HEALTH PROMOTION INTERVENTIONS, MONITORING AND EVALUATION PROCESS, POLICY GUIDELINES AND PERFOMANCE OF HIV PREVENTION PROJECTS FOR ADOLESCENTS IN KISUMU COUNTY, KENYA

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A Thesis Submitted in Partial Fulfilment of the Requirements for the Award of Degree of Doctor of Philosophy in Project Planning and Management, Department of Open Learning of the University of Nairobi

2019

DECLARATION

This Thesis is my original work and has not been presented in any other university or institution of higher learning for examination or academic purposes.

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DEDICATION

This work is dedicated to my parents Mr and Mrs Samuel Ndungu for their unwavering support in my academic journey and my sister Magdalene Wanjiru for her moral support as well.

ACKNOWLEDGEMENT

This work would have not been possible without my Supervisors Prof. Christopher Gakuu and Prof. Harriet Kidombo who provided much needed direction, correction, mentorship and assistance in the course of putting this proposal together. I acknowledge their support and thank them most sincerely for their tireless efforts.

Also my appreciations go to the university library staff and my course mates in the PHD class of 2016 who have so far provided good academic company at all times. All the lecturers who has walked with us through a rigorous course work period including; Prof Harriet Kidombo, Prof Philip Odunga, Prof Charles Rambo, Prof Christopher Gakuu, Dr Luketero, Dr Anne Wambugu, Dr Raphael Nyonje, and Dr Joyce Osogo.

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LIST OF ABBREVIATIONS & ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CBO:	Community Based Organization
CDC	Centre for Diseases Control
CSA	Centre for Study of Adolescents
FC	Financial Capabilities
FGD	Focus Group Discussion
FMP	Families Matter Program
G.O.K	Government of Kenya
HCBF	Health Choices For Better Future
HIV	Human Immune Deficiency Virus
ICL	I Choose Life Africa
KNBS	Kenya National Bureau of Statistics
KRCS	Kenya Red Cross Society
M&E	Monitoring and Evaluation
MHMC	My Health My Choice
NACC	National Aids Control Council
NACOSTI	National Commission for Science, Technology& Innovation
NASCOP	National AIDs Control Program
NGO	Non-Governmental Organizations
NOPE	National Organization Of Peer Educators
PHD	Doctor of Philosophy
PROUT	Progressive Utilisation Theory
SDG	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
TOTs	Training of Trainers
UK	United Kingdom

UNDP	United Nations Development Programme
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USA	United States of America
USAID	United States Agency for International Develop
WHO	World Health Organization

ABSTRACT

This study purposed to determine the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu County. The study had six objectives. First to determine the extent to which biomedical interventions influence the performance of HIV prevention projects for adolescents in Kisumu County, Kenya. Secondly to assess the extent to which behavioural interventions influence the performance of HIV prevention projects for adolescents in Kisumu County, Kenya. Thirdly to establish the extent to which structural interventions influence the performance of HIV prevention projects for adolescents in Kisumu County, Kenya. Fourthly to establish to what extent the combination of behavioural, biomedical and structural interventions influence the performance of HIV prevention projects for adolescents in Kisumu County, Kenya. The fifth objective was to determine the extent of moderating influence of project M&E process on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu County, Kenya. Lastly to determine the extent of moderating influence of policy guidelines on the relationship between health promotion interventions if any and performance of HIV prevention projects for adolescents in Kisumu county, Kenya. This was done at a time when there was an increasing demand of credible and usable information through M&E processes throughout the world. Variables considered included health promotion interventions and project M&E process, Policy guidelines and performance of HIV prevention projects for adolescents. A review of literature was done and it was established that although there are numerous studies on the role of health promotion interventions in promoting M&E process there are few empirical studies conducted showing the relationship between health promotion interventions and performance of projects. Hypotheses were formulated to help test the relationship between health promotion interventions and performance of prevention projects for adolescents. The study was guided by pragmatism paradigm. A descriptive survey design was used in the study. Using stratified random sampling the study obtained a sample of 358 from a population of 4483. A structured questionnaire with Likert-type interval scale anchored on a five-point scale was used to collect primary data. An interview guide was used to triangulate the results. Pearson's Product Moment Correlation was used to test the direction and relationships between the variables. With r values of 0.528, 0.541 and 0.520 for behavioural biomedical and structural interventions respectively, the null hypothesis for the three interventions were rejected concluding that all the interventions had a significant relation on performance of projects. From the three test of moderation influence of project M&E processes, it is true that project M&E processes had no moderation influence on relationship with R2 being 0.003. The test for combined relationship of three independent variables and moderating variable on the dependent variable was analysed using Multi-linear Regression analysis. The study recommended a combination approach on adoption of various categories of interventions to optimize on their combined effectiveness and document results upon successful completion of necessary procedures involved in conducting this study.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

To mitigate and eventually eliminate HIV epidemics around the world, it remains essential to develop and implement HIV prevention interventions that modify individuals' behaviors and practices. These are as essential as developing technologies, such as vaccines, microbicides, and antiretroviral drugs, which attack and immobilize the virus and reduce the risk of its transmission. It's also is necessary to legislate social and policy changes that transform social structures and environments that constrain individuals' ability to reduce their vulnerability to HIV infection. Such intervention would address fundamental social drivers of HIV vulnerability, such as economic dependence, poverty, gender inequality, lack of education, stigma and discrimination, including sexism, racism, and homophobia(Auerbach, 2009).

Human immunodeficiency virus (HIV) is the virus that causes acquired immune deficiency syndrome (AIDS). (Veronika, 2013) The virus targets to weaken the immune system after entering the human body (CDC, 2012). When the immune system has been extensively compromised, the illness advances to AIDS. AIDS is therefore defined by the level of weakening of the immune system, deterioration of which is in turn characterised by the frequency of occurrence of opportunistic infections taking advantage of the attacked immune system. Most Africans who are infected with HIV ends dying from AIDS-related illnesses, usually within ten (10) years of infection. (UNAIDS, 2002). This affects young people more with a bias on female gender.

Data from various countries shows major discrepancies in efforts to step down the spread of new HIV transmissions. Some nations have achieved more than 50% reduction in new HIV infections among adults over the last decade. Many more nations especially in Africa have not achieved measurable progress. Some have contrastingly experienced

worrying rise in new HIV infections in the same period (UNAIDS, 2016). The biggest burden in this is occurring in sub Saharan Africa.

China has achieved admirable results in addressing its HIV epidemic. The country's HIV history has been steady, with national negligence being the major factor in the spread of the virus in the early 1990s. However, important progress in the last decade and elevated national response have reduced the epidemic through the country as well as bettering, quality of life for those living with the virus. HIV epidemic in China is hugely characterised by diminishing national prevalence at 0.037%, while some regions have higher and more intensely unpleasant HIV prevalence rates. China is also challenged in offering increased targeted prevention programmes to majorly affected populations like young people.

HIV continues to hinder long term development in sub-Saharan Africa. This region is most severely affected, with nearly 70% of the people living with HIV worldwide (WHO, 2015). Even though the number of new HIV infections has reduced, HIV prevalence remains worryingly high in some countries. Many countries in this region have shown considerable political and financial commitment to address the epidemic in sub Saharan region which has experienced a random scaling up of aversion, treatment and comprehensive care services. However, most nations in this region still rely on grants and donations to fund their HIV response (Bill, 2010). Most governments have shown efforts to continually make attempts to battle the epidemic in this region.

