Psychosocial Well-being

of Orphaned and Vulnerable Youth at Stepping Stones International: Baseline Study

February 2013

Psychosocial support gives orphaned and vulnerable adolescents the skills with which to cope with stress, trauma and other stressful situations.

Stepping Stones International (SSI) is a non-governmental, non-profit organization that works with orphaned and vulnerable youth (aged 12-25). SSI uses a holistic approach to nurture the mental, physical and social well-being of youth to create realizable opportunities for them to become self-sufficient

www.steppingstonesintl.org

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ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
BAIS III	Botswana AIDS Impact Survey III
GoB	Government of Botswana
CSO	Central Statistics Office
HIV	Human Immunodeficiency Virus
OVC	Orphaned and Vulnerable Children
PSS	Psychosocial Support Department
PSQ	Psychosocial Support Questionnaire
PSS	Psychosocial Support
SSI	Stepping Stones International
SPSS	Statistical Package for Social Science
UNAIDS	Joint United Nations Program on HIV/ AIDS
UNICEF	United Nations Children’s Fund
WHO	World Health Organization

FORWORD

Orphaned and vulnerable children suffer psychosocial distress as a result of losing one or both parents, living in poverty, abusive circumstances, and exposure to exploitation, stigmatization and marginalization. Exposure to these vulnerabilities leaves them highly vulnerable in need of counselling and various other coping strategies. Psychosocial support gives orphaned and vulnerable adolescents the skills with which to cope with stress, trauma and other stressful situations. An important aspect of psychosocial support is to equip orphaned and vulnerable children (OVC) as well as their caregivers with resilience and coping skills aimed at improving their psychosocial well-being.

Stepping Stones International (SSI) has incorporated operations data into a longitudinal research design to facilitate evidence-based programming of psychosocial support interventions as management strategies to show commitment and accountability to service participants, donors and stakeholders. This report provides baseline information of the current status (2012) of psychosocial well-being of OVC at SSI. The report highlights intervention areas where SSI is doing well, as well as areas that require strengthening.

The report also contains high impact intervention areas predicted to maximize OVC psychosocial wellbeing outcomes in the future. The information is, therefore, critical for programming of the psychosocial wellbeing interventions.

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GLOSSARY

Adolescence: World Health Organization (WHO) defines an adolescent as a person between 10 – 19 years of age. SSI uses this definition focusing on young people aged 12 – 18+ years.

An Orphan: An orphan is an individual who is 18 years and under who has lost either a mother (maternal orphans) or father (paternal orphans) or both (double orphans) parents. Botswana has a concept of "social orphan." A social orphan is a child who has been abandoned by one or both parents who cannot be traced, i.e.; the parents might be alive but are no longer fulfilling any of their parental obligation.

Vulnerability: Vulnerability is the probability of experiencing an adverse outcome or an expected welfare loss above a socially accepted norm, which results from risky events and the lack of appropriate social risk management instruments. The degree and type of vulnerability vary over time, between countries and are highly contextual. In this report, the vulnerability is defined as an adolescent who reports experiencing one or all of the following descriptive situations:

- Lives in an abusive environment
- Lives in a poor family that cannot access basic needs
- Heads a household
- He/she is always ill
- Lives with a chronically and/or disabled parent/guardian
- Does not have family support

Orphaned and Vulnerable Children (OVC): Orphaned and vulnerable children therefore refer to children who have lost one or both parents or have been abandoned by one or both parents in addition to those who are more exposed to risks than their peers.

Family and Community Support Systems:

Pro-social behaviours: These behaviours are voluntary actions an individual undertakes to benefits others in return of no personal benefits. Pro-social behaviours are critical in building resilience and individual coping mechanisms among OVC. Pro-social behaviours include helping others, obeying rules, conforming to socially acceptable 'laws', cooperating with others, and developing relationships. Pro-social behaviours are essential for building social capital, responsive citizens in society, for example, volunteerism.

Psychosocial Support Services: These are human development services that build an individual's resilience to deal with psychological and social events as a consequence of adversity. Psychosocial support builds internal and external resources for individuals and communities to cope with adversity.

Psychosocial Wellbeing: Psychosocial wellbeing encompasses psychological and social processes, whereby an individual's internal state, comprised of thoughts, feelings, emotions, understanding, and perceptions, work in synergy with external relationships, such as social networks, community, family and society. What happens in one of these areas will affect other aspects of human internal and external processes causing psychosocial dysfunctional behaviours. This means stress factors such as exposure to abuse, the disintegration of family support system due to ill-health or death of parents or a loved one, lack of a spiritual support system, inadequate self-regard and psychological distress, result in adverse psychosocial wellbeing outcomes.

Self-Esteem: Self-esteem is an evaluation one makes about one's self. It is an expression of self-approval (or disapproval) indicating an extent to which an individual believes to either being capable of significant successful and worthy or not.

Strength and Difficulty: Is a psychological and behavioral screening tool developed by Goodman (1997). It is measures youth's psychological distress attributes (difficulties: emotional symptoms, hyperactivity, behavioral conduct and peer problems) as well as strengths (pro-social behaviors).

EXECUTIVE SUMMARY

INTRODUCTION

Millions of children have lost one or both parents and millions more live under vulnerable circumstances as a result of parental deaths. Globally, there are over 153 million orphaned children. Over 16.6 million of these orphans are due to AIDS. Sub-Saharan Africa is the home of 90.0 percent of these orphans. Botswana had an estimated 138,000 orphans in 2007, 77.0 percent of whom were as a result of AIDS. Orphaned and vulnerable children (OVC) suffer from multifaceted challenges including developmental, physical, psychological and social distress. SSI, a non-governmental and non-profit organization, is working with orphaned and vulnerable adolescents to support the Government of Botswana in improving OVC psychosocial well-being.

Purpose

The purpose of this study is to improve the quality of psychosocial services, monitor progress of planned interventions and evaluate the psychosocial outcomes of SSI's program. Information at baseline will allow SSI to develop smart, innovative and sustainable interventions for achieving long-term psychosocial wellbeing of OVC in the program.

Methods and Procedures

The study is a longitudinal operations research design at baseline. The design also allows the collection of repeated data and measuring of progress over time. At baseline, outcomes were compared between experienced participants (those who have been in the program longer) and new members (recruited when the assessments began).
Data were collected among all OVC receiving psychosocial support service at SSI between September to December 2012. Data were collected using a standardized and validated questionnaire. Data at baseline were entered and analysed using IBM Statistical Package for Social Science (IBM SPPS) version 20 for Windows. Data analysis comprised of descriptive and inferential statistics. Inferential analysis applied hierarchical multiple logistic and linear regression modeling, controlling for confounding factors. Post-hoc analyzes were performed to evaluate the adequacy, fit and appropriateness of the models.

Results

Baseline data consisted of 101 adolescents who were receiving psychosocial support services at SSI. The sample comprised of 57.4 percent new and 42.6 percent experienced participants. The sample population mean length of stay (LOS) at SSI (in years) was *1.44 (±1.60)*. Experienced participants had been at SSI for $M_{LOS} = 3.03$ *(±1.24)* years and $M_{LOS} = 0.25$ for new participants. Length of stay between experienced and new participants was significant, $(F(1) = 292.22, p<001)$.

Baseline sample population was made up of 52.5 female and 47.5 male participants. Participants' age ranged from 10 to 21 years, with a mean age (in years) $M_{age} = 14.7$ *(± 2.50)*. Experienced participants were significantly older $(M_{age} = 16.5)$ compared with new participants $(M_{age} = 13.4)$, $F(1) = 60.65, p<001$.

The majority of the new participants (75.0 percent) were attending primary schools at baseline while the majority of experienced participants (60.4 percent) were attending junior secondary schools, and 14.0 percent were attending senior secondary education.
Results at baseline found that 73.3 percent of the participants had no form of identification comparatively, experienced participants were more likely to report having an ID compared with new participants $X^2(3) = 13.81, p<0.01$.

The study found that either 78.2 percent of the participants were under the care of the extended family system (52.5 percent) or single mothers (25.7 percent). Approximately half of the participants (48.5 percent) had either lost one or both parents. Of the 17 participants who reported living with both parents, 10 reported residing in households where they were either abused, lacked access to adequate parental support or had a chronically ill parent.

The study evaluated the effects of current psychosocial interventions addressing vulnerability, family support system, self-esteem, pro-social behaviors and psychological well-being on length of stay (coded as a dichotomous variable *1 = experienced participant and 0 = new participant)*.

Results indicate that experienced participants had better coping mechanism against vulnerability than new participants, $OR = 0.84$, *95% C.I. 0.74:0.98*, $p<0.05$. They also indicate that experienced participants had better scores on self-esteem compared with new participants $(OR = 1.17$, *95% C.I. 1.01: 1.37*, $p<0.05)$ and experienced participants scored higher scores on pro-social behaviors compared with new participants, $(OR = 1.56$, *95% C.I. 1.02:2.37*, $p<0.05)$.

Results also found that experienced participants were 25.0 percent less likely to report having adequate access to family and community support systems compared with new participants $(OR = 0.75$, *95% CI: 0.63: 0.93*, $p<0.01)$ and were 38.0 percent more likely to report psychological distress than new participants $(OR = 1.38$, *95% CI: 1.13:1.68*, $p<0.01)$.

The results at baseline suggest that while SSI interventions addressing vulnerability, self-esteem and pro-social behaviors significantly $(p \leq 0.05)$ contributed to OVC psychosocial well-being outcomes, interventions addressing family and community support systems and psychological distress among OVC were weak and ineffective $(p>0.05)$.

The study also performed multi-predictor regression modeling to forecast high impact interventions likely to produce positive psychosocial wellbeing outcomes in this population using multiple linear regression analysis. The study found that interventions aimed at reducing vulnerability *($\beta = 0.67, p<001$)* and OVC psychological distress *($\beta = 0.65, p<001$)*, and those aimed at improving self-esteem *($\beta = 0.62, p<001$)* had high probability of predicting improved psychosocial wellbeing outcomes. In addition, interventions aimed at strengthening family and community systems *($\beta = 0.46, p<001$)* and promoting pro-social behaviors *($\beta = 0.26, p<001$)* were significant in improving future psychosocial wellbeing outcomes.

Conclusion

Psychosocial wellbeing remains one of the essential components for ensuring normal growth and development of orphaned and vulnerable adolescents in HIV and AIDS burdened countries. Results at baseline offer SSI a rare opportunity to improve efforts in unlocking the potential of OVC by nurturing their psychological, social and physical well-being. The baseline highlights the strengths and weaknesses of the current psychosocial intervention programming and high impact intervention areas that can be used to prioritize the allocation of resources and maximize future gains for psychosocial wellbeing outcomes.

Recommendations

These recommendations suggested at baseline are tailored to achieve three purposes. (1) Improve accessibility and quality psychosocial interventions at SSI; (2) strengthen the gains already made and improve on identified program weakness and; (3) use the predictive results to optimize psychosocial interventions and achieve positive psychosocial well-being outcomes. The recommendations are also intended to motivate SSI to prioritize and allocate resources strategically, thus maximizing outcome results.

The results identified age, gender and education as critical individual factors for improving accessibility and quality of psychosocial interventions at SSI. Based on the findings, it is recommended that:

- SSI should consider gender mainstreaming OVC programming. Gender mainstreaming allows OVC programming to address different needs that affect male and female adolescents disproportionately at different developmental stages.
- SSI should consider tailoring psychosocial support services to age-specific and education-specific in the delivery of interventions. Age-specific Interventions will guarantee relevance, comprehension of material and depth of understanding by age.

