of social support on psychological well-being through self-esteem. As shown in Table 8.2, the total contribution of support from friends on personal growth ( $\beta = .38, p < .001$ ) and positive relations ( $\beta = .37, p < .001$ ) was mostly exerted directly ( $\beta_{personal\ growth} = .31, p < .001$ ;  $\beta_{positive\ relations} = .32, p < .001$ ) rather than indirectly ( $\beta_{personal\ growth} = .07, p = .03$ ;  $\beta_{positive\ relations} = .05, p = .07$ ). The total contributions of general family support on personal growth, purpose in life and positive relations were  $\beta = .14, p < .001$ ;  $\beta = .49, p < .001$ ;  $\beta = .26, p < .001$  respectively. The contribution of general family support



on purpose in life and positive relations were mostly exerted directly ( $\beta_{\text{purpose in life}} = .40, p < .001$ ;  $\beta_{\text{positive relations}} = .15, p = .04$ ) rather than indirectly ( $\beta_{\text{purpose in life}} = .09, p = .04$ ;  $\beta_{\text{positive relations}} = .11, p = .02$ ) through self-esteem. The effect of general family support on personal growth was entirely indirect ( $\beta = .14, p < .001$ ) through self-esteem. Overall, the variables in the model explained 31.5%, 35.7%, 30.1% and 30.2% of the variance in the respondents' self-esteem, positive relations, purpose in life and personal growth respectively.

## 8.4 Discussion

The aim of the present study was two-fold: (a) to examine the extent to which socio-demographic variables explain variations in the psychological well-being of YPLWH and (b) to test the mediation effect of self-esteem on the relationship between social support and psychological well-being of YPLWH. Significant differences were noted in the respondents' purpose in life with respect to their sex—with female students exhibiting a more purpose-oriented outlook on life as compared to their male counterparts. Additionally, the contribution of social support on the well-being of YPLWH was exerted both directly and indirectly through self-esteem.

Our finding of the higher levels of purpose in life among females agrees with results elsewhere (García-alandete et al., 2013; Lindfors et al., 2006; Ryff et al., 2003). Our results also dovetail with those of Hendricks-Ferguson (2006) who found that the purpose in life among female young people is higher compared to their male counterparts. A higher purpose in life is particularly important among YPLWH since it has been associated with lower suicidal ideation (Taliaferro et al., 2009), higher self-esteem and life satisfaction (Yakushko, 2005), longevity (Steptoe et al., 2014), and reduced risky behaviors such as drug-abuse (Lamis et al., 2014). Xi et al. (2018) have indicated that the high purpose in life among women compared to men could be explained by the altruistic behaviors and attitudes, and spirituality among women. In the Ugandan context, women and girls are regarded as caregivers in their respective homesteads and communities—which in turn may underpin higher altruistic and empathetic levels thereby enhancing their purpose and meaning in life (Xi et al., 2017).

Additionally, in line with the Sustainable Development Goal 5 (“To achieve gender equality and empower all women and girls”), the Ugandan government has enacted several laws and policies to reduce gender disparities in the different sectors. As such, there have been improvements in societal attitudes towards women and girls, a significant increase in the enrolment of girls in schools at all levels of learning, more representation of women in administrative and legislative positions, and an increase in active participation of women and girls in economic activities such as commercial agriculture and trade (United Nations Development Program, 2017).

Consequently, compared to the previous generations that were traditionally dominated by men, women and girls currently have a greater consciousness of

their abilities, competencies, and potentials—which could have led to a higher purpose in life. As García-alandete et al. (2013) assert, “In conditions of cultural and educational equality, certain aspects of women related to their psychological well-being may emerge strongly, surpassing those in men’ (p. 23). Therefore, given the women’s emancipation programs currently undertaken by the Ugandan government, it may not be surprising that females had higher mean scores on purpose in life compared to the males in the present study.

Contrary to previous findings (e.g., Dalmida et al., 2013; Soulsby & Bennett, 2015), the present study has revealed that YPLWH had non-significant differences on the well-being indicators with respect to other demographic variables. Recently, in Uganda, there has been an increase in the provision of psychosocial support among YPLWH through the establishment of peer-clubs and whose membership does not depend on individuals’ demographic variables such as socioeconomic status and level of education among others. Such clubs have significantly improved young people’s access to ART services, increased adherence to medication, and increased social networking—all of which have improved the quality of life and well-being of YPLWH in Uganda. For example, in South-Western Uganda where data was collected, *Ariel Adherence Clubs* have been established by the Elizabeth Glaser Pediatric AIDS Foundation, and these have led to increased access and adherence to ART services, increased HIV and other sexually transmitted infections testing services, and increased access to counseling services among members as compared to non-members (Kagoro, 2018; World Health Organization, 2019). Such groups provide a platform to share challenges and collectively find solutions to such problems and, as such, help to cushion YPLWH against challenges such as being lonely, loss of their parents, and having little support in terms of their emotional well-being (Kagoro, 2018).