Kenya HIV epidemic is ranked fourth across the globe with reference to the population living with HIV that was estimated at 1.5 million victims in 2015. On estimate 36,000 persons died from AIDS-related sicknesses in the year 2015, although this figure is quickly declining from a 51,000 in the year 2010. To this date more than 660,000 children have been orphaned by this plague. HIV prevalence rose to 10.5% in 1996, and had declined to 5.9% by 2015. This was hugely influenced by the rapid scale up of HIV treatment, management and care (WHO, 2016). The Sustainable development goals (SDG) aims to completely eradicate the AIDS epidemic by the year 2030 while consolidated global strategy aims to minimize cases of incidences occurring annually by

90% and the annual death rate occurring from AIDS-related causes by 80% (compared with 2010).

Kisumu County in Kenya has the 3rd highest prevalence rate of HIV/AIDS in the country. Previous studies from national statistics indicate that 22-25% of Kisumu's population are living with HIV. Anti-retroviral medications are not available to many of those infected. Approximately 33,589 people are receiving home care treatment for HIV/AIDS in Kisumu, while more than 10,000 new cases are recorded each year. Both the governments of Kenya and County government of Kisumu acknowledge the need to quickly address the epidemic in the region. Both governments have made HIV/AIDS awareness and prevention in this county the utmost priority. Partnerships have established many awareness groups and launched different programs to fight the epidemic.

Study of literature on adolescence in developing nations, and particularly in sub-Saharan Africa, shows that it is important to treat this stage in life differently from the way we handle childhood and adulthood. To deal with the increasing and drastic changes that occur in their lives, adolescents have specific requirements for new types of decision making positions. Adolescents need "safe zones" to meet with peers and life models, as well as resources to choose alternatives to pressures to exit school, participate in illegal or unsafe substance abuse, early marriage, engage in unsafe sex, and exchange sex for gifts or/and money .

In communities where girls are less treasured than boys , parents assert excessive protection over their girls, controlling their mobility in public in order to preserve their worth as an item for marriage in future (., their virginity) and invest less in their education. Girls in both secondary and even primary education have limited choices to early/forced marriage and child bearing, and they gather lower earnings in their lifetimes as opposed to if they had completed school (Summers, 1994). Orphaned girls might seek their own choice of protection through relationships with older male partners, increasing their risk of infection and abuse by their partners.

Adolescent boys are also encouraged to adapt and portray a masculine identity, which includes risk taking, audacious and dominating behaviours that are threatening to the

boys, girls, and women. Such cultural patterns of male behaviour fuel the HIV transmission rate because men lack the same restrictions on extramarital relationships faced by girls and women and in polygamous cultures, male counter parts are encouraged to have multiple wives (Urd ang, 2007). Through literature reviewed, it is evident that such cultures are highly practiced in the region under study.

Across the globe, the 15–24 year old age group contribute half of the new cases of HIV infection (UNAIDS, 2004). Almost seventy percent of all young people that are infected with HIV in the globe (6.2 million) live in sub-Saharan Africa. Seventy five (75%) percent of HIV infections in this age-group occur among adolescent girls and young women (Hallman, 2005; UNAIDS, 2004). In 19 African countries, a minimum of 5 % of females aged between 15 and 24 years are infected with HIV (UNAIDS, 2002). Programs implemented in the study region targeting to reduce HIV incidences among adolescents categorize their interventions as either behavioural, biomedical or structural as discussed below:

1.1.1Performance of HIV Prevention Projects

Project success has been defined as that which meets time, cost and quality requirements. The study explores concepts of health promotion interventions, policy guidelines and, project monitoring an evaluation process as factors that are likely to affect performance of HIV/AIDS related projects (Mullen, 2004). Brown (2013) noted that health projects such as HIV/AIDS ones require high assurance planning, leadership, funding and community input to serve as the basis that informs decisions on programming.

This study therefore seeks to identify the relationship that exists among various implementation strategies of HIV projects targeting adolescents in the region under study. The influence on each component of the project on its performance was measured and the moderating effect of the M&E process determined.

1.1.2 Behavioural Interventions

Behavioural strategies are interventions to "motivate behavioural change in individuals and social units by use of a range of educational, motivational, peer-led, skill-building approaches as well as community normative approaches" (Coates & Gable 2008). Behavioural prevention interventions aim to influence knowledge and attitudes, people's perceived risk of being infected with HIV, and to offer the motivation and skills that people require to change their sexual and substance abuse behaviours that increase their risk of acquiring HIV.

MHMC interventions being implemented in the projects under study include SHUGA, Families Matter Program, Health Choices for Better Future (HCBF) and My Health My Choice (MHMC). The MHMC intervention is a community-based, group-level intervention targeting young people between 13 to 17 years old. It is delivered in and out of school settings. The curriculum focuses on; increasing youths' awareness with regard to sexual risks that they are facing today; raising sexual safety for young people by identifying risky settings as well as enhancing communication and refusal skills for undesirable pleas. This intervention is delivered among small groups of young people through a series of four consecutive sessions each week. Each session lasts about two hours and follows the base" established in previous session. Facilitation is conducted by two trained MHMC facilitators (male and female) in Group sessions comprised of twelve to sixteen participants. The objectives of each session are provided at the beginning of the session. To serve a similar purpose using a dramatized television series SHUGA interventions targets adolescents aged 15 years and above intervention is a community-based, group-level intervention targeting adolescents who are between 10 and14 years old, serving a similar role to MHMC program for the specified age cohort. Upon completion of the intervention sessions, the participant is expected to have acquired knowledge and skills to make healthy sexual choices and keep off risky sexual behaviour.

FMP is an intervention targeting parents and guardians of 9 to 12-year olds that seeks to promote impactful parenting practices and good parent-child communication about sex-related issues as well as sexual risk reduction. Topics covered in this program's sessions

are child sexual abuse (CSA), communication skills and also include gender based violence (GBV) (Miller, 1999). The major goal of this FMP is to reduce risky behaviours among adolescents which include delaying the age of sexual debut among them. FMP intends to achieve this goal by affording parents the tools they require to protect and guide adolescents and children under their care. Albert, (2004) describes this intervention as a community-based, group-level intervention which is delivered through six consecutive sessions each of which takes approximately 3 hours a piece. Each session succeeds the topics introduced in the previous session. Behavioural strategies aim to encourage behaviour change in individuals and groups through a series of educational, motivational, peer-group, expertise development and community-driven approaches.

Human beings however display complicated behaviour and characteristics that make it difficult to achieve universal as well as sustained behaviour changes. Amidst these complications, behavioural interventions in this field needs to remain as the main priority for best results HIV prevention. Behavioural interventions alone are not sufficient to eradicate HIV transmission. They therefore need to be applied together with structural and biomedical interventions.

1.1.3 Biomedical Interventions

Biomedical interventions in the projects under study involve the use of condoms, male circumcision, management of sexually transmitted infections and the use of antiretroviral drugs by HIV-positive people (CDC, 2016). Biomedical interventions aim to minimize the risk of HIV infection by either minimizing the risk that an exposure occurs or by minimizing the risk related with an exposure. Examples of such interventions may include: penile circumcision, antiretroviral drugs in ensuring prevention of mother-to-child transmission, pre-exposure prophylaxis, post-exposure prophylaxis, HIV testing, counselling and treatment services, as well as blood screening for STIs.