The study highlighted strengths as well as weaknesses of the current psychosocial service programming. Based on these results, it is recommended that:

- Psychosocial support department (PSS) should consider documenting right interventions, i.e., interventions that have propelled improvements in reducing vulnerabilities, improving self-esteem and pro-social behaviours in order to strengthen and maintain these interventions
- PSS Department must use the baseline results to develop individualized e-tracking records (information system) aimed at monitoring individual progress.

  The baseline also found that PSS interventions addressing family and community support systems and psychological well-being failed to make a substantive impact at baseline. Based on these results, it is recommended that:

- SSI should consider an urgent application of baseline information to develop a system's performance and quality framework for the psychosocial programs to strengthen the gains already made and revise the identified weaknesses. Systems performance and quality framework (Appendix II) will allow SSI to:
  - Identify leverage points (places within a complex system where small calculated revision can produce targeted outcomes) within psychosocial support where revisions may be necessary.
  - Analyze psychosocial support system performance in terms of - **governance** (financing, collaboration with pertinent stakeholders, coordination with internal stakeholders and management competencies/skills), **structural elements** (human resources for psychosocial support, skill set-match, staff motivation and work ethics), **technical processes** (counselling guidelines, case management protocols and procedures, comprehensiveness and depth of programs, strategic plan and competencies), **quality improvement, monitoring and evaluation**.

The study at baseline identified high impact intervention areas predicted to maximize future psychosocial wellbeing outcomes. It is recommended that:

- SSI should consider optimizing the baseline information (evidence-based programming) aimed at achieving maximum efficiency of the psychosocial support activities. Systems performance and quality analysis will guide SSI to identify leverage points that in turn will lead to information optimization.
- SSI should consider using impact intervention levels to prioritize the allocation of resources. However, it is important to note that maximizing achievements require integration of areas identified as significant at baseline.
- SSI should use this information to map potential donors and submit targeted proposals aimed at improving the resource base for psychosocial support interventions

The recommendations are aimed at motivating SSI management to undertake a critical reflection and in-depth analysis of the current interventions to build smart, innovative and sustainable future psychosocial support program.

CHAPTER 1: INTRODUCTION

1.1. Background: Global Perspective

Millions of children have lost one or both parents and millions more live under vulnerable circumstances as a result of parental deaths. Globally, there are over 153 million orphaned children. Over 16.6 million of these orphans are due to AIDS (Childinfo.org, 2013). Sub-Saharan Africa harbours 90.0 percent of HIV and AIDS orphans (UNAIDS, 2010). Orphaned and vulnerable children (OVC) suffer from multifaceted challenges including the development, physical, psychological and social distress (Jackson, 2002).

OVC still remain in the peripheral of global HIV/AIDS response and governments' commitment despite of the fact that millions of children still continue to experience multiple traumatic life events (Irwin, Adams & Winter, 2009). The majority of OVC witnessed illness and deaths of their parents, are exposed to violence and exploitation, are subjected to abject poverty, are stigmatized and discriminated against, are isolated from siblings, feel lonely, and most lack love, support, and guidance from responsible adults (Culver & Gardner, 2007).

1.2. The Magnitude of OVC in Botswana

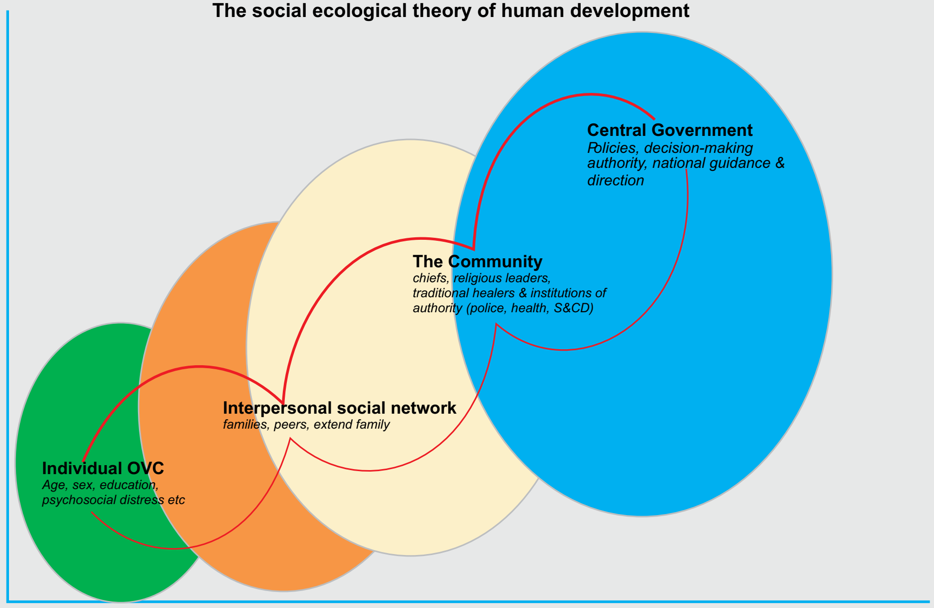
Botswana is severely afflicted by the extreme scale of HIV and AIDS epidemic; which has resulted in one of the world's highest percentages of OVC among its population (Daniel, 2005; Miller, Gruskin, Subramanian, Rajaraman & Heymann, 2006). There are varying data regarding the magnitude of OVC in Botswana; however, the trend suggests that it is a growing problem. In 2007, Botswana had approximately 137,805 OVC and thousands more vulnerable children.

The demographic surveys suggest that about 30.6 percent of children in Botswana are vulnerable and 4.4 percent lived in households where an adult person had been critically ill for at least 3 months (Malinga & Ntshwarang, 2011). Further studies found that poverty undermined the capacity of about 30.0 percent of households to support OVC and provide basic needs. The majority of these families are often unemployed, widowed, had low education and low-income levels (Malinga & Ntshwarang, 2011).

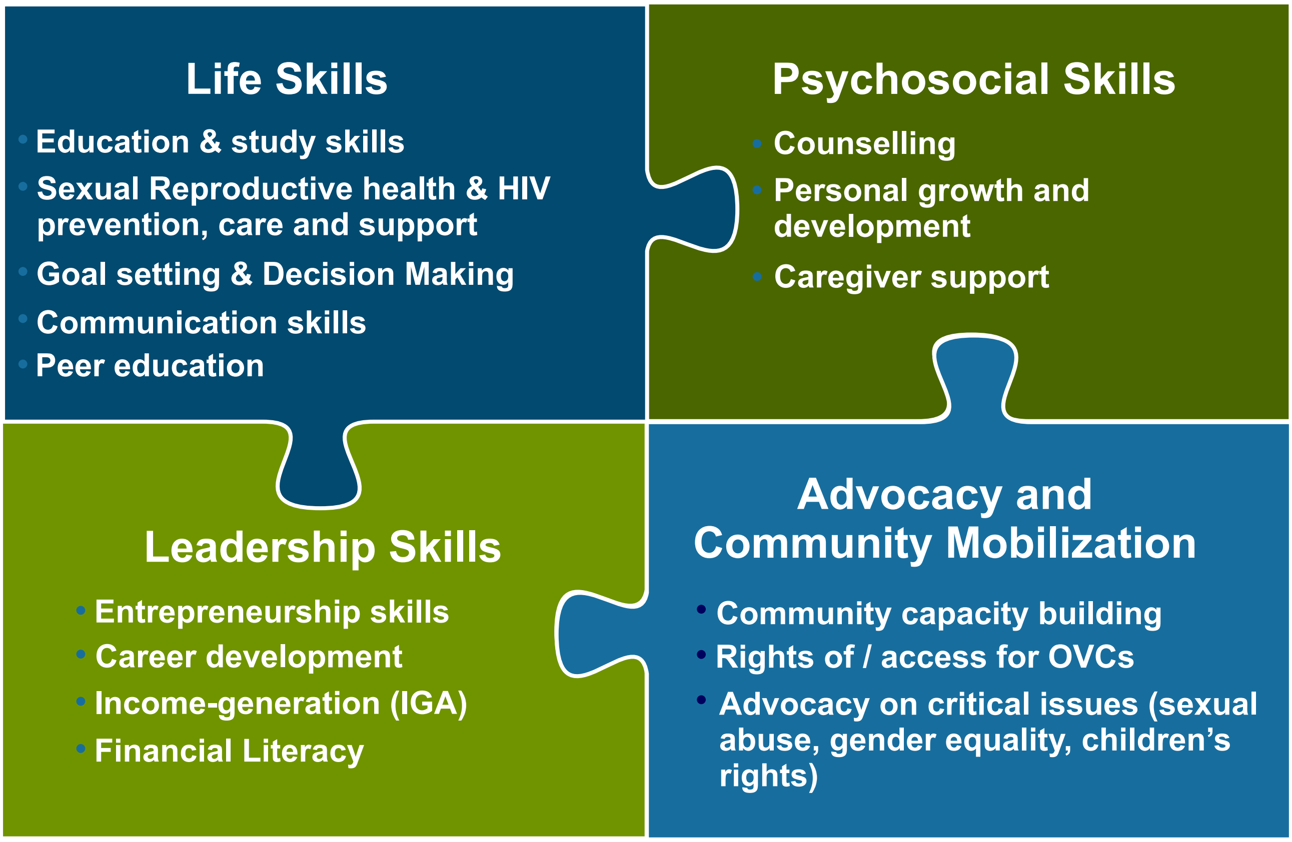
In 1999, the Government of Botswana (GoB) established a national orphan care program as a safety net to cater for the essential needs of OVC. The program provides food basket, necessitates OVC access to education and provision of psychosocial support (Malinga & Ntshwarang, 2011). In addition, non-governmental organizations and civil societies have been supporting GoB's efforts to ameliorate the lives of OVC. Stepping Stones International (SSI) is one such non-governmental organization (NGOs) that has worked with the government since 2006. SSI works to unlock the potential of orphaned and vulnerable adolescents (aged 12-18+) and create realizable opportunities for them to be self-sufficient. SSI is the first program of its kind in Botswana focused exclusively on adolescent development using a holistic approach to nurturing the mental, social and physical wellbeing of OVC.

The SSI service delivery model is based on the social, ecological theory of human development. The theory hypothesizes that an orphaned and vulnerable adolescent's psychosocial challenges are adequately addressed through an integrated and holistic approach that recognizes the dynamic interconnectedness between the OVC with her/his network of peers, family, the community, and the society (Stokol, 2002). Figure 1 presents the social, ecological conceptual framework as it applies to SSI's model.

Figure 1: The conceptual theoretical framework for SSI OVC model: The social ecological theory of human development



The SSI service delivery model comprises of four interrelated service domains: psychosocial support, leadership skills, life skills and community outreach (Figure 2). These are implemented in tandem, aimed at addressing the multifaceted challenges orphaned and vulnerable children experience as they transition into adulthood.



1.3. Statement of the Problem

SSI, as is the case of many OVC service organizations lacked a rigorous empirical base for evidenced and contextually informed interventions (Nyangara, 2009; Curtis 2009; Hermenau, Hecker, Ruf, Schauer, Elbert & Schauer, 2011). Studies indicate that most OVC programs lag behind in social science research in developing pragmatic evaluation designs that meet rigorous scientific standards (Nyangara, 2009; Curtis 2009). As a result, there is a dearth of documented "good" psychosocial practices that can be replicated in promoting OVC psychosocial wellbeing.