Additionally, as noted above, there has been an increase in access to ART services among YPLWH in Uganda. This means that nowadays, YPLWH can expect to live longer and enjoy a higher life expectancy just like those individuals who are not infected with HIV and have a high appreciation of what life has to offer (Mutabazi-Mwesigire et al., 2014). Perhaps, this could explain the reasons why there were few significant differences in the well-being of YPLWH with reference to socio-demographic variables.

The mediation effect of self-esteem on the relationship between social support and psychological well-being is well supported in previous studies carried out with the general population (Kong et al., 2013; Sung et al., 2012; Tian et al., 2013; Xi et al., 2017) and among people living with HIV (Lyons, 2010). General family support (but not support from friends) significantly contributed to the respondents’ purpose in life. In the Ugandan context, care for young people infected with HIV is borne by their families (Osafo et al., 2017) especially by women such as mothers, sisters, aunts, and grandmothers—thereby making families a major source of emotional, social, and financial support to YPLWH in Uganda (Nabunya et al., 2020). For example, a study conducted to examine the facilitators of school attendance among young people aged 12–19 years living with HIV in Western Uganda, Kimera, Vindevogel, Kintu, et al. (2020) found that for some YPLWH, their sisters and

mothers would help to pick ARV's from the hospitals, while they are doing examinations at school. Additionally, high family cohesion and communication are associated with high adherence to HIV medication among YPLWH in Uganda (Nabunya et al., 2020) which in turn leads to a higher purpose in life. Therefore, we advocate for strengthening the capacities of families that care for the YPLWH in Uganda through the provision of education about HIV-related issues, empowering them financially, and encouraging them to form groups for knowledge sharing (Russo, 2014).

Additionally, support from friends and family had a direct influence on self-esteem, which in turn influenced the well-being indicators. When they receive support from friends and family members, YPLWH are convinced that they are valued, catered for, and that other people can offer help in times of need—which enhances their self-worth and esteem (Tian et al., 2013). With high self-esteem, YPLWH can bear with the stigma, discrimination, anxieties, and other mental issues related to HIV thereby leading to better well-being. Therefore, it is important to strengthen social and family networks among YPLWH in Uganda for better psychological well-being (Kagoro, 2018). This could be done by establishing support associations or using social media platforms (such as WhatsApp and Facebook groups) where YPLWH can seek psychosocial guidance and help from others. Self-esteem can also be improved by encouraging YPLWH to exercise frequently, have positive thinking towards oneself, surrounding oneself with supportive friends and persons who trigger positive thinking, use of verbal praises, and use of self-affirmation techniques (Johnson, 2016).

Health workers could also design motivating psychosocial and self-esteem support sessions at hospitals and clinics where YPLWH in Uganda go for treatment. Ashaba et al. (2018) study reported that most YPLWH in Uganda only report to hospitals to collect their medicines and/or for medical check-ups without bothering to attend the organized sessions on psychological support, perhaps due to fear and low self-esteem. This reduces possibilities and opportunities for networking with other YPLWH and/or having in-depth interactions with the health workers. Yet within these designed support sessions, health workers could provide incentives like meal plans, buddies (in the buddy program) that can encourage the YPLWH to look forward to attending these sessions and also provide a platform for further networking.

The following limitations should be taken into consideration when interpreting the above findings. Firstly, self-report questionnaires were used in data collection which are subject to social desirability—a situation where one responds to the items in such a way as to appear good. This could affect the validity of the study findings. Secondly, the study employed a cross-sectional research design; hence causal inferences cannot be drawn from the findings especially those that involve examination of the structural relationships between the study variables. Lastly, the study employed quantitative methods of which the results are limited to the provision of numerical descriptions rather than detailed narratives of respondents' experiences and perceptions; hence future studies could employ a mixed-methods approach.

## 8.5 Conclusion

As far as we are aware, this study is a first attempt to examine the relations between demographic variables, self-esteem, social support, and the well-being of YPLWH in the Ugandan context, and as such, provides important findings that could potentially contribute to further research and practice among YPLWH in Uganda and on the African continent as a whole. First, significant gender differences in the respondents' purpose in life were noted. Females reported higher levels of purpose in life compared to the males. Hence, more attention and guidance should be directed towards the male gender especially concerning their perceptions about their purpose in life. Second, as predicted, the relationship between perceived social support and the psychological well-being of YPLWH was partially mediated by self-esteem. This suggests the need to consider strengthening and including self-esteem interventions (in addition to providing social support groups) in the care provided to the YPLWH as a means of improving their psychological well-being. There is need to further explore other variables related to the well-being of YPLWH to aid in designing more comprehensive models of their psychological well-being. Additionally, further studies that employ longitudinal and mixed-methods approaches should be undertaken for better insights into the well-being aspects of YPLWH in the Ugandan context. It is important that general well-being is taken as a priority in the health care of YPLWH for better health outcomes, good mental health, high medical adherence, and improving their longevity.

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