Studies across the globe have demonstrated that individuals become careful to protect their partners after they test positive for HIV (Sweat et al. 2000; Allen et al. 2003). Also modelling research have found HTS to offer much clinical benefits and is cost effective even in settings where referral and access to treatment is limited (Walensky. 2009). The

major challenge is to increase testing coverage and select those who test HIV positive to be linked to care (Kranzer et al. 2010). Among the laid out strategies targeting to increase the number of people tested have included; media campaigns, provider-initiated counselling (Bateganya. 2007), couples counselling and testing services, as well as community level approaches (Khumalo-Sakutukwa, 2008) have contributed largely to sensitization.

VMMC, has been proved to be very effective in preventing new HIV transmissions and taming the HIV epidemic. VMMC programs also increase men's chances to find health care especially HIV testing and counselling services. Treatment as prevention is an HIV prevention technique that use antiretroviral treatment (ART) to reduce the chances of HIV infection. Antiretroviral treatment minimizes the HIV viral load in the blood, semen, vaginal fluid and rectal fluid to extremely minimal levels, thereby condensing the risk of continued HIV transmission. (WHO, 2012)

PrEP uses antiretroviral drugs to prevent HIV-negative persons from infection before potential exposure. Trials have demonstrated that consistent and correct use of PrEP prevents transmission by a large extent. (McCormack, 2014; SFDPH, 2015). To improve their effectiveness, all these interventions need to be applied in combination with a detailed sexual health plan which includes STI testing and treatment

1.1.4 Structural Interventions

Structural factors in prevention programming are “physical, social, political, cultural, organizational, community, economic, legal, or policy aspects of the environment that facilitate or obstruct efforts to avoid HIV infection” (Gupta. 2008). Structural interventions are policies that aim to address the aforementioned factors and prevent HIV transmission through variating the context and structure by which the behaviour is propelled rather than seeking to address the behaviour itself (Gupta. 2008).

So much evidence currently has been gathered that links structural factors to HIV transmission chances and the proximate determinants such as multiple sexual partnering and lack of condom use. There exists complexity and many pathways between structural

factors and HIV infection. For this reason, only a few structural programs have been evaluated before for their impact on the incidences. Most evidence being gathered is based on a few factors, which include gender inequality, stigma & discrimination, economic imbalance, education, and drugs abuse. For all these factors, there is proof on the impact of interventions targeting them, even though the relevance of specific factors changes across different settings.

In a Malawian school among girls, one randomized controlled trial (RCT) linked structural factors with HIV biomarkers found significantly lower levels of HIV among those receiving monthly cash transfers than those without this intervention. In Kenya, a different study indicated that minimizing the cost of lower level education by providing school uniforms led to the decline of dropout rates, adolescent's marriage, and unplanned pregnancies among other factors contributing to HIV incidence spread among adolescents. Elsewhere HIV-prevention programs have handled structural factors by addressing gender norms, supporting micro-lending projects, and strengthening the legal policies of marginalized populations. Structural Interventions being implemented in the projects under study include Cash transfer, educational subsidies and financial literacy training as described below.

Projects that offer financial support to beneficiaries have consistently demonstrated positive results to the health and well-being of adolescents. Governments of most countries lying between East and Southern Africa, are supporting unconditional or schooling-conditioned monetary support targeting to benefit vulnerable children. Data collected from these projects is still being processed, and more evidence is being gathered to determine the ability of projects to minimize occurrences of violence and risky behaviours, delay pregnancy and marriage as well as determine impacts on education and work. Supplementing education cost is an effective intervention that ensures adolescents remain in school. In many circumstances, higher levels of education are considered to influence result in reducing HIV risk and increase HIV testing acceptance. Combination of both economic and social empowerment is considered to be a highly effective social protection approach for supporting desirable behavioural changes and reducing the

occurrences of violence among adolescents. The least empowered adolescent usually do not have strong social networks.

This therefore raises increasing demand for projects that establish social networks that can provide moral guidance and information are much needed. Interventions that help to build social skills among adolescents may improve girls' abilities to protect themselves by minimizing their social isolation and offering them with social safety nets through mentors, peer-networks, civic interactions, as well as utilizing health information and services. This includes investing in projects that helps to improve adolescents' education, critical thinking, mental and physical wellbeing, as well as motivating their positive engagement with the environment.

1.1.5 Project Monitoring & Evaluation Process

Projects are mainly monitored to show whether they are yielding the intended outcomes and based on the observed results, appropriate changes can be made. This is an additional step beyond traditional functions where M&E would only be conducted to account for resources. Monitoring refers to routine tracking of priority information about a project at all levels and its targeted outcomes (USAID, 2013). This includes tracking of inputs and outputs through record-keeping and scheduled reporting structures as well as health checks and client surveys. Evaluation refers to a series of activities designed to establish a project's effect or value. The focus is usually on whether the project has met its set objectives on specified outcomes.

Studies have indicated that several indicators should be tailored to measure specific efforts towards HIV prevention among youths in Kenya and sub Saharan Africa. Teenagers are not a homogeneous group and therefore in order to succeed in implementing programs that target them, interventions provided must be modelled to specific sub-groups. Therefore, it becomes necessary that that data collected about them to be disaggregated by such characteristics that define each sub group such as age, marital status among others. Additionally, we require refined data that helps us describe and understand dynamics to be considered especially vulnerable youths and children (UNITAID, 2015).

Data that sets apart individual and contextual factors that raise young people's likelihood of indulging in high-risk behaviour is also required. This will go a long way in helping the project planners understand and monitor the types of behaviours that lead to rise in the risk of HIV transmission among the youths, as and also the external factors in their homes, peer networks and societies that increase the risk of indulging in high-risk behaviour, and can limit their utilization of information, and services.

1.1.6 Policy Guidelines

The primary purpose of policies is to regulate decision making, actions and prescribing restraints within set terms in which they have been defined. Procedures refer to particular techniques applied to express policies used in daily operations of the organization. Policies and procedures combined ensure that a position held by the regulating arm of an organization is translated into orderly guide that results in an outcome acceptable to that view. Most programs/ projects being implemented in Kisumu are donor funded and therefore rely heavily on directives provided by the financier. While the goal of the projects is to keep the adolescents safe against HIV, the directives provided by the said institutions or individuals may not always point to the interest of the beneficiaries more so the primary beneficiaries.

The government on the other hand has a mandate to ensure smooth operation of activities in these projects directly or indirectly. However, some implementers have complained of lack of cooperation from the government offices/individuals and bureaucratic processes. The organizations implanting such programs mostly non-profit ones have a responsibility to abide by the rules of the land that govern the areas in which they operate. This could be the county or the central government. These relationships and how well they are harnessed are presumed to have a great influence on the implementation of said programs. This study therefore sought to determine the extent to which this influence occurs.

1.2 Statement of the Problem

Youths are still the most vulnerable to HIV infection with regard to both social and economic setting even though a lot of efforts have been made to address this scenario over time (WHO, 2015). In 2012, there were more than 2.1 million adolescents infected with HIV that were alive. (NASCOP, 2014) About 10 percent of all new HIV infections occur among adolescents. Despite the setbacks met interventions for HIV prevention remains a priority towards fighting HIV. A combination of the three categories of interventions . biomedical, behavioural and structural interventions applied together is destined to yield better results than application of the said interventions separately. Multi-sectored approach is also recommended for implementation of programs of this nature aiming to unite actors across board in addressing the epidemic by 2020, towards eradication of the same by the year 2030.