While many organizations work hard to address OVC psychosocial challenges, these efforts are often hampered by lack of evidence-informed interventions, continuous monitoring of progress and evaluation of program outcomes. Most psychosocial support programs are anecdotally informed rather than evidence-based. Consequently, it is impossible to measure progress and outcomes. Sustained, smart and innovative psychosocial support services should be based on research.
In order to introduce the culture of evidence-based programming, SSI has incorporated longitudinal operations research into life skills and psychosocial support service implementation. Routine program data will be used to monitor progress and feedback into strengthening weak implementation areas.

1.4. Rationale of the Study

OVC endures scarring experiences due to loss and illness of family members, abandonment, material hardship, abuse and exploitation, stigma and discrimination, socio-economic difficulties, and psychological distress (Jackson, 2002). In some instances, children are obliged to care for their sick parents while struggling to make a living for themselves and their siblings. On a larger scale, the high numbers of orphans carry far-reaching social consequences and could pose a threat to the longer-term human capital development (Matshalaga & Powell, 2002).

Addressing challenges before OVC transition into adulthood has been found to be effective in preventing future dysfunctional social and psychological consequences (Richter, 2008). Effective OVC programs are built on accurate information that forms the basis for evidence-driven programming, monitoring progress of interventions and evaluating outcome measures (Bowling, 2002).

1.5. Literature Review

In the three decades of its rampage, HIV and AIDS have had a devastating impact on psychosocial well-being of orphaned and vulnerable adolescents. HIV and AIDS have eroded adolescents' sense of dignity and self-esteem, robbed millions of adolescents of parental care and made millions more vulnerable. It has weakened the family and community support system; the moral fiber for the extended family system for decades. HIV is the culprit for social exclusion (stigma and discrimination) and impoverishes individuals and families (Boutayeb, 2009). These vulnerabilities contribute to poor psychosocial wellbeing of OVC.

Low self-esteem impacts negatively on OVC psychosocial wellbeing. Studies suggest that low self-esteem leads to psychological distress, depression, loneliness and social exclusion. Self-esteem is also associated with emotional symptoms, peer relation problems and anti-social behaviors (Branden, 1994; Mecca, Smeler, & Vasconcellos, 1989). Conversely, high self-esteem is associated with psychological happiness that enables individuals to cope effectively with challenges and negative feedback from the social environment. Parental death due HIV/ AIDS is associated with adverse psychosocial wellbeing outcomes. Systematic reviews suggest that Orphans have poorer psychosocial wellbeing outcomes than non-orphans (Chi & Li, 2012). Chi & Li (2012) observed that OVC experience adverse effects in an early stage of parental HIV illness and these effects persist after parental death. Johnson, Padmadas & Smith (2010) reported that OVC often lack access to necessities for survival and development and are at high risk of poor health and poverty. The loss of parents' affection, support and protection may lead to emotional shock and psychological trauma (Johnson et al., 2010).

Several studies also show that HIV and AIDS weaken the family support systems. In a Botswana study, Miller et al., (2006) found that HIV and AIDS impoverished working households, where caregivers lacked sufficient resources to provide basic needs. In most instances, neither the public sector nor communities can provide adequate safety nets. In Zimbabwe, Zagheni (2011) found that that HIV had a negative impact on the extended family support system. The increase of AIDS-associated mortality drastically reduced the pool of relatives, undermining the traditional forms of mutual support. The rapid increase in the number of orphans is commonly followed by a steady reduction in the number of living grandparents for orphans (Zagheni, 2011). Beegle, De Weerdt, Dercon (2010) Hagen, Omar & Trofimenko (2010) suggest that orphanhood is a major risk factor for poverty in adulthood because of inadequate human capital investments in children. Xiaoming, Naar-King, Barnett, Stanton, Fang, & Thurston (2008) observed that limited attention has been paid to psychosocial and developmental needs of children orphaned and made vulnerable by HIV and AIDS, particularly in resource-poor countries.

Studies also suggest that orphanhood may have adverse psychological wellbeing outcomes in adulthood life. Richter (2008) reported that conduct-problem behaviours during adolescence are predictive for adulthood's poor psychosocial outcomes including substance abuse and suicidal tendencies. Emotional symptoms during adolescence increase the likelihood of high HIV risk behaviours, problems in relationships with parents and peers, criminal behaviours and violence (Richter, 2008). In Uganda, Sengendo & Nambi (1997) found that most OVC are prone to cumulative negative effects such as loss of hope, feeling sad, helpless, angry, and depressed (Sengendo & Nambi, 1997). In Namibia, Ruiz-Casares, Thombs & Rousseau (2009) found that that orphanhood was associated with high rates of psychological distress. For example, double orphans were three times more likely to have emotional symptoms than non-orphans.

Prolonged psychosocial distress may lead to "toxic stresses" if not addressed early in life. Toxic stresses are physiologic disruptions caused by significant adversity in the absence of adult protection that has potential to damage brain development and other organ functions, leading to lifelong problems in learning and social relationships as well as susceptibility to illness (Shonkoff, Garner, Dobbins, Earls, McGuinn, Poscoe, et al., (2012). In rural Kenya, Puffer, Drabkin, Stashko, Broverman, Ogwang-Odhiambo & Sikkema (2012) found that orphaned children were prone to poorer mental health, had less social support, and fewer material resources than non-orphaned children. Puffer et al. (2012) also observed that orphaned children were highly susceptible to emotional problems and had poorer caregiver-youth relationships compared to non-orphaned children. The urgency to address OVC psychosocial distress early in life, which reduces the toxic stresses leading to dysfunctional behaviours, mental breakdown and suicide, is imperative.

CHAPTER 2: PURPOSE OF THE STUDY

2.1. Study Purpose

The purpose of this study is to establish a framework for evaluating the psychosocial outcomes, improve the quality of psychosocial services and monitor progress of planned interventions.

2.2. Objectives

The objectives of this study are threefold:

- To improve both the quality and responsiveness of SSI psychosocial support program by developing smart, innovative and sustainable interventions for achieving long-term psychosocial wellbeing of OVC at SSI
- To monitor progress and evaluate outcomes of the psychosocial support interventions
- To identify broad social and psychological issues and develop individually tailored intervention sessions for OVC.

CHAPTER 3: METHODS AND PROCEDURES

Psychosocial support services require not only committed personnel, but also detailed planning, coordination, careful training and supervision of personnel as well as continuous monitoring and evaluation of program development and outcomes (Fisher et al., 2002).

3.1. Study Design

The study is a longitudinal operations research design aimed at providing continuous data for supporting and informing OVC programming (evidence-based planning, coordination, training, monitoring and evaluation) at SSI. Operations research is a continuous process that is used to identify and solve programs with five basic steps (Fisher et al., 2002):

- Use data to identify problems,
- Use data to identify high impact intervention areas and develop interventions tailored to maximize program gains,
- Use data to program OVC interventions,
- Use data for establishing indicators for monitoring intervention progress, assessing quality of services, and evaluating intervention outcomes, and
- Document and disseminate information to pertinent stakeholders.

Operations research at SSI is aimed at improving the efficiency, effectiveness, and quality of psychosocial support services.

3.2. Procedures

Longitudinal designs involve collection of repeated data including the starting baseline (T0) and at given intervals during the implementation of the program. In this study, data will be collected at recruitment (T0) and after every 12 months (T1...Tn) throughout the implementation of psychosocial support program. Data will be used to feedback into program planning to improve the effectiveness of the interventions.

3.2. Study Population and Sampling

The study population at baseline involved all consenting OVC receiving psychosocial support services at SSI. Sampling was not necessary since all participants were eligible to participate.

3.3. Data collection & management

Data were collected using a standardized and validated measurement instruments (See validation process report). The study employed face-to-face interviews and professional observations to collect data at baseline. Collected data demographic characteristics, vulnerability, family and community support system, self-esteem, and psychological wellbeing variables (Appendix II). Quality assurance strategies were implemented before, during and after data collection. Prior to data collection, SSI developed a standardized questionnaire through consultative discussions with psychosocial support staff and literature review. The questionnaire was field tested and piloted with SSI participants in the leadership program. Changes were made and incorporated into the questionnaire.

To minimize interviewer bias and random errors, data collectors were trained on interview techniques, practical as well as theoretical intent of each questionnaire domain. Each question was reviewed and discussed to establish consistent meaning and language translation for data collection. Prior to data entry, questionnaires were checked for missing values, general errors, inconsistency and incompleteness. Questionnaire that missed 5.0 percent of values were returned to data collectors. Completed questionnaires were entered in IBM Statistical Package for Social Science Version 20 for Windows. Entered data were checked for entry errors through frequency table computation. Data were then cleaned. Clean data were examined for construct validity using explanatory factor analysis to remove redundant questions and produce a parsimonious questionnaire. Extracted and rotated questionnaire constructs were further assessed for internal consistency using Cronbach's α test. Questionnaire constructs with $\alpha \geq 0.60$ were deemed reliable (See instrument validation report). Data were analyzed using the questionnaire that was deemed to have satisfied validity and reliability tests.

3.4. Ethical Consideration

The study collected personal information to attain a deeper understanding of the psychosocial challenges that OVC encounter on their daily lives. Collection of personal information inevitably raises concerns about the rights to privacy and protection from exploitation of participants. While the collection of data at baseline has social benefits and scientific merit, it also had ethical and legal implications that needed to be observed to protect the rights of OVC. The study was conducted in accordance with the ethical principles as stipulated in the international ethical guidelines for social research involving human subjects (Council for International Organization of Medical Sciences, 2008). Upon enrolment in the program, each SSI participant and his or her caregiver signed a consent form allowing collection of routine data as part of OVC programming. However, as it is required, each participant was informed of the objectives for this continuous data collection exercise and asked to participate freely in providing such information. None of the participants were coerced to provide data and no undue influence or inducement, or intimidation was used (Last 1996).

The right to safeguard the integrity of the data was respected by strict observation of privacy and confidentiality. Access to electronic data was protected through use of a password and was only accessible to the investigator. As a measure of privacy, interviews were conducted one on one, in the privacy without any disturbance or scrutiny from the public's attention. The Ministry of Local Government and Rural Development Institutional Review Board granted SSI permission to use program data to inform programming.

3.5. Data Analysis Framework

Data were entered and analyzed using IBM SPSS Version 20 for Windows. The primary purpose of data collection at baseline was to establish a benchmark for monitoring interventions and evaluating future intervention outcomes. In addition, the study sought to evaluate the effects of the current interventions on length of stay (if there were significant differences between participants who had been receiving psychosocial support services and those who had just been recruited into the program) Furthermore, the study wanted to predict high impact intervention areas aimed at achieving positive psychosocial well-being outcomes in the future.
In order to examine the effects of the current psychosocial interventions at SSI, the outcome of interest was length of stay (LOS) coded as a dichotomous variable (Outcome experienced participant =1, and new participants = 0). Independent variables included sex coded as a binary variable; parenthood and orphanhood, both coded as nominal variables; and interval variables (vulnerability, family and community support system, self-esteem, pro-social behaviour and psychological distress means).

The research question for examining the effects of current psychosocial interventions at SSI was: Do experienced participants show improved scores on vulnerability, family and community support system, self-esteem, pro-social behavior, and psychological wellbeing when compared with new participants?

The assumption is that experienced participants are likely to demonstrate improved psychosocial outcomes compared to new participants because they had been exposed to psychosocial support for a longer time ($\text{Mean}_{\text{LOS}} = 3.03$ years) than new participants ($\text{Mean}_{\text{LOS}} = 0.25$ years).

> $H_0: P_1 - P_0 = 0$: There is no difference in the proportion of experienced and new participants in their level of vulnerability, family support system, self-esteem, pro-social behaviour, and difficulty (psychological well-being).
>
> $H_a: P_1 - P_0 \neq 0$: There is a difference in the proportion of experienced and new participants in their level of vulnerability, family support system, self-esteem, pro-social behaviour, and difficulty (psychological well-being).

In order to predict future high impact intervention areas, the outcome of interest was mean of the psychosocial well-being. The independent variables were means for vulnerability, family and community support system, self-esteem, pro-social behaviour and psychological well-being. The research question was: Which programmatic areas would best predict positive psychosocial well-being outcomes in the future for OVC receiving psychosocial support services at SSI? The second question is intended to identify programmatic areas that would predict future success of psychosocial support services at SSI. This question provides SSI with planning and implementation information for improving OVC psychosocial support service programming; and allows the organization to maximize and prioritize scarce resources on high impact intervention areas.

> $H_0: \mu_1 - \mu_0 = 102.33$: The mean for psychosocial well-being will not change in the future even after implementing interventions on vulnerability, family support system, self-esteem, pro-social behaviour, and difficulty (psychological well-being).
>
> $H_a: \mu_1 - \mu_0 \neq 102.33$: The mean on psychosocial well-being will significantly change as a result of interventions addressing vulnerability, family support system, self-esteem, pro-social behaviour, and difficulty (psychological well-being).

Measures of effect were based on odds ratios (ORs) and the determinant criteria for statistical significance were based on $p \leq 0.05$ threshold and 95% confidence interval.

3.5.1. Pre-Analysis Approach

Pre-analysis stage required data cleaning and editing to ensure its accuracy, consistency and completeness. Missing data were identified, and corrections made using raw data. No record missed 5.0 percent of the variables at baseline. Pre-analysis also involved re-coding ordinal variables to scores and meant using the transformation computation.

3.5.2. Descriptive Analysis

Descriptive analysis was employed to obtain summary statistics for the main outcome of interest, the main determinant, central tendency, dispersion and shape of the outcome, exposure, confounders and effect modifier variables (Vittinghoff, Glidden, Shiboski, McCulloch, 2005). Descriptive analysis was mainly based on frequency tables to produce percentages and proportions of binary and nominal data. Descriptive analysis also involved univariable regression analysis of hypothesized outcomes and independent variables prior to controlling for confounding bias. The generic univariable logistic model is presented below:

$$Y_{\left(\frac{\pi}{1-\pi}\right)} = \beta_0 + \beta_1 X_i + \varepsilon_i$$

3.5.3. Inferential Analysis

Inferential analysis focused on answering the two research questions and hypotheses described in the study protocol above. The questions and hypotheses were tailored to respond to the study purpose and objectives as well (see Chapter 2). Inferential analysis employed multiple regression modelling using logistic regression for dichotomous dependant variables (research question 1) and linear regression for interval variables (research question 2). Regression modelling also controlled for confounding factors such as age, education, sex, orphanhood and parenthood. The final models were applied after post-hoc analysis to ensure that the models applied were parsimonious and reliable. A multiple logistic regression analysis evaluated the effects of the vulnerability, family support systems, self-esteem, pro-social behaviour and difficulty on length of stay controlled for the confounding factor, age. The model is presented below:

$$Y_{\left(\frac{\pi}{1-\pi}\right)} = \beta_0 + \beta_1 Vulnerability_i + \beta_2 Family\ \&community\ support_i + \beta_3 Selfesteem_i$$
$$+ \beta_4 Prosocial\ behavior_i + \beta_5 Diffeculty_i + \beta_6 Age_i + \varepsilon_i$$

A multiple linear regression analysis was used to predict whether intervention areas addressing vulnerability, family support system, self-esteem, pro-social behaviour and difficulty would improve OVC's psychosocial wellbeing in the future. The model is presented below

$$Y_{(i)} = \beta_0 + \beta_1 Vulnerability_i + \beta_2 Family\ \&community\ support_i + \beta_3 Selfesteem_i$$
$$+ \beta_4 Prosocial\ behavior_i + \beta_5 Diffaculty_i + \epsilon_i$$

In order for the study to derive inferences from the models, the models were assessed for adequacy and fit. Hosmer-Lemeshow goodness of fit, cross-validation, test for multicollinearity and casewise diagnostics tests were undertaken prior to making inferences. Only the model that satisfied post-hoc modelling was used to test proposed hypotheses

3.6. Study Limitations and Delimitations

Research designs have inherent threats to internal and external validity, which can render research findings invalid (Copper & Schindler, 2008). Cognizant of these inherent limitations, the study implemented a rigorous questionnaire validation process that eliminated bias resulting from the instrument. Longitudinal study designs suffer validity threats from history and maturation. Control measures have been incorporated to measure quality during implementation to limit effects of history and maturation. Face-to-face data will be collected after every 12 months long enough to prevent participants memorizing questions. The study is based on non-random sample of OVC. However, recruitment of participants into the program involves rigorous and standardized procedures involving school guidance counsellors, teachers, SSI staff and parents. The selection criteria allow only individuals in need of psychosocial support. The selection criteria are, therefore, not based on volunteerism but rather need.

CHAPTER 4: RESULTS

4.1. Descriptive Data Analysis

4.1.1. Demographic characteristics of the Sample Population

The sample population comprised of 101 orphaned and vulnerable adolescents who were receiving psychosocial support services at SSI. Data were collected during routine data collection by psychosocial support staff at baseline from September 2012 to January 2013. Results at baseline show that 57.4 percent of the sample was new participants, and 42.6 percent were experienced participants (Table 1). The mean length of stay (Length of Stay at SSI in years) was $M= 1.44$ *(±1.60)*. Experienced participants had been at SSI for *3.03 (±1.24)* years, while new participants had been at SSI for 0.25 years when baseline data were collected.

The difference in the length of stay between experienced and new participants was statistically significant, $(F\ (1) = 292.22, p<001)$.Female participants made up 52.5 percent of the participant population (Table1). The participants' age ranged from 10 to 21 years, with a mean of *14.7 (± 2.50)* years. Experienced participants were significantly older $(M_{age} = 16.5)$ compared with new participants $(M_{age} = 13.4)$, $F\ (1) = 60.65, p<001$.

The mean length of education between the two groups was significantly different $x^2(7) = 39.42, p<0.001$. The study found that 75.0 percent of new participants were more likely to report being in primary school than the experienced participants. Conversely, experienced participants were 74.4 percent more likely to report being in secondary school than new participants (Table 1).

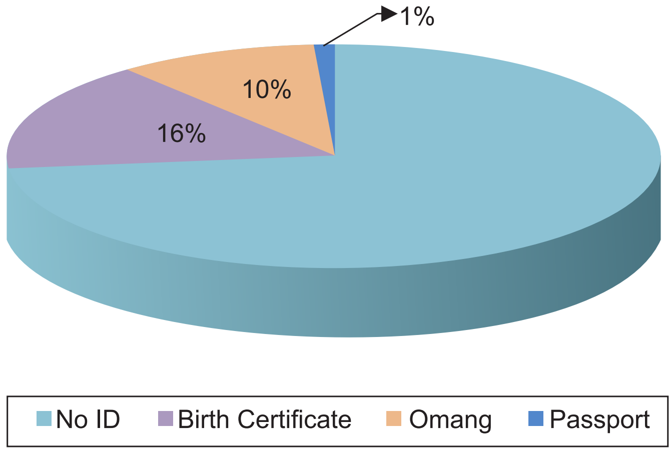
Table 1: Demographic characteristics of the PSS sample population disaggregated by being experienced or new participant

Demographic Variables	Experienced Participants (n=43)	(%/SD)	New Participants (n=58)	(%/SD)	Total (N=101)	(%/SD)
Mean Length of service reception *[in Years (SD)] ****	3.03	(SD:1.24)	0.25	(SD:0.00)	1.44	(SD:1.60)
Sex						
Male	19	(44.2)	29	(50.0)	48	(47.5)
Female	24	(55.8)	29	(50.0)	53	(52.5)
Age Categories *[in Years(SD)] ****						
10 – 14	8	(18.6)	46	(79.3)	54	(41.6)
15 – 19	31	(72.1)	11	(19.0)	42	(53.5)
20 – 24	4	(9.3)	1	(1.7)	5	(4.9)
Mean age *[in Years(SD)] ****	16.5	(SD: 2.18)	13.4	(SD:1.82)	14.7	(SD:2.50)
Level of Education***						
Primary	11	(25.6)	42	(75.0)	53	(53.5)
Junior Secondary	26	(60.4)	14	(25.0)	40	(40.4)
Senior Secondary	6	(14.0)	0	(0.0)	6	(6.1)
Mean Number of Education *[in Years(SD)] ****	9.2	(SD: 1.79)	6.6	(SD:1.45)	7.7	(SD:2.05)
Recipients ID Type**						
Omang	7	(16.3)	3	(5.2)	10	(9.9)
Birth Certificate	12	(27.9)	4	(6.9)	16	(15.8)
Passport	0	(0.0)	1	(1.7)	1	(1.0)
No ID	24	(55.8)	50	(86.2)	74	(73.3)
Reported Nationality	43	(42.6)	58	(57.4)	101	(100)
Main Caregiver						
Mother & Father	6	(14.0)	11	(19.0)	17	(16.8)
Mother Only	9	(20.9)	17	(29.3)	26	(25.7)
Father Only	2	(4.7)	2	(3.4)	4	(4.0)
Grandparents	14	(32.6)	15	(25.9)	29	(28.7)
Uncles/Aunties	7	(17.3)	8	(13.8)	15	(14.9)
Siblings	4	(9.3)	5	(8.6)	9	(8.9)
Self	1	(2.3)	0	(0.0)	1	(1.0)
Orphanhood Status						
Non- orphan	6	(14.0)	11	(19.0)	17	(16.8)
Single Orphan	15	(34.9)	18	(31.0)	33	(32.7)
Double Orphan	9	(20.9)	7	(12.1)	15	(15.8)
Social Orphan	13	(30.2)	22	(37.9)	35	(34.7)

**p=05, ** p<0.01, ***p<0.001*
Statistical Test: Chi-Square test for nominal data and ANOVA F-test for interval data

Baseline results also show that all participants were Batswana. Seven of every ten participants (73.3 percent) had no form of identification (Table 1 and Figure 1). Comparatively, experienced participants were more likely to report having an omang or birth certificate compared with new participants
$x^2 (3) = 13.81, p<0.01$.

Figure 1: Report percentage of type of national identification number among sample population



4.1.2: Caring for OVC and Orphanhood

The majority of OVC at SSI are cared for by the extended family system. Eight of every ten of the participants reported being cared for by the extended family system mostly grandparents, uncles/aunties and siblings and single mothers (Table 1).
Almost half of the participants (48.5 percent) had either lost one or both parents. Data also suggest that an additional 34.7 percent might be social orphans living without the care of both parents. A total of 16.8 percent (n = 17) of the respondents reported being under the care of both parents at baseline. Of these 17 participants, 10 participants either reported living in abusive homes, lacked parental support or their parent(s) were chronically ill. When new and experienced participants were compared with regards to orphanhood status (whether they had a parent or not), experienced participants were more likely to report (56.0 percent) being an orphan than new participants (43.0 percent), however, the difference was not statistically significant (Figure 2).