Young people contribute approximately 29% of all new cases of HIV infections in the country based on a report generated by NACC in 2016. (NACC, 2016) Young people aged between 15 to 19 years prevalence is at 70% for females and 30% for males whereas in age group 20 to 24 years it stands at 62% for females and 38% for males. Also national statistics indicate that 16% of PLHIV are young people and adolescents while a similar percentage require anti-retrial viral therapy. Moreover KDHS (2014), recorded that approximately 9,720 youths in Kenya died of AIDS. Twenty percent of the young people aged between 15 and 24 years had their sexual debut by the time they were fifteen years or younger. Youths aged between 15-24 years who said they had used condoms during their first sexual encounter were 67% for girls and 58% for boys. While responding to the questions under study, 89% of women aged 15 to 24 years said they had abandoned condom use with a male sexual partner whose HIV status they didn't know (NACC, 2016). Prevention programs targeting adolescents should therefore have more inclination on targeting the female clients since studies have shown that girls are more vulnerable than boys.

Whereas literature provide evidence of the independent relationship between the intervention strategies and success of projects (Arnold, 2009; Barron, 2007; Cole, 2006;

Buykx, 2012; USAID, 2008), there was limited information on the extent to which the interventions independently and collectively influence success of projects and whether government and donor policies provides a moderating effect on this relationship. Researchers are conducting continuous studies to determine what other interventions are required to promote HIV prevention among adolescents. This study therefore aimed at establishing how health promotion interventions (behavioural, biomedical and structural) and project monitoring & evaluation process influences performance of HIV prevention project aiming to reduce HIV prevalence among adolescents in Kisumu County.

1.3 Purpose of the Study

This study was intended to determine the influence of biomedical, behavioural and structural interventions on performance of HIV prevention projects for adolescents. It also sought to determine the moderating influence of policy guidelines and projects' M&E process on the relationship between health promotion interventions and performance of HIV prevention projects.

1.4 Objectives of the Study

The study was guided by the following objectives:

i. To determine the extent to which biomedical interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya
ii. To assess the extent to which behavioural interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya
iii. To establish the extent to which structural interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya
iv. To establish to what extent the combination of behavioural, biomedical and structural interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya
v. To determine the extent of moderating influence of project M&E process on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu county, Kenya

vi. To determine the extent of moderating influence of policy guidelines on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu county, Kenya

1.5 Research Questions

The study sought to answer the following research questions:

i. To what extent does biomedical interventions influence the performance of HIV prevention projects for adolescents in Kisumu County, Kenya?
ii. To what extent does behavioural interventions influence the performance of HIV prevention projects for adolescents in Kisumu County, Kenya?
iii. To what extent do structural interventions influence the performance of HIV prevention projects for adolescents in Kisumu County, Kenya?
iv. To what extent does the combination of behavioural, biomedical and structural interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya?
v. To what extent is the moderating influence of project M&E process on the relationship between Health promotion interventions and the performance of HIV prevention projects for adolescents in Kisumu County, Kenya?
vi. To what extent is the moderating influence of policy guidelines on the relationship between Health promotion interventions and the performance of HIV prevention projects for adolescents in Kisumu County, Kenya?

1.6 Research Hypotheses

The study tested the following alternative hypotheses:

i. **H1:** Behavioural interventions have a significant influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya.
ii. **H1:** Biomedical interventions have a significant influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya.

iii. **H1:** Structural interventions have a significant influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya.

iv. **H1:** Combination of behavioural, biomedical and structural interventions, do not significantly influence the performance of HIV prevention projects for adolescents in Kisumu County, Kenya.

v. **H1:** Project M&E processes has a significant moderating influence on the relationship between health promotion interventions and the performance of HIV prevention projects for adolescents in Kisumu County, Kenya.

vi. **H1:** Policy guidelines has a significant moderating influence on the relationship between health promotion interventions and the performance of HIV prevention projects for adolescents in Kisumu County, Kenya.

1.7 Significance of the Study

It is hoped that the study will provide an understanding on the strategies of biomedical, behavioural and structural interventions as well as project's monitoring and evaluation mechanisms, and determine the extent to which they individually and collectively influence success of HIV prevention projects for adolescents in reducing new HIV infections among adolescents in Kisumu County. It is further hoped that this information would form a basis for improving future design and implementation of similar projects.

The information would be crucial to local communities, project planners, implementers and development partners keen in initiating and implementing worthy projects within the communities. Additionally, the study hopefully generates knowledge that will provide useful insights to future researchers and development agencies on the performance of HIV prevention projects and how best to improve their efficiency and success rate. It is the researcher's belief that if the envisaged benefits are realized in future, then the effort, resources and time put in this study would be of a worthy course.

1.8 Limitations of the Study

Poor road network in Kisumu County hindered accessibility of interior villages. This was however overcome by using four wheel drive vehicles and corresponding with the respondents through all alternative media of communication. The study targeted beneficiaries as major respondents who are usually not easily reachable. The researcher therefore had to explore the availability and work schedule of the respondents and consequently plan to "fit in" their schedule in order to obtain responses either through interviews or questionnaire filling.

There is limited documented information on Adolescent HIV on the study area in terms of project management and performance. The study was limited to the geographical region within Kisumu county boundaries. The study used sampling technique to select participants for questioning as opposed to interviewing every member of the target population (Census). Therefore the accuracy of the results of this research was reliant on measure of accuracy specified by the selected sampling methods

1.9 Delimitations of the study

Conducting a census on the respondents would generally guarantee more accurate results but the researcher restrained himself to using samples due to resource constraints and logistical concerns. The study was restricted to behavioural interventions, biomedical interventions, structural interventions, M&E process and donor/government policies and how they influence performance of HIV prevention projects for adolescents in Kisumu County.

1.10 Basic Assumptions of the Study

It is acknowledged that the study relied on self-reported information by respondents, obtained either through interviews or questionnaires. Such information is prone to biases occasioned by exaggeration, attribution, telescoping or selective memory. Since it may not be possible to independently verify the correctness of this information, the study will assume that the information as is presented by respondents was reliable.

It was further assumed that the methodology selected to be used in this study is the best suited for investigating the influence of the variables under study, unravel the study problem and provider answers to the aforementioned research questions.

1.11 Definition of Significant Terms

In conducting this research, the following terms bear the stated meanings:

Adolescent: Young people aged 10 to 19 years who are primary beneficiaries of the projects under study.

Health Promotion Interventions: Combined approaches adopted in community strategies to address health issues among the populations. This refers to an interlink of behavioural, biomedical and structural interventions used together or individually to reduce vulnerability from the populace

Behavioural Interventions: these are approaches adopted by programs that seek to reduce vulnerability to HIV infection by minimizing risky behaviours among young people. They include all evidence-based interventions, provision of psycho social support among others. The projects under study applies HCBF, MHMC, FMP and SHUGA.

Biomedical Interventions: This refers to interventions that use both clinical and medical approaches in an attempt to curb HIV incidences from occurring. Usually administered by trained personnel in the medical field they include VMMC, HTS , blood screening, Prep, Prep and anti-retral viral treatment for treatment as prevention

Structural Interventions: These are programs or policies that target to harness various individuals, community based, or societal norms which may contribute to increased vulnerability of the adolescents to HIV. Such factors may include poverty, religion. Among others. They function effectively by altering the context and mechanisms through which the habits are acquired.