4.1.3: Psychosocial Wellbeing at Baseline

Participants' psychosocial status at baseline (T0) was measured using four validated indices: **vulnerability, family and community support, self-esteem and strength and difficulty indices**. The total sum of these indices formed the psychosocial well-being. Each index was measured on an ordinal measurement scale.
Each index was analyzed separately using descriptive analysis, based on percent distributions. The indices were also transformed to create an interval scale (mean), which was used for advanced statistical analysis.

Vulnerability Index

The Vulnerability Index was made up of nine statements or items that were sub-divided into three constructs or sub-scales: (1) abusive environment, (2) parental support system and (23) family health status. Vulnerability index was measured on a 5-scale Likert (1 being strongly disagree, 2 being disagree, 3 being neither agree nor disagree, 4 being agree, and 5 being strongly agree). For descriptive analysis, the five scale Likert sub-scales were coded into interpretable variables (Normal = indicating no incident of vulnerability; Borderline = possible exposure for vulnerable situations; Abnormal = reported vulnerable situations).

The abusive environment construct contained the four statements or items: family members call me bad names; family members sometimes beat me; I feel lonely, and I live in an abusive environment. Results at baseline found that 55.4 percent of the participants reported residing in abusive households where they were either called bad names, were sometimes beaten or felt lonely (Figure 3).

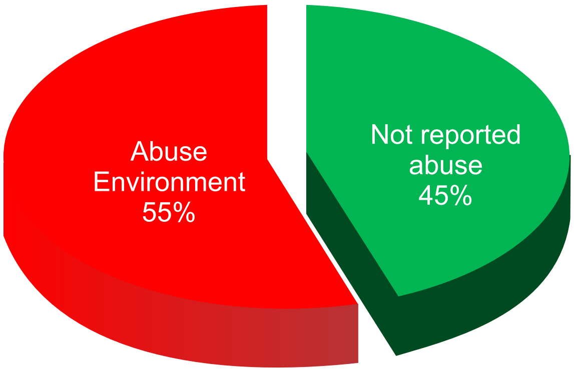


Figure 3: Percent distribution of reported abusive environment among the sample population

Results further found that new participants were more likely to report residing in abusive environment (63.8 percent) than experienced participants (44.2 percent), $x^2(2) = 6.31$, $p<0.05$ (Table 2). Female respondents (60.4 percent) reported being abused more than their male peers (50.0 percent). However, the difference was not statistically significant ($p>0.05$).

The parental support system construct comprised of three measurement items: I do not live with my parents; I do not have much time to play because I am always doing chores, and I am head of my household. Results show that 50.5 percent of the participants reported either living without parental support, did not have time to play or were heads of their households. Access to family supportive system (standard) between experienced and new participants (absolute percent difference = +2.9) was not significant (Table 2).

The family health status construct had two measurement items: I am always sick, and my caregiver is chronically ill or disabled. The majority of participants (62.4 percent) reported being in good health compared with 36.6 percent who reported being always sick or having a parent/caregiver who was chronically sick or disabled. Experienced participants were more likely to report poor health (39.5 percent) compared with new participants (37.6 percent); however, the difference was not significant.

The overall measure of vulnerability (the total sum of an abusive environment, family support system and family health status) found that 63.4 percent of the participants were exposed to vulnerable situations. The participants were either living in an abusive environment, did not have adequate access to a family support system or were residing with a caregiver who was chronically ill. New participants were more likely to report vulnerability exposure than experienced participants (79.0 percent vs. 55.8 percent). However, this difference was not statistically significant before controlling for confounding factors (Table 2). Female participants were more likely to report exposure vulnerable circumstances more than male participants (71.7 percent vs. 54.2 percent).

Table 2: Percent distribution of reported vulnerability among PSD service recipients disaggregated by being experienced or new participant

Vulnerability Constructs	Experienced Recipients (n = 43)	(%)	New Recipients (n = 58)	(%)	Total (N=101)	(%)
Level of reported abusive Environment*						
Normal (No reported abuse)	24	(55.8)	21	(36.2)	45	(44.6)
Borderline (Possible abuse)	15	(34.9)	21	(36.2)	36	(35.6)
Abnormal (Reported abuse)	4	(9.3)	16	(27.6)	20	(19.8)
Parental Support System						
Normal (Reported access to Support)	22	(51.2)	28	(48.3)	50	(49.5)
Borderline (Possible lack of Support)	13	(30.2)	18	(31.0)	21	(30.7)
Reported lack of Support	8	(18.6)	12	(20.7)	20	(19.8)
Family Health Status						
Normal (No Reported health problems)	26	(60.5)	37	(63.8)	63	(62.4)
Borderline (Possible health problems)	13	(30.2)	9	(15.5)	22	(21.8)
Abnormal (Reported health problems)	4	(9.3)	12	(20.7)	16	(15.8)
Overall Vulnerability Status Index						
Normal (No Indication of Vulnerability)	19	(44.2)	18	(31.0)	37	(36.6)
Borderline (Possible Vulnerability)	21	(48.8)	29	(50.0)	50	(49.5)
Abnormal (Reported Vulnerability)	3	(7.0)	11	(19.0)	14	(13.9)

*p=05, ** p<0.01, ***p<0.001
Chi-Square Measure of association

OVC Family & Community Support System

The OVC family and community support system index comprised of four sub-scales: (1) family and community emotional support, (2) spiritual and protection, (3) educational support, and (4) personal health and dying. The index was measured on a 3-level Likert scale (0 = none of the time, 1 = some of the times and 2 = all of the times).
The family and community emotional support construct comprised of six items: at home, I have someone to look after me when I am hurt or feel sad; I do not have anything to talk about, I can talk to my caregiver; I have adults I can trust; I get along with my care giver; people in my community try to help me; and I get love I need from my family.

Results indicate that 76.8 percent of the participants receive emotional support all of the time from families and communities. Experienced participants were significantly less likely than new participants to report receiving emotional support their families and communities (absolute percentage difference = 30), p<0.005. Experienced participants reported lack of access to family and community emotional support, 30.0 percent less access to support than new participants at baseline (Table 3).

The spirituality & protection construct comprised of the three items: my belief in God gives me comfort and reassurance, I am growing as well as other youth my age, and I am treated the same as other youth in my community. Results show that both experienced and new participants lacked access to spirituality and protection all the time (Table 3).

The educational support construct was made up of three items: I have the stationery I need to do my school work; I have shoes, uniform and supplies for school; and my family has enough money to buy things we need. The study found that 51.5 percent of the participants reported that they either lacked stationery, shoes, uniform, school supplies or enough money to buy things they need (Table 3). Experienced participants lacked access to educational support compared with their new peers (absolute percent difference = 12.7).

The health and dying construct had three items: I feel strong and healthy, my health is good, and I think dying sets one free from worries. The majority of the participants (87.1 percent) rated themselves as being in good health and did not believe that dying sets one free from worries. However, 12.9 percent (n = 13) reported poor health and had suicidal tendencies, i.e., believed that dying sets one free from worries. The difference in the measurement of health and dying among the experienced and new participants was similar (Table 3).

Table 3: Percent distribution of reported OVC wellbeing status disaggregated by being experienced or new participant

OVC Wellbeing Constructs	Experienced Recipients (n = 43)	(%)	New Recipients (n = 58)	(%)	Total (N=101)	(%)
Emotional Support**						
None available	5	(11.9)	2	(3.5)	7	(7.1)
Available some of the times	12	(28.6)	4	(7.0)	16	(16.2)
Available all the times	25	(59.5)	51	(89.5)	76	(76.8)
Spiritual & Protection						
None Available	28	(65.1)	30	(51.7)	58	(57.4)
Available some of the times	15	(34.9)	28	(48.3)	43	(42.6)
Available All the times	0	(0.0)	0	(0.0)	0	(0.0)
Educational Support						
None available	12	(27.9)	17	(29.3)	29	(28.7)
Available some of the times	7	(16.3)	16	(27.6)	23	(22.8)
Available all the times	24	(55.8)	25	(43.1)	49	(48.5)
Health & Dying						
Not well all the time	1	(2.3)	1	(1.7)	2	(2.0)
Not well some of the times	5	(11.6)	6	(10.3)	11	(10.9)
Well, all the times	37	(86.0)	51	(87.9)	88	(87.1)
Overall Family & Community Support						
None Available	11	(26.2)	7	(12.3)	18	(18.2)
Available some of the times	1	(2.4)	2	(3.5)	3	(3.0)
Available All the times	30	(71.4)	48	(84.2)	78	(78.8)

*p=05, ** p<0.01, ***p<0.001

The overall family and community support index (the total sum of family and community emotional support, spiritual and protection, educational support, and health & dying) found that 78.8 percent of the participants had adequate family and community support all the time. These participants reported to have adequate support and access to either emotional support, spirituality and felt protected, had access to educational support or rated themselves high on health (without any suicidal thoughts).

Experienced participants (28.6 percent) were more likely to report lack of adequate and access to family and community support compared with their new counterparts (15.8 percent), however, the difference was not statistically significant before controlling for confounding factors (Table 3).

Self-esteem

Self-esteem index contained ten items (five items were positive, and the remaining five were negative self evaluative statements). During reliability test, one item was excluded from the index to improve reliability. Results are based on nine self-evaluative items.

Results show that 46.5 percent of the participants had positive self-image (I feel that I have a number of good qualities, I am able to do things as well as most other people, I take positive attitude towards myself, I feel that I am a person of worth, at least equal to others, and on the whole, I am satisfied with myself), while 11.9 percent reviewed themselves negatively (I certainly feel useless sometimes; at times, I think I am no good at all, I feel I do not have much to be proud of, I feel that I am a failure). The remainder, 41.6 percent was a mixed bag with participants evaluating themselves using both positive and negative statements (Table 4).

Experienced participants were more likely (55.8 percent) to report positive self image more than new participants (39.7 percent). In other words, experienced participants viewed themselves positively 16.2 percent times more than new participants, but the difference was insignificant before controlling for confounding factors (Table 4).

Table 4: Percent distribution of reported self esteem status disaggregated by being experienced or new participant

Reported Vulnerable Element	Experienced Recipients (n = 43)	(%)	New Recipients (n = 58)	(%)	Total (N=101)	(%)
Overall Self Esteem Index						
Low Self Esteem	5	(11.6)	7	(12.1)	12	(11.9)
Possible Low Self Esteem	14	(32.6)	28	(48.3)	42	(41.6)
High Self Esteem	24	(55.8)	23	(39.7)	47	(46.5)

*p=05, ** p<0.01, ***p<0.001

Strength and Difficulty Index

The strengths and difficulty index is a screening tool for psychological and behavioural health problems among children and adolescents (Goodman, 1997). The instrument probes behavioural and psychological attributes reflecting the individual's difficulties (emotional symptoms, hyperactivity, conducted behaviour and peer problems) as well as strengths (pro-social behaviours). Social workers used their professional judgement to assess participants through observations and case notes.

Exploratory factor analysis of the strength and difficulty index on the SSI sample excluded peer problems sub-scale and split conduct behaviours into two sub-scales. The index used in this study contained strengths (pro-social behaviour) and difficulties (emotional systems, hyperactive, conduct problems and anti-social behaviours). The strength and difficulty index was measured on a 3-level Likert scale (0 = not true, 1 = somewhat true and 2 = certainly true).

The pro-social behavior construct was comprised of four items; is helpful if someone is hurt, upset or feeling ill; often offers help to others (parents, teachers and children); kind to younger children, shares readily with other youth, for example pencils, books and food. The study found that 60.4 percent of the participants were reported as being pro-social. Experienced participants were more likely (absolute percent difference = 8.2 percent) to be reported as being pro-social than new participants (Table 5).

The emotional symptoms construct contained five screening items: often seems worried; often unhappy, depressed or tearful; has many fears and is easily scared; nervous in new situations and easily losses confidence. The study found that 14.8 percent of the participants had some emotional symptoms at baseline. Experienced participants were more likely to report emotional symptoms than new participants (17.6 percent vs.12.1 percent). The absolute difference (5.0 percent) between experienced and new participants was not significant before controlling for confounding factors. Female participants (16.9 percent) reported more emotional symptoms more than male counterparts (12.5 percent)

The hyperactivity construct had five items: restless, overactive, and cannot stay still for long; easily distracted and concentration wanders, constantly fidgets and squirms, good attention span, sees work through to the end; and thinks things out before acting. Overall, 13.9 percent of the participants had hyperactive symptoms while the majority of the participants were normal (did not have hyperactive symptoms). New participants were more likely to report self-diagnosed hyperactive symptoms more than experienced participants by 7.9 percent. Male participants (18.8 percent) were more hyperactive than their female peers (9.4 percent).

The conduct behavioural problem construct comprised of three items: well behaved and usually does what adults request; often loses temper and often fights with other youth or bullies them. Results at baseline revealed that 26.8 percent of the participants often lose temper or often fight or bully another youth. Experienced participants reported more conduct behavioural problems than new participants by 10.1 percent. However, this was not significant prior to controlling for confound factors (Table 5). Female participants were more likely to report either losing temper or being involved in fights with peers or bullying them than their male peers by an absolute percentage difference of 11.3.

The **anti-Social behaviour** construct was made up of two items: steals from home, school, or elsewhere, and often lies or cheats. Results showed that 30.7 percent of the participants were characterized as thieves and or liars. Experienced participants were more likely to report stealing, lying or cheating by 19.5 percent more than new participants. The absolute percentage difference between experienced and new participants was statistically significant prior to controlling for confounding factors, p<0.01. Further analysis revealed that female participants were 10.9 percent more likely to be involved in stealing, lying or cheating than male participants.

The overall difficulty construct (total sum of emotional symptoms, hyperactivity, conduct behavioral problems and anti-social behaviors) found that 27.7 percent of the participants had either emotional symptom, were hyperactive, had conduct behavioral problems or had anti-social behavioral problems. The difference between experienced and new participants was minimal (+0.3 percent absolute difference), suggesting no change between the two populations prior to controlling for confounding factors. Male participants (29.2 percent) had a slightly higher difficulty percentage than their female peers (26.4 percent). However, the difference was not significant.

Table 5: Percent distribution of reported psychosocial behavioural and physiological state of respondents disaggregated by being experienced or new participant

Strength and Difficulty Constructs	**Experienced Recipients (n = 43)**	**(%)**	**New Recipients (n = 58)**	**(%)**	**Total (N=101)**	**(%)**
Pro-Social Behaviour						
Abnormal (Reported anti-social behaviours)	7	(16.3)	9	(15.5)	16	(15.8)
Borderline (Possible behavioural Issues)	8	(18.6)	16	(27.6)	24	(23.8)
Normal (Resilience)	28	(65.1)	33	(56.9)	61	(60.4)
Emotional symptoms						
Abnormal (Reported Emotional Issues)	5	(11.6)	4	(6.9)	9	(8.9)
Borderline (Possible Emotional Issues)	3	(7.0)	3	(5.2)	6	(5.9)
Normal (No Reported Emotional Issues)	35	(81.4)	51	(87.9)	86	(85.1)
Hyperactivity						
Abnormal (Reported Hyperactivity)	0	(0.0)	2	(3.4)	2	(2.0)
Borderline (Possible Hyperactivity)	4	(9.3)	8	(13.8)	12	(11.9)
Normal (Reported Hyperactivity)39	(90.7)	48	(82.8)	87	(86.1)	
Conduct Problems						
Abnormal (Reported Conduct Problem)	9	(20.9)	5	(8.6)	14	(13.9)
Borderline (Possible Conduct Problems)	5	(11.6)	8	(13.8)	13	(12.9)
Normal (No Reported Conduct Problems)	29	(67.4)	45	(77.6)	74	(73.2)
Anti-Social behaviours**						
Abnormal (Reported anti-social behaviours)	12	(27.9)	3	(5.2)	15	(14.9)
Borderline (Possible anti-social behaviours)	6	(14.0)	10	(17.2)	16	(15.8)
Normal (No Reported anti-social behaviours)	25	(58.1)	45	(77.6)	70	(69.3)
Overall Difficulty Index						
Normal (No psychosocial problems)	8	(18.6)	9	(15.5)	17	(16.8)
Borderline (Possible psychosocial Issues)	4	(9.3)	7	(12.1)	11	(10.9)
Normal (No reported psychological problems)	31	(72.1)	42	(72.4)	73	(72.3)

*p=05, ** p<0.01, ***p<0.001

4.1.4: Psychosocial Mean Measurements

The study coded measurement indices on an interval scale to facilitate inference statistical analysis using multiple logistic and linear regression modelling. Table 6 presents the means and standard deviations for the psychosocial index and its sub-scales (of vulnerability, family and community support, self-esteem, and strength and difficulty indices), and independent variables (age, education, length of stay). The one-sample t-test was conducted to evaluate whether the means were significantly different from the constant (test value = 0). The results suggest that each of the variable in the Table 6 were significantly different from the mean (p<0.001).

Table 6: Mean (standard deviations) distribution of the primary independent and dependent variables

	Sample size	**Mean**	**(SD)**	**95% CI of the difference**
Independent and Dependent Variables				
Length of stay (Years)	101	1.44	(±1.60)	(1.12, 1.75) ***
Age (Years)	101	14.73	(±2.50)	(14.24, 15.23) ***
Education (Years)	100	7.71	(±2.05)	(7.30, 8.12) ***
Psychosocial Index	99	102.33	(±9.61)	(100.40,104.30) ***
Vulnerability Index	101	20.84	(±6.40)	(19.58, 22.11) ***
Family & Community Support Index	99	33.83	(±4.41)	(32.95, 34.71***
Self-Esteem Index	101	34.02	(±5.86)	(32.86, 35.18) ***
Pro-Social Sub-Scale	101	6.51	(±2.52)	(6.01,7.00) ***
Difficulty Sub-Scale	101	7.08	(±6.21)	(5.85, 8.31) ***

*p<0.05, **p<0.01, ***p<0.001
Note: One-sample t-test (Test value =0)

4.1.5: Effects of Current Psychosocial Interventions

Table 7 provides the results of univariate logistic regression (of the mean variables only) that evaluated the effects of vulnerability, family and community support systems, self-esteem, pro-social behavior, difficulty (psychological distress), education and age on LOS (being an experienced or new participant). The assumption was that the longer an individual received psychosocial support services, the better the attributes of psychosocial well-being. In this study, psychosocial well-being parameter is a combination of vulnerability, family and community support systems, self-esteem, pro-social behaviour and difficulty (psychological distress) outcomes.

Table 7: Univariate dichotomous logistic regression model on the effects of vulnerability score, wellbeing score, self -esteem score, pro-social behaviour score and the difficulty score on experienced or new participants

Predictive Factors	Mean Score	(SD)	Odds Ratio	(95% C.I.)
Overall Vulnerability Score				
New Participants	21.71	(6.52)		
Experienced Participants	19.67	(6.10)	0.95	(0.89, 1.01)
Family and Community Support Score				
New Participants	34.40	(4.25)		
Experienced Participants	33.05	(4.55)	0.93	(0.84, 1.02)
Self-Esteem Score				
New Participants	33.41	(5.74)		
Experienced Participants	34.84	(5.98)	1.04	(0.97, 1.12)
Pro-Social Behaviour Score				
New Participants	6.21	(2.43)		
Experienced Participants	6.91	(2.61)	1.12	(0.95, 1.32)
Difficulty Score				
New Participants	6.72	(5.57)		
Experienced Participants	7.57	(7.03)	1.02	(0.96, 1.68)
Mean Age				
New Participants	13.4	(1.82)		
Experienced Participants	16.5	(2.18)	2.17	(1.59, 2.94) ***
Mean Education	6.60	(1.45)		
New Participants	9.19	(2.79)	2.43	(1.74, 3.40) ***
Experienced Participants				

*p<0.05, **p<0.01, ***p<0.001

Before controlling for confounding factors, no statistically significant effects of vulnerability, family and community support systems, self-esteem, pro-social behavior, and difficulty (psychological and behavioral distress) on LOS (being experienced or new).

4.2: Inferential Analysis: Regression Modeling

4.2.1. The effectiveness of current psychosocial support interventions

The study employed multiple regression modelling to answer the two research questions and their accompanying hypotheses. Multiple logistic regression modelling was used to evaluate the effects of vulnerability, family and community support system, self-esteem, pro-social behavior, and difficulty (psychological distress) on LOS controlling for confound factors (sex, age, education, orphanhood and parenthood).

Post-hoc analysis identified multicollinearity between age and education (the variables were highly correlated) that rendered the results difficult to interpret. Exclusion of one variable (age or education) did not change the final resultant outcome of the multiple logistic regression. As a result, education was dropped from the model. Sex, orphanhood and parenthood were not confounders and their inclusion/exclusion from the model did not make a difference. These variables were, therefore, dropped from the model. The final multiple logistic regression model considered parsimonious is presented below.

$$Y_{\left(\frac{\pi}{1-\pi}\right)} = \beta_0 + \beta_1 Vulnerability_i + \beta_2 Family\ \&community\ support_i + \beta_3 Selfesteem_i$$
$$+ \beta_4 Prosocial\ behavior_i + \beta_5 Diffuculty_i + \beta_6 Age_i + \varepsilon_i$$

The effects of the vulnerability, family and community support systems, self-esteem, pro-social behaviour and difficulty (psychological distress) on LOS are presented in Table 8. Results indicate that experienced participants were less likely to report exposure to vulnerable circumstances by 26.0 percent compared with new participants, OR = 0.84, 95% C.I. 0.74:0.98, $p<0.05$. Results suggest that being experienced offered participants a significant protection from vulnerability at baseline (Table 8).

Experienced participants had improved self-esteem by 17.0 percent, (OR = 1.17, 95% C.I. 1.01: 1.37, $p<0.05$) compared to new participants. In other words, experienced participants evaluated themselves more positively and felt confident about themselves more than the new participants. Results also show that experienced participants were 56 percent more likely to be rated pro-social by social workers than new participants, (OR = 1.56, 95% C.I. 1.02:2.37, $p<0.05$) (Table 8).

These show that being experienced (receiving psychosocial interventions that addressed the vulnerability, self-esteem and pro-social behaviours – life skills) were beneficial in improving participants psychosocial wellbeing. The results show 95.0 percent confidence that PSS interventions addressing vulnerability, low self-esteem and poor pro-social behavioural issues were significantly effective in contributing towards improving OVC's psychosocial well-being.