Project Performance: This refers to how well projects meet their set objectives. The performance enhancing factors once identified are useful as diagnostic tools to correct

deviations by building in warning systems and assist in improving the project performance and delivery

Project Monitoring and Evaluation: This refers to the continuous assessment of project activities against the objectives to determine whether the activities are being implemented in a cost effective, efficient and timely manner.

Policy Guidelines: Formalized statements that controls and directs implementation of HIV prevention projects through which governing bodies use to determine effectiveness and efficiency in implementation of the projects.

1.12 Organization of the study

The study was presented as follows; chapter One contain the introduction, background to the

problem where all the variables are explained, the statement of the problem, the purpose of the study, the objectives, the research questions and hypothesis, the significance of the study, the assumptions, the limitations, delimitation and the definition of significant terms.

Chapter two reviews literature on each variable, then highlight the theories that inform this study, the conceptual framework and the summary of the literature and gaps established. Chapter three describes the research design, the target population, sampling design, data collection, piloting, validity and reliability, data analysis techniques and operational definition of variables. Chapter four contains the analysis of data to answer the research questions, test of hypothesis and discussions. Chapter five contains a summary of the findings, recommendations and limitations, areas that need to be studied further and how much the study contributes to the body of knowledge. This chapter also contains references and other appendices.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This section highlights the concept of Project performance and related literature reviewed under the following themes:- Biomedical interventions in project implementation and the level of influence they have in performance of prevention projects for adolescents, Behavioural interventions in project implementation and the level of influence in performance of prevention projects for adolescents, Structural interventions in project implementation and the level of influence in performance of prevention projects for adolescents, Monitoring and Evaluation process in project implementation and the level of influence performance of prevention projects for adolescents. It then proceeds to discuss empirical literature linking these relationships. Also the section highlights on the Null Hypothesis, Theories, Models, Conceptual Framework, Summary of Literature and Gaps in Literature.

The review of existing literature was meant to help the researcher identify gaps in studies conducted earlier as well as establish baseline information upon which the study was conducted. This information also enabled the researcher to make recommendations and propositions for further research in areas that could not be exhaustively covered by this study.

2.1 The Concept of Performance in HIV Prevention Projects

A model of factors that influence performance of HIV/AIDS projects would help in the project design thereby easing identification, control and minimization of issues that increase the likelihood of project failure and strengthen those that increase the probability of optimal project performance and success. The performance enhancing factors once identified would be useful as diagnostic tools to correct deviations by building in warning systems and assist in improving the project performance and delivery (Muller et al, 2012).Project success has been defined as that which meets time, cost and quality requirements. The study explores concepts of health promotion interventions, policy

guidelines and, project monitoring and evaluation process as factors that are likely to affect performance of HIV/AIDS related projects.

Important feedback on the performance of funded projects comes from the donor community.

There are varied development assistance donors to the developing and developed world. These include the World Bank, United Nations bodies, the European Union and bilateral donors, nongovernmental organizations and foundations (Bechange, 2010). Successful projects in HIV/AIDS sub-sector of health will ideally have secure funding for the whole project locked in multi-year contracts, the payment structure should always be staggered and disbursed as the previous tranche is accounted for such that cash flow difficulties do not arise (Ika, 2012). Brown (2013) noted that health projects such as HIV/AIDS ones require high assurance planning, leadership, funding and community input to serve as the basis that informs decisions on programming.

2.2 Behavioural Interventions and Performance of HIV Prevention Projects

Auerbach & Coates (2008) “behavioural strategies are necessary but not sufficient to reduce HIV transmission, but are essential in a comprehensive HIV prevention strategy. Behavioural strategies themselves need to be combinations of approaches at multiple levels of influence.” There exists many behavioural interventions that have been applied for many years, and application of new component in a combination prevention package depends on population being targeted and the risk activities. Projects in this region adopt a combination prevention package approach to achieve their set objectives in reduction of HIV incidences among adolescents in Kisumu County. According to UNITAID combination prevention refers to: "rights-based, evidence-informed, and community-owned programmes that use a mix of biomedical, behavioural, and structural interventions, prioritised to meet the current HIV prevention needs of particular individuals and communities, so as to have the greatest sustained impact on reducing new infections." (UNITAID, 2017).

Behavioural interventions target to minimize the vulnerability to infection by confronting highlighted undesirable behaviours. An intervention can seek to minimize the number of sexual partners a person has; promote adherence to medication among PLWHIV or increase the consistent and correct usage of condoms. Examples of behavioural interventions include, information sharing through health talks, counselling and other ways of psycho social support as well as stigma and discrimination reduction programmes. The projects capitalizes on effective implementation of evidenced based interventions to prompt positive change in behaviour knowledge and attitudes of its different sub populations based on age. (PEPFAR, 2016). It is therefore addressing the challenges among the project's beneficiaries through implementation of five evidence based interventions which include, families matter program (FMP), Healthy choices for better future (HCBF), My health My choice, SHUGA and SASA.

Efforts to modify sexual and drug-using human behaviors to reduce HIV risk have fallen short in the last 2 decades. Behavioral strategies have been defined as interventions to "motivate behavioral change in individuals and social units by use of a range of educational, motivational, peer-led, skill-building approaches as well as community normative approaches" (Coates and Gable 2008). The first successful examples of behavior change that led to decreased HIV transmission incidence were reported in men who have sex with men (MSM) (Winkelstein et al. 1988; Kippax and Race 2003). Subsequently, a number of countries have attributed decreases in HIV incidence to changes in sexual behavior, including Brazil, Cote d'Ivoire, Kenya, Uganda, Malawi, Tanzania, Zimbabwe, Burkino Faso, Namibia, and Swaziland (Stoneburner and Low-Beer 2004; Slutkin et al. 2006).

A study conducted by Cowan et al. 2009 titled "The Regai Dzive Shiri project: The results of a cluster randomized trial of a multi-component HIV prevention intervention for young people in rural Zimbabwe." Sought to investigate Youth–Community-based HIV prevention intervention for adolescents based in 30 communities in rural Zimbabwe. HIV and STI incidence, pregnancy, attitude, and self-reported sexual behaviour. The study however did not record any decrease in risk taking behaviour both in the intervention or the control during the study.

The HIV literature is full of behavioral interventional and observational studies in a variety of settings and target groups, most of which have not objectively altered HIV transmission or acquisition rates. Several randomized trials of behavioral interventions, described by Padian etal showed neither benefit nor harm (Padian et al. 2010). Among the studies analyzed Project EXPLORE is the only interventional study for HIV behaviour with an HIV infection endpoint. Using a counselling intervention to reduce HIV incidence, the average follow-up was 3.25 yr and HIV acquisition was reduced by 18.2% in the experimental arm, but this effect compared with controls was insignificant. On more careful examination, there were more dramatic effects on HIV incidence in the first year (39%), but this effect was lost over time. There is a recurring theme in the literature that behaviour change is hard to maintain (Koblin et al. 2004; Karim et al. 2010). This study however focused on adolescents, a group whose growth and transition is highly characterised by observable behaviour change. This therefore means that behavioural interventions targeting to reduce HIV infections may portray different results from those discussed above involving mixed groups.