Table 8: Multiple dichotomous logistic regression model on the effects of vulnerability score, wellbeing score, self -esteem score, pro-social behaviour score and the difficulty score on being experienced or new participants

Predictive Factors	Mean Score	(SD)	Odds Ratio	(95% C.I.)
Overall Vulnerability Score				
New Service Recipients	21.71	(6.52)		
Experienced Service Recipients	19.67	(6.10)	0.84	(0.74, 0.98) *
Family and Community Support Score				
New Service Recipients	34.40	(4.25)		
Experienced Service Recipients	33.05	(4.55)	0.75	(0.61, 0.93) **
Self-Esteem Score				
New Service Recipients	33.41	(5.74)		
Experienced Service Recipients	34.84	(5.98)	1.17	(1.01, 1.37) *
Pro-Social Behaviour Score				
New Service Recipients	6.21	(2.43)		
Experienced Service Recipients	6.91	(2.61)	1.56	(1.02, 2.37) *
Difficulty Score				
New Service Recipients	6.72	(5.57)		
Experienced Service Recipients	7.57	(7.03)	1.38	(1.13, 1.68) **
Mean Age				
New Service Recipients	13.4	(1.82)		
Experienced Recipients	16.5	(2.18)	2.53	(1.70, 3.76) ***

*$p<0.05$, **$p<0.01$, ***$p<0.001$

Baseline results also found that the current PSS interventions addressing the effects of family and community support systems and difficulty (psychological and behavioural distress) on LOS were weak and failed to contribute towards OVC psychosocial wellbeing. Experienced participants were 25.0 percent less likely to report having adequate access to family and community support system compared with new participants, *OR = 0.75, 95% CI: 0.63: 0.93,* $p<0.01$. In other words, there is no evidence to support the notion that PSS community outreach interventions are targeting family and community resilience to support OVC contributed to OVC psychological well being. The study also found that experienced participants were 38.0 percent more likely to report psychological distress than new *participants, OR = 1.38, 95% CI: 1.13:1.68,* $p<0.01$. The results show no evidence that the current psychosocial interventions addressing emotional symptoms (unhappiness, worrying, fear, lacking confidence and nervousness), hyperactivity (restless, overactive, distraction, fidgeting), conduct problem behaviors (fight and hot temperament) and antisocial behaviors (stealing and lying) were effective in contributing towards.

4.2.2: Predicting Future High Impact Psychosocial Intervention Areas

Hierarchical multiple linear regression modelling was applied to predict high impact psychosocial intervention areas for the future. The outcome of interest was psychological well-being ($\mu =102.3$). Dependent variables included participants' sex, age, education, LOS, orphanhood status, parenthood, means of vulnerability, family and community support systems, self-esteem, pro-social behaviour and difficulty (psychological distress). The model with all eleven variables was too large and had poor predictive power. The decision was to split the model into two. The first predictive model is presented below:

$$Y_{(\mu)} = \beta_0 + \beta_1 LOS_i + \beta_2 Age_i + \beta_3 Sex_i + \beta_4 Edu_i + \beta_5 Parenthood_i + \beta_6 Orphanhood_i + \varepsilon_i$$

Table 9 presents results of the multiple linear regression modelling for predicting high impact factors likely to contribute towards improving psychosocial wellbeing of OVC in the future. A summary assessment of the model's predictive power was weak, F (6, 91) = 1.66, p = 0.14. The results suggest that LOS, age, sex, education, parenthood, and orphanhood were weak factors in predicting future psychosocial wellbeing. The first step and second step factors in the hierarchical models accounted for R2 = 0.022 and adjusted R2 = 0.039. Interpreting this model would be misleading.

Table 9: Multiple linear regression model for predicting future psychological wellbeing for psychosocial service by LOS, age, sex, education, parenthood and orphanhood

Predictor Factors	**Mean Score**	**(SD)**	**B**	**SE**	***β***
Length of Stay (LOS in Years)	1.4	(1.60)	0.01	(0.93)	0.002
Age (Years)	14.7	(2.50)	1.10	(0.81)	0.29
Sex	1.48	(0.50)	-1.47	(1.98)	-0.08
Education	7.7	(2.05)	-2.23	1.01	-0.48*
Parenthood	0.51	(0.50)	-5.51	4.01	-0.28
Orphanhood	3.2	(1.40)	2.79	1.45	0.41

*p<0.05, **p<0.01, ***p<0.001
R^2 ==0.022 for Step 1 adjusted R^2 =0.039 for Step 2, p=0.184

The second hierarchical linear regression model to predicting high impact intervention areas for the future psychosocial wellbeing for OVC is presented below:

$$Y_{(\mu)} = \beta_0 + \beta_1 Vulnerability_i + \beta_2 Family\ \&community\ support_i + \beta_3 Selfesteem_i + \beta_4 Prosocial\ behavior_i + \beta_5 Diffuculty_i + \varepsilon_i$$

Summary model results found that this had predictive power in predicting the future of psychological well being, *F (1, 97) = 23.27, p <001*. The first step factor in the model (vulnerability) accounted for 44.0 percent of the variance in the dependent variable (psychological well-being). When all variables were included, the predictors accounted for 100.0 percent of the variance, *F (4, 93) = 5.630E+6, p<001; adjusted R2 = 0.19* (Table 10). Post-hoc analysis results were robust (satisfied cross-validation of the model, there was no multicollinearity [assessment done based on variance inflation factor], satisfied the Durbin-Watson test for independent errors assumption and casewise diagnostics of residuals).

Table 10 summaries the results of the hierarchical multiple linear regression model. Results suggest that reducing vulnerability and difficulty (psychological and behavioral problems); strengthening family and community support systems, increasing self-esteem and pro-social behaviors would significantly contribute to improving psychosocial well-being outcomes for OVC at SSI in the future. The results show strong evidence at 95.0 percent confidence level that reducing vulnerability and psychological and behavioral problems; strengthening family and community support systems, increasing self-esteem and pro-social behaviors would significantly contribute to improving psychosocial wellbeing outcomes in the future (Table 10).

Table 10: Multiple linear regression model for predicting future psychological well-being for psychosocial service recipients at Stepping Stones International

Predictive factors	**Mean Score**	**(SD)**	***β***
Vulnerability Score	20.8	(6.45)	.67***
Family & Community Support Systems	33.8	(4.41)	.46***
Self-Esteem	34.1	(5.91)	.62***
Pro-Social Behaviour (Resilience factors)	6.5	(2.53)	.26***
Difficulty Score (Psychological Distress)	7.2	(6.23)	.65***

*p<0.05, **p<0.01, ***p<0.001
R^2 ==0.44 for Step 1 adjusted R^2 =0.19 for Step 2, p<001,

When individual predictive factors were evaluated one at a time (holding other factors constant), results found addressing vulnerability, difficulty issues (psychological and behavioral problems) and self-esteem had the highest impact in the model improving future psychosocial well-being outcomes (Table 10).

Reducing vulnerability had the highest impact, $\beta = 0.67, p<001$ in improving OVC psychological well-being outcomes. The results also found that reducing OVC difficulty issues (psychological and behaviour distress) had equally high impact on the future OVC psychological well-being outcomes in the future, $\beta = 0.65, p<001$. In addition, strengthening OVC self-esteem strongly impacted on the future of psychological well-being outcomes, $\beta = 0.62, p<001$.

Results also indicate that strengthening family and community systems indirectly improved OVC psychosocial well-being outcomes, $\beta = 0.46, p<001$. Finally, promoting OVC's pro-social behaviours improves overall OVC's psychosocial well-being outcomes, $\beta = 0.26, p<001$.

The results mean that as vulnerability decreases by one unit ($SD_{\text{vulnerability}} = 6.40$), psychological well-being increases by 0.67 standard deviations ($SD_{\text{psychosocial wellbeing}} = 9.61$). The effect of reducing vulnerability results in the increase of psychosocial well-being by 6.44 ($SD_{\text{psychosocial wellbeing}} = 9.61\text{x Vulnerability}_{\beta} = .67$). Table 11 presents estimated impact levels of each predictive factor and assumed total after implementation (T1) on the future psychosocial well-being outcomes.

Table 11: Distribution of modelled impact of each factor and estimated impact of interventions at T1 (after implementation in 12 months)

High impact Factors	Psychosocial Mean at Baseline(T0)	Model Estimated Impact	Estimated Psychosocial Mean at (T1)
Reduce Vulnerability Issues	102.3	6.4	108.7
Reduce Difficulty Issues	102.3	6.3	108.6
Increase Self-Esteem	102.3	6.0	108.3
Strengthen Fam & Comm Support Systems	102.3	4.4	106.7
Increase Pro-Social Behaviours	102.3	2.5	104.8
Estimated Psychosocial well-being mean	102.3	25.6	127.9

CHAPTER 5: DISCUSSION

The social, ecological theory of human development clearly shows that OVC psychosocial outcomes are influenced by several interdependent and interconnected factors. Organizational management teams need to understand this dynamism to make sustained impact on addressing OVC psychosocial challenges. The baseline has led to several programmatic implications for SSI leaderships. First, the results identified factors that require consideration when designing psychosocial interventions. The study has identified strengths and weaknesses of the current psychosocial support interventions, and highlighted high impact areas necessary for maximizing and optimizing psychosocial wellbeing outcomes for SSI.

5.1. Study Implications

Orphaned and vulnerable adolescent's psychosocial challenges are complex, multifaceted and interconnected elements. Addressing OVC challenges requires broad and holistic approaches that take into consideration an individual's social network, and his or her community ad societal factors (Figure 1). Programming of psychosocial interventions at SSI must, therefore, be tailored to address personalized psychological issues, family and community issues, and the policy factors in order to optimize programmatic outcomes.

5.1.1: Programming Psychosocial Interventions

Results suggest that maximizing psychosocial well-being outcomes at SSI will require programming and tailoring OVC interventions to age, education and gender of the participants. The study found significant differences in age and education levels between experienced and new participants; $p<0.001$. The results indicate the need for ensuring that service delivery approaches or strategies recognize these disparities when planning, designing and delivering psychosocial support services. OVC studies conducted in other sub-Saharan countries found individual factors (such as gender, age and education) critical in the design of OVC psychosocial programs (Schenk, Michaels, Saplano, Brown & Weiss, 2010).The results also suggest that male and female participants have disparate exposures to psychosocial shocks, with female participants being more disadvantaged than male participants. For example, female participants were more likely to report residing in abusive households and were also more likely to report psychological and behavioural distress (emotional distress and product conduct behavioural problems) than male participants.

Studies on the abuse are often associated with psychological distress including emotional systems and conduct behavioural problems characterized by depression, stealing, lying, getting into fights and bullying (Green 1993). While conduct and anti-social behaviors are often common among male adolescents, their occurrence in young females (as is the case in this study) may be an indication of the effects of persistent abuse (American Psychiatric Association; Green, Russo, Navratti & Loeber, 1999). The high percentage of psychological distress among female participants indicates a 'cry' for help that must be taken seriously. Persistent abuse leads to toxic stress that has long-term negative impact on OVC's health and development (Shonkoff et al., 2012).

Inclusion of gender disparities in programming OVC interventions underpins all aspects of adolescents' lives because it (gender) affects their capacities, choices and decisions. Being cognisant of gender, age and education factors when developing activities and delivering OVC psychosocial support services and other SSI programs are likely to lead to outcome maximization in the future. The results mean that SSI cannot approach programming of psychosocial support services as a business as usual; rather there is a need critically to examine factors such as age, education and gender in the delivery of interventions.

5.1.2: State of Current Psychosocial Interventions

Literature indicates that the implementation of evidence-based psychosocial interventions for orphaned and vulnerable adolescents remains one of the unmet needs in OVC programming in many sub-Saharan African countries including Botswana. Studies show that many OVC interventions in sub-Saharan Africa lack a rigorous scientific base to guide program implementation let alone monitoring and evaluation (Nyangara, 2009; Curtis 2009; Hermenau et al., 2011). In order to break away from this status quo, SSI has incorporated evidence programming to improve its future outcomes. The study at baseline shows strong evidence (after controlling for all potential confounding factors) that interventions designed to reduce vulnerability, increase self-esteem and promote pro-social behaviors among orphaned and vulnerable adolescents positively changed participants who had previously received interventions against those who had just been recruited into the program, $p<0.05$. These results provide strong grounds to urge that the current psychosocial support interventions were effective in promoting orphaned and vulnerable adolescents with coping mechanisms to deal with vulnerable circumstances, low self-esteem and poor pro-social behaviour outcomes.

The importance of addressing OVC-related vulnerabilities, self-esteem and pro-social behaviours is justified in several medical, psychology and social work studies. Shonkoff et al (2012), for example, found that vulnerabilities such as lack of family support system may result in brain damage and impair an adolescent development which may lead to lifelong negative impact on education and social relationships outcomes as well as susceptibility to illness. In rural Kenya, Puffer et al (2012) found that orphaned children had poorer social support and fewer material resources to sustain normal development compared with non-orphaned children. Studies show that the exposure to persistent abusive environments negatively impacts OVCs' psychosocial wellbeing outcomes (Green 1993; American Psychiatric Association; Green et al. (1999).

Studies found that the low self-esteem leads to psychological distress characterized by depression, loneliness, anti-social behaviours and conduct behavioural problems (Branden, 1994; Mecca, Smeler, & Vasconcellos, 1989). On the other hand, high self-esteem is associated with psychological happiness that enables individuals to cope effectively with challenges and negative feedback from the social environment (Mecca, Smeler, & Vasconcellos, 1989).

Studies also identify an individual's pro-social behaviours as critical in building resilience and coping mechanisms (Baumeister & Bushman, 2008; Pienaar, 2007). Pro-social behaviour characteristics: helping others, obeying rules, conforming to socially acceptable 'laws', cooperating with others, and building healthy relationships are essential for building social capital (Baumeister & Bushman, 2008). According to Kumpfer (1999 in Pienaar 2007), pro-social behaviours are internal personality competencies related to an individual's coping mechanism or life skills. Adolescents who display pro-social behaviours tend to be resilient when confronted with life threatening events (Kumpfer, 1999 in Pienaar, 2007).

Correlational studies found that the social exclusion or rejection is associated with significant decline in pro-social behaviour behaviours (Twenge, Baumeister, DeWall, Ciarocco, Bartlets, 2007). For example, studies contend that adolescents who are rejected by their peers, family members and other social networks are less likely to be pro-social, while adolescents with stable and cohesive social networks have strong altruistic behaviors (Twenge et al., 2007).

The study also found that even after exposure to outreach interventions addressing family and community support systems and counselling sessions aimed at reducing psychological distress, experienced participants showed poor outcomes compared with the newly recruited participants, $p<0.001$. The findings showed strong evidence that SSI interventions aimed at strengthening family and community support systems and reducing psychological distress were weak in promoting OVC psychological well-being outcomes.

Studies indicate that HIV and AIDS have a negative toll on the family and community support system as well as OVC psychosocial well-being (Miller et al., 2006; Zagheni, 2011; Sengendo & Nambi, 1997). A country with a high burden of HIV and AIDS impoverishes families, making caregivers unable to provide sufficient resources and basic needs to OVC. In most instances, neither the family nor communities can provide adequate safety nets (Miller et al., 2006). Zagheni (2011) found that that orphanhood had an adverse impact on the safety net of the extended family system. The increase of HIV and AIDS' mortality drastically reduces the availability of relatives, undermining the traditional form of support.

Studies show that OVC are prone to a cumulative negative psychological effect especially if they lack access to (effective) psychosocial support and care services (Sengendo & Nambi, 1997). This is because OVC are susceptible to losing hopes, feeling sad, helpless, angry, and are depressed (Sengendo & Nambi, 1997). Ruiz-Casares et al. (2009) found a significant association between being an orphan and experiencing high rate of psychological distress.

5.1.3: Optimizing on High Impact Intervention Areas

The study used hierarchical modelling to predict future intervention areas most likely to influence positive psychosocial well-being outcomes for SSI participants. Prediction analysis revealed that length of stay (how long OVC are in the program), age, sex, education, parenthood (having a parent or not) and orphanhood (being an orphan or not) were not significant predictors of future OVC positive psychosocial wellbeing outcomes. In other words, while factors such as age, education and gender are critical consideration parameters for planning and delivering OVC interventions effectively (and length of time, orphanhood and parenthood), they do not predict whether the psychological well-being outcomes will improve or not.

Conversely, interventions that reduce factors that make OVC vulnerable (abuse, family support and ill-health): reducing psychological distress through effective counselling strategies, promoting self-esteem through counselling and life skills, strengthening OVC family and community support systems and promoting pro-social behaviors (in that order of importance) are important in predicting positive psychosocial wellbeing outcomes in the future. Studies indicate that addressing all these interventions areas in tandem and order of importance are more likely to optimize positive psychosocial well-being outcomes than blindly allocating scarce resources in random areas. Williamson & Robinson (2006) found that persistent exposure to vulnerable circumstances or poor family and community support systems affects other aspects of internal and external human processes such as self-esteem and psychological distress, causing poor psychosocial outcomes. These results emphasize the complexity of the interdependence and interconnectedness of intervention areas likely to maximize OVC psychosocial well-being in the future.

Poor psychosocial wellbeing outcomes among OVC are associated with multiple negative issues on communities and nations. Matshalaga & Powell, 2002, observed that the accumulation of OVC with poor psychosocial well-being outcomes have the potential of forming a large group of dysfunctional adults, which could further destabilize societies already weakened by AIDS. Designing and implementing smart, innovative, effective and sustainable interventions, driven by evidence in OVC programming is significant at all levels: the individual, the community and the country. (Ruiz-Casares et al., 2009; Xiaoming et al., 2008).

CHAPTER 6: CONCLUSION

Psychosocial well-being of orphan and vulnerable adolescents is recognized as an essential component for ensuring normal growth and development. Results at baseline show that in order for SSI to realize its vision of unlocking the potential of OVC by nurturing the psychological, social and physical wellbeing, SSI should incorporate individuals, social networks and community factors in building relevant, practical and useful OVC programs.

The findings highlighted that the efficiency of psychosocial support programming needs to take into consideration participants' age, sex and education to ensure high quality intervention delivery. The results also suggest that SSI should consider strategic planning of psychosocial support and care services by building on gains achieved over the past five years and learn from the weaknesses of the current interventions areas.

In strengthening the benefits and learning from the weaknesses, SSI should take into consideration the high impact intervention areas to prioritize its resources. Furthermore, in order to optimize future benefits, it is essential to implement all primary intervention areas in tandem. It is hoped that SSI leadership and program staff will use this information as a resource for revamping psychosocial interventions.

CHAPTER 7: RECOMMENDATIONS

Solving complex psychosocial problems requires organizational leaders to recognize three interrelated principles: (1). What are etiological factors of psychosocial distress? (2). What is the consequential impact of psychosocial distress on OVC population if not addressed? (3). What approaches effectively address the problem? This section provides recommendations/suggestions aimed at strengthening the gains as well as addresses the weaknesses of the current psychosocial support and care interventions. The purpose is to direct SSI towards developing smart, innovative and sustainable psychosocial interventions. The study identified age, gender, and education as critical individual factors that may require consideration in designing and delivering OVC psychosocial support and care services. Based on the findings it recommended that:

- SSI should consider gender mainstreaming OVC programming. Gender mainstreaming allows OVC programming to address different needs that affect male and female adolescents disproportionately at different stages of developmental stages. This study found that female adolescents face a disproportionate level of vulnerability and psychological distress which requires full programming attention to their needs and rights.
- SSI should consider tailoring psychosocial support and care services to age-specific and education level specific in the delivery of interventions to ensure practical and relevance with regards to comprehensive and depth. For example, new participants may require pictorial loaded service delivery given their young age and level of education while experienced participants may require skill-driven and advanced discussion-based approaches.
- PSS and the education departments must work jointly to assess whether the 25.0 percent who reported being in primary school at baseline have learning disabilities.

The study highlighted strengthens as well as weaknesses of the current psychosocial service programming. Based on these results, it is recommended that that:

- Psychosocial support department must consider documenting good interventions, i.e., interventions that have propelled improvements in reducing vulnerabilities, improving self-esteem, and pro-social behaviours in order to strengthen and maintain these interventions
- PSS must continuously review its interventions to improve weakness and leverage strengths.
- PSS must establish "listening" posts to allow service recipients' contribute in building not only innovative but also sustainable risk coping competencies.
- PSS must use this baseline results to develop an individualized e-tracking record aimed at monitoring individual progress. Developing personal e-tracking monitoring system, SSI must update and collect progress data every six months that will allow the organization to improve its activities continuously; creating smart and informed interventions.

The baseline also found that PSS interventions addressing family and community support systems and psychological wellbeing failed to make a substantive impact at baseline. Based on these results, it is recommended that:

- SSI should consider an urgent application of using baseline information to developing system performance and quality framework for the psychosocial programs to strengthen the gains already made and revise the identified weaknesses. Systems performance and quality framework (Appendix II) will allow SSI to:
    - Identify leverage points (places within a complex system where small calculated revision can produce targeted outcomes) within the system where revisions may be necessary.
    - Analyze psychosocial support system performance in terms of - governance (protocols, procedures, coordination with external stakeholders at national, district and village levels), structural processes, the external environment may be required – structural strengthens and weaknesses undertake a systems performance under taking a systems should use the results to undertake an impact analysis that brings together pertinent stakeholders including family members, community support structures (uncles and unties, chiefs, school counselors etc.), local and professional community to developed culturally sensitive and internationally recognized interventions. The outcome of the impact assessment should then be applied to improve on the current interventions.
    - Conduct mapping of pertinent stakeholders at all level of government aimed at establishing intersectoral collaboration among major players for psychosocial support services.
    - Use baseline data and system performance analysis to generate indicator domains (Appendix III – M&E Framework) for psychosocial support: input and process, output, outcome and impact indicators.
    - Data at baseline should be used as preliminary screening tool for further and in-depth and full understanding of participants' psychosocial challenges. This qualitative information will allow the loop feedback into continuous programming throughout the life of the psychosocial program
    - Use the indicator domains to develop a dashboard for monitoring progress, accessibility, and quality of services on a continuous basis (Appendix IV – Dashboard at baseline)

The study at baseline identified high impact intervention areas predicted to maximize future psychosocial wellbeing outcomes. It is recommended that:

- SSI should consider optimizing the baseline information (evidence-based programming) aimed at achieving maximum efficiency of the psychosocial support activities. System performance and quality analysis which will guide SSI to identify leverage points that in turn will lead to information optimization.
- SSI should consider using impact intervention levels to prioritize the allocation of resources. However, it is important to note that maximizing achievements require integration of areas identified as significant at baseline.
- SSI should use this information to map potential donors and submit targeted proposals aimed at improving psychosocial support interventions

The recommendations/suggestions proposed in this report are aimed at motivating SSI leadership and Psychosocial Department staff to more and in-depth discussions on how psychosocial support and care services can be improved. The recommendations are, therefore, open for modification and improvement.

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