Although the efficacy of behavioural interventions on reducing individual risk is clear, the population-level effectiveness of this procedure in reducing HIV transmission will depend heavily on the acceptability of approaches in specific populations (Westercamp and Bailey 2007). Data on its acceptability among adults show this is likely to be highly context-specific and influenced by local cultural norms and practices

2.3 Biomedical Interventions and Performance of HIV Prevention Projects

Biomedical interventions apply both clinical and medical strategies to minimize occurrence of HIV incidences. Such interventions include penile circumcision which is procedure that has been proved to minimize the chances of occurrence of HIV incidences by 60% in the event of unprotected sex between a man and a woman (Auvert, 2005). For their utmost effectiveness they are usually applied together with behavioural interventions for example. A male who has undergone VMMC will often be tested for HIV and get counselled as well as being taught about the importance of correct and consistent condom use. (Padian, 2008). Biomedical interventions include: penile

circumcision, antiretroviral drugs, PrEP, PEP, HIV testing services, STIs screening and treatment among others.

Viral load is the single greatest risk factor for all transmission modes. ART can reduce the plasma and genital HIV viral load in the infected individual to undetectable levels (Granich et al. 2010). In a study of 415 HIV serodiscordant couples in Uganda, 21.7% of the initially uninfected partners became infected over 30 months of follow-up, translating to a transmission rate of approximately 12 infections per 100 person years (Quinn et al. 2000). No transmission events occurred in those couples in which the infected partner had a plasma HIV-1 RNA level of less than 1500 copies/mL, and the transmission risk increased as plasma HIV-1 RNA levels increased. For every 10-fold increase in viral load, there was a greater than twofold risk of transmission. This was similarly shown in HIV-serodiscordant couples in Zambia (Fideli et al. 2001). Plasma HIV-1 RNA levels generally correlate positively with the concentration of HIV in genital secretions, rectal mucosa, and saliva, although inflammation can stimulate local replication (Cu-Uvin et al. 2000; Lampinen et al. 2000; Shugars et al. 2000). Other studies have shown that transmission events may be observed at a very low plasma HIV-1 RNA level, suggesting that plasma viral load is not the only determinant of transmission (Vernazza et al. 2000; Tovanabutra et al. 2002).

The outcomes of two retrospective clinical studies that showed the benefit of ART on HIV transmission (Musicco et al. 1994; Castilla et al. 2005) have been corroborated by the recent release of early results from a randomized trial, known as HPTN 052. The deferred treatment study arm was prematurely halted after a scheduled interim review by an independent Data and Safety Monitoring Board (DSMB) that concluded that initiation of ART by HIV-infected individuals substantially protected their HIV-uninfected sexual partners from acquiring HIV infection, with a 96% reduction in risk of HIV transmission. The study enrolled 1763, mostly heterosexual discordant couples in which the infected index case was ART-naive and had a CD4 T-cell count of 350–550 cells/mm^3. Treatment was commenced at 250 cells/mm^3 in the control or “treatment deferment” arm (Cohen et al. 2011).

Efforts to ensure prompt diagnosis and treatment of STIs along with behavioral risk reduction have been part of HIV prevention programming since the 1980s. In 1989, Pepin and colleagues suggested that the interaction of HIV and STIs may present an opportunity for intervention (Pepin et al. 1989). Empirical evidence for this intervention has included uncontrolled intervention studies among community-based RCTs in general populations (Laga et al. 1994).

Four community-randomized trials were conducted across East Africa to assess the effect on HIV transmission and HIV acquisition through reduction of the incidence of the most common curable STIs. Of all four study outcomes, only the Mwanza trial reported significant reduction (38%) in HIV incidence. Many possible reasons for this discrepancy have been cited but most compelling are the differences between the stage of the epidemic in Uganda and Tanzania when the studies were performed. The epidemic in Uganda was more established (HIV prevalence 16% and stable) with lower risk behavior and lower rates of curable STIs. In contrast, the HIV prevalence in Mwanza was 4% and rising with much greater rates of STIs (Grosskurth et al. 2000).

2.4 Structural Interventions and Performance of HIV Prevention Projects

Structural interventions change the environment in which people act, in order to influence their health behaviours. Most structural interventions research for HIV infection has focused on developing countries. This article identifies some social determinants of HIV vulnerability in Kisumu, Kenya and structural interventions to address them. Structural factors in HIV prevention programming refers to “physical, social, political, cultural, organizational, community, economic, legal, or policy aspects of the environment that facilitate or obstruct efforts to avoid HIV infection” (Gupta. 2008). Structural interventions are application of strategies aimed at confronting the aforementioned factors thereby minimizing occurrences of HIV incidences through changing the context and mechanisms through which the habits manifests rather than focusing on the habit itself (Gupta. 2008). Structural interventions focus on normalizing various factors that are dynamic in a person or a group be they social, economic, political or/and environmental. "For many people, the simple fact that 90% of the world's HIV infections occur in

developing countries is evidence that social, economic and political structures drive risk behaviours and shape vulnerability." (Rao, 2008).

These kind of interventions are the harder to put in to application as they try to address tough economic issues which include poverty, gender imbalances and social misfits. Structural interventions are dependent on government's approval to effect particular laws or reforms for example. Females are underprivileged when it comes to negotiating condom use with their male partners while a lack of equipment in hospitals or poor means of transport, makes it difficult for people to seek and access health facilities. When the barriers have been fully resolved, people are empowered and easily utilize health services made available for them (Rao, 2008). Such interventions may include: SASA in gender based violence control, social protection components such as cash transfers and education subsidy for the project beneficiaries.

Children who stay in school are less likely to be infected with HIV as opposed to those who drop out. It may be caused by minimizing transactional sex among children, and antisocial behaviour while creating opportunities for sex education (Hallman, 2006). The longer they stay in school, the lesser their chances of getting infected and the longer they delay their sexual debut (Prata, 2005). Lack of School fees is a major hindrance to school attendance in third world countries.

The process of documenting social drivers also affords an opportunity to explore potential linkages between HIV prevention programmes and broader development efforts. In sub-Saharan Africa, for example, where adolescent girls are typically several times more likely to become infected than boys their own age, the evidence-gathering process should examine possible synergies between HIV prevention programmes and initiatives to promote universal primary and secondary education, as studies conducted over the last 15 years have consistently found a relationship between educational attainment and reduced sexual risk behaviours among girls. In documenting the effects of gender inequality on women's vulnerability to HIV, studies should consider possible compatibilities and synergies between HIV-specific programming and broader efforts to empower women and girls, change gender norms, and reduce women's social, economic

and legal disadvantages. Similarly, investigating the vulnerabilities of men who have sex with men, sex workers, people who use drugs, prisoners and other disadvantaged groups should be linked with broader efforts to understand discrimination and promote social justice. Planning interventions that will operate synergistically on the individual, relationship, community and societal level factors that reinforce risk behaviour is another defining feature of combination prevention.

One randomized controlled trial (RCT) that linked structural factors with HIV biomarkers found significantly lower levels of HIV and HSV-2 among Malawian schoolgirls who received monthly cash payments than among those who did not receive the payments. In Kenya, a study showed that reducing the cost of primary education by paying for school uniforms reduced dropout rates, teen marriage, and childbearing all factors closely related to HIV risk. Other HIV-prevention programs have addressed structural factors by changing gender and violence against women norms, supporting micro-credit programs, and strengthening the legal rights of underserved populations.

2.5 Combination Interventions Influence on Performance of HIV Prevention Projects

Combination interventions are rights-based, evidence-informed, and community-owned programmes that use a mix of biomedical, behavioural, and structural interventions, prioritized to meet the current HIV prevention needs of particular individuals and communities, so as to have the greatest sustained impact on reducing new infections. Well-designed combination prevention programmes are carefully tailored to national and local needs and conditions; focus resources on the mix of programmatic and policy actions required to address both immediate risks and underlying vulnerability; and they are thoughtfully planned and managed to operate synergistically and consistently on multiple levels (e.g. individual, relationship, community, society) and over an adequate period of time. They mobilize community, private sector, government and global resources in a collective undertaking; require and benefit from enhanced partnership and coordination; and they incorporate mechanisms for learning, capacity building and flexibility to permit continual improvement and adaptation to the changing environment.

Recent analytical studies including modes-of-transmission (MoT) studies and HIV prevention syntheses sponsored by UNAIDS, as well as a special series of research papers commissioned by The Lancet have identified a number of weaknesses in existing prevention efforts (The Lancet Series on HIV Prevention, 2008). They indicate that while combination prevention is widely endorsed in the AIDS policy discourse, it is seldom implemented. Key weaknesses cited include: failure to attend to the populations at greatest risk; failure to focus resources on primary transmission routes and unexplained variations from year to year in resources for key prevention strategies, the striking deficit of structural interventions to address underlying causes of vulnerability, and inadequate prevention services for people living with HIV.

To overcome these weaknesses, HIV research and programme experts, civil society and policy makers began in recent years to unite behind the broad concept of "combination prevention." Combination prevention is calculated to assist prevention planners and programmers in facing one of the central challenges in HIV prevention – "coming to terms with complexity" of the epidemic (Piot et al., 2008).

While the elements of combination prevention are not new, bringing together researchers and implementers of biomedical, behavioural and structural interventions, in dialogue with affected communities and networks of people living with HIV, is energizing, and in many countries, a novel approach. So too is recognizing that structural interventions to create a more enabling environment for HIV programmes are equal parts of the core business of HIV prevention, along with biomedical and behavioural strategies. Capacities must be built and resources sustained to implement the combinations consistently, and to learn continuously. Synergies must not only be harnessed between different prevention strategies but also between HIV prevention and treatment. To capture the potential of combination prevention, key stakeholders , in particular young people, people living with HIV, and key populations most at risk, need to be engaged in the design and prioritization, and need to take more strategic, better coordinated and documented, joint action, not just for a year or one national HIV strategic planning cycle, but until they reach and sustains the ultimate goal (UNAIDS, 2010b) of Zero new HIV infections, Zero discrimination and Zero HIV related deaths.

2.6 Monitoring and Evaluation Process in HIV Prevention Projects

Monitoring is a progressive routine activity conducted internally, that is used to gather data regarding implementation of a specific project (Kusek & Rist, 2004). The process sequentially gathers raw information against selected indicators at various levels of the project cycle; which acts as evidence for reporting on project progress at all levels, in relation to set targets as well as expected outcomes. (IFRC, 2007) states that this process is intended to offer managers and stakeholders regular feedback and hints of progress or lack of it in the achieving the expected results. The process therefore involves gathering and synthesising raw data about project activities, plans and results, and proposing the best way forward.

Hardlife and Zhou (2013), describes monitoring process as a tool that continuous to produce data used by project implementers to make changes in the course of implementation. UNDP (2009), observes that ideally, monitoring is a continuous endeavour through which regular feedback is made available to key persons with regard to steps made towards reaching set objectives. Furthermore, Bakewell, Adams, and Pratt (2004) observe that programme monitoring is an in-put process, while evaluation is an output process (IFRC, 2007). In this regard, monitoring is crucial for determining the quality of information generated by an M&E system. This study reviewed literature on monitoring and evaluation process, monitoring and evaluating project status and monitoring and evaluating projects performance.

On reviewing monitoring and evaluation process, a study conducted by Wilson (2001) in South Africa to establishe that monitoring and evaluation process adopted was to provide health services to orphans, children whose families or themselves are victims of HIV/AIDS and other vulnerable children faced challenges related to policy and law, medical care, socio-economic support education psychosocial support and human rights and as a result, the program focused on improving the wellbeing and protection of orphans and other children who are at high risk of contracting HIV and decrease the burden of the epidemic on the communities.

However study findings indicated that the program outlined the following steps in monitoring and evaluating the success of the program implementation namely; increased and strengthened families via community driven mechanism, strengthen the economic coping capacities of families and communities; enhanced the capability of family units and societies to respond to the psychological requirements of orphans and vulnerable children; Enhance linkages between prevention strategies, target most vulnerable children and communities; adolescents involvement in remedy seeking; redefine the responsibility of learning institutions and education system; speed up education acquisition and information sharing; enhance partnerships, build and ensuring that other resource providers does not undermine community initiatives and motivation (Batalla, 2000).In this regard, this study borrowed the principles used within Family Health International Program to assess the existence of monitoring process HIV prevention projects for adolescents in Kisumu County.

Monitoring program implementation is Key to assessing community satisfaction or dissatisfaction (Kusset and Rist, 2004). The community and other stakeholders are likely to be highly involved in project implementation and sustainability of projects should the program implementation succeed as intended (Kusset and Rist 2004). In addition, the study purports that various organizations should embrace the ten steps to a results based M&E system to ensure program implementation and service delivery which includes conducting readiness assessment, agreeing on outcomes to monitor and evaluate, selecting key indicators to monitor outcomes, Baseline data on indicators, planning for improvement, monitoring for results, role of evaluation, reporting finding, using findings and sustaining the M & E system within the organization (Kusset and Rist, 2004). Importantly, this is applicable to this study since the way the program is implemented influences positively or negatively community service delivery.

In the UK, New Zealand and in the United States, Powers, Gregory and Thoutenhood,

(1999) and Lang (2002), respectively, discussed programme-monitoring process as a major aspect, which could affect access to education especially if programme daily running indicators are not availed(OECD 2006). Consequently, monitoring should be a

well -designed, functioning, and consistent process with tools that can provide factual, authentic, and consistent information needed by project implementers and stakeholders (Kusek & Rist, 2004). Contrastingly, poorly designed or weak Program monitoring systems may not accurately detect performance indicators; as a result, problem areas may go unnoticed and uncorrected in time.

On the same note, Izuka (2010) argues that routine programme-monitoring keeps interventions on track enhances responsibility among implementers and helps management to detect problems in time to avoid challenges such as cost overruns and time delays. As for Hardlife and Zhou (2013), inaccurate programme monitoring is likely to lead to under-estimation or exaggerations of performance, with far-reaching financial and integrity implications. The quality of data sourced through routine programme monitoring can be meaningful, where such data is complete, accurate and accessible (UNDP, 2009).

As noted by Mackay (2007), an effective project monitoring system should provide longitudinal streams of current, factual, and timely data to project planning and management, that assists in their operational decision making processes. Furthermore, ADRA (2007) notes that For M&E systems to effectively guide project planning, design and implementation, they should be able to show "how" and "why" of performance. In this regard, an M&E system should be perceived as an important tool for successful project management, assuring consistency in feedback on performance; and that project design, logistics and implementation are managed in line with work plans.

By instituting project performance monitoring at project implementation kick off, lessons can be documented in good time to support appropriate changes in response to varying trends and programming priorities (IFRC, 2007). HIV prevention projects for adolescents in Kisumu were therefore assessed to determine if they have established structures that guarantees quality data collection procedures, standardization of tools, and utilization of data collected in decision making as well as ensuring best implementation approaches are adopted to ensure optimal results are obtained through the projects as intended.

2.7 Policy Guidelines, Adherence and Implementation in HIV prevention

Guidelines are statements that include recommendations developed using a systematic process based on prevailing guideline development standards. The Division of HIV/AIDS Prevention (DHAP) within the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) has been at the forefront in developing guidelines on HIV prevention and care with significant national and international impact on public health care practice. The promotion of a rights-based approach to HIV testing and counselling services helps to normalize them in health facilities and in communities. It is also critical for improving people's perceptions about the benefits of HIV testing and counselling; this has a direct impact on the uptake of services.

The rights-based approach to HIV testing and counselling means that: people have a right to know their HIV status; HIV testing must be voluntary, the decision to test or not to test being based on an understanding of accurate, objective and relevant information; post-test services are crucial; confidentiality must be protected; non-discrimination in service delivery is critical; testing and counselling must be scaled up, eventually leading to universal access. Most countries are signatories to international legal instruments, declarations and guidelines that are vital components of the rights-based approach to HIV testing and counselling services. These countries are required to adhere to the principles laid down in the instruments, which form a framework of rights and give countries a basis for formulating their local laws, policies and practices. International instruments provide standards that facilitate the creation of an enabling environment for HIV testing and counselling.

An enabling environment includes policies and procedures that: enable voluntary and informed consent for all populations, including youth; enable the promotion of confidentiality and beneficial disclosure and guard against inappropriate disclosure; ensure non-discrimination in service provision, facilitating access for a range of population groups; ensure the availability of HIV-related prevention, care and support services; ensure that a supportive social, policy and legal framework is in place to

maximize positive outcomes and minimize potential harms to clients or patients; establish a monitoring and evaluation system that promotes an enabling environment.

With so many NGOs and CBOs participating in the implementation of a large diversity of community-based programmes, quality and accountability has been an issue. Accountability has been a problem at all levels and aspects of programming in the quality of outputs and outcomes and in the utilization of available resources. Kenya has trodden a similar path to many African countries in the struggle to come up with an HIV/AIDS strategy and policy guidelines for effective response to the pandemic. Kenya's participation and ratification of many recommendations for finding appropriate, relevant and responsive interventions to the HIV/AIDS pandemic are well known. However, like most other African countries the shock of that came with the discovery of the first case of HIV/AIDS sent many stakeholders looking for medical solutions to the pandemic first and foremost. The fact that HIV/AIDS is a multi-faceted, multi-sectoral problem was not understood and appreciated in the initial responses to the pandemic. It was much later that the need for a comprehensive policy was recognised and addressed seriously.

There is research evidence to support the view that large-scale school-based education programmes can bring about behaviour changes that reduce the risk of HIV/AIDS infection amongst youth. A Kenyan based intervention known as Primary School Action for Better Health (PSABH) has been implemented in 5,000 primary schools with significant positive behaviour changes demonstrated in school youth, as reported in independent evaluations. These findings indicate that large-scale sustainable HIV/AIDS education programmes hold the key to behavioural change in youth.

2.8 Theoretical Framework

A theory is an organized set of claims regarding a varying habit or structure agreed on throughout a broad spectrum of particular happenings (Sutherland, 1976). Thus a theory explains something or generalized statements aimed about a phenomenon. A model has been described as a simplified structure of reality that presents significant features of relationships in a generalized form (Goldfarb & Ratner, 2008). In this sense a model

represent a construct that approximate the reality and is used to study a specific phenomenon. This study was anchored on the following theories and models; theory of change, systems theory and progressive utilization theory.

2.8.1Theory of Change

This refers to the final result of a continues brainstorming of activities that brings out detailed scenario of the changes that occur at the beginning and intermediate levels of project cycle in the community which are required to deliver a long term purpose envisioned in the community (Weiss, 2000). It provides a clear outline of the steps to be undertaken in order to achieve the purpose. It provides a good premise for improving overall evaluation plans and strengthens a community's capability own up results obtained which had been forecasted in the theory. This is based on the fact that change is achieved gradually and therefore, achievements might not be noticed as they happen (Connell & Kubisch, 1998). Laying down clear objectives that are intended to be met and how achievements are recognized is what would ensure that all the efforts are recognized.

In this study, the input made to the projects/programs in terms of resources and time were expected to produce desirable outcomes when projects are well managed and monitored. Behaviour change in the case of adolescents is a desirable outcome in such projects hence the use of theory of change to characterise the happenings in these projects. Good implementation of such projects monitoring and evaluation process would definitely trigger changes in structure of the implementing organizations.

2.8.2 Systems Theory

This theory was brought forward around 1940's by the Ludwig von Bertalanffy which was later furthered by Ross Ashby. Both defined a system as a combination of components put together to achieve a major purpose. All parts of the system are dependent on each other and therefore withdraw of one or alteration affects the whole system. They relay feedback among major characteristics of the systems. Systems are also extremely complicated 'in nature', and there are also self-duplicating systems. They create the environment, and adjust themselves to adapt to changes in the surroundings.

Systems theory is concerned with the interrelation between components of the system and how they work together as a whole. The arrangement of components and how they interrelate with other components within the system defines the characteristics of the system. This theory was applicable to this study because, management of projects/programs is viewed as systems comprising parts such as policy makers, project beneficiaries, project implementers, donors among others. If a single component fails, management fails more because its' participatory nature is affected and therefore the overall system is bound to crumble.

Similarly best results in HIV prevention projects for adolescents can be achieved if the participatory rule of all components is honoured: government ensuring that adequate policies are enforced, parents acknowledging their responsibilities and perfectly engaging at the desirable moment so that adolescents don't get disheartened to participate in project activities and the donors providing resources in a timely manner to enhance smooth implementation of activities in the projects/programs.

2.8.3 Progressive Utilisation Theory

Progressive Utilisation Theory (PROUT) champions for economic self-sufficiency, cooperatives, environmental balance, and global values. The main feature of PROUT is economic rescue, liberating people from frequently experienced limitations to liberate more people spiritually and intellectually. It is tagged on 4 major concepts which include: least essentials, physical wealth, appropriate usage of natural and human resources and economic democracy (Sarkar, 1969). Natural resources must be shared equitably to benefit all inhabitants who include adolescents being targeted by projects.

In this study, HIV prevention projects for adolescents only require proper M&E systems to ensure adolescents benefit from them optimally. The benefits acquired is expected to improve individual economic sufficiency, create equilibrium in the surrounding, and globally agreed upon spiritual virtues. Human resource is an essential component of monitoring systems, as it provides expertise for gathering and analysing information to support decision-making and effective management of other resources. The information generated through M&E systems is also crucial for optimal utilisation of resources. In

this regard, the quality of information generated by an M&E system depends on the quality of human resource involved, which in turn, will determine the level of management efficiency.

Consequently, having adequate human resource that is trained in M&E is indispensable for effective M&E systems, better management of resources provided by nature and utilisation of such resources by intended beneficiaries to achieve individual economic sufficiency, cooperatives, equilibrium in the surroundings, and globally acceptable spiritual virtues, among other benefits (World Bank, 2004).

2.9 Conceptual Framework

In this study, a conceptual framework was used as the study model to guide the relationship of the variables under study to keep the research work focused on the objectives of the study. The conceptual framework therefore presents the relationship between the independent variables and the dependent variable and how this relationship is influenced by the moderating variable. It further shows how the independent variables interact independently and simultaneously with the dependent variable as presented in Figure 1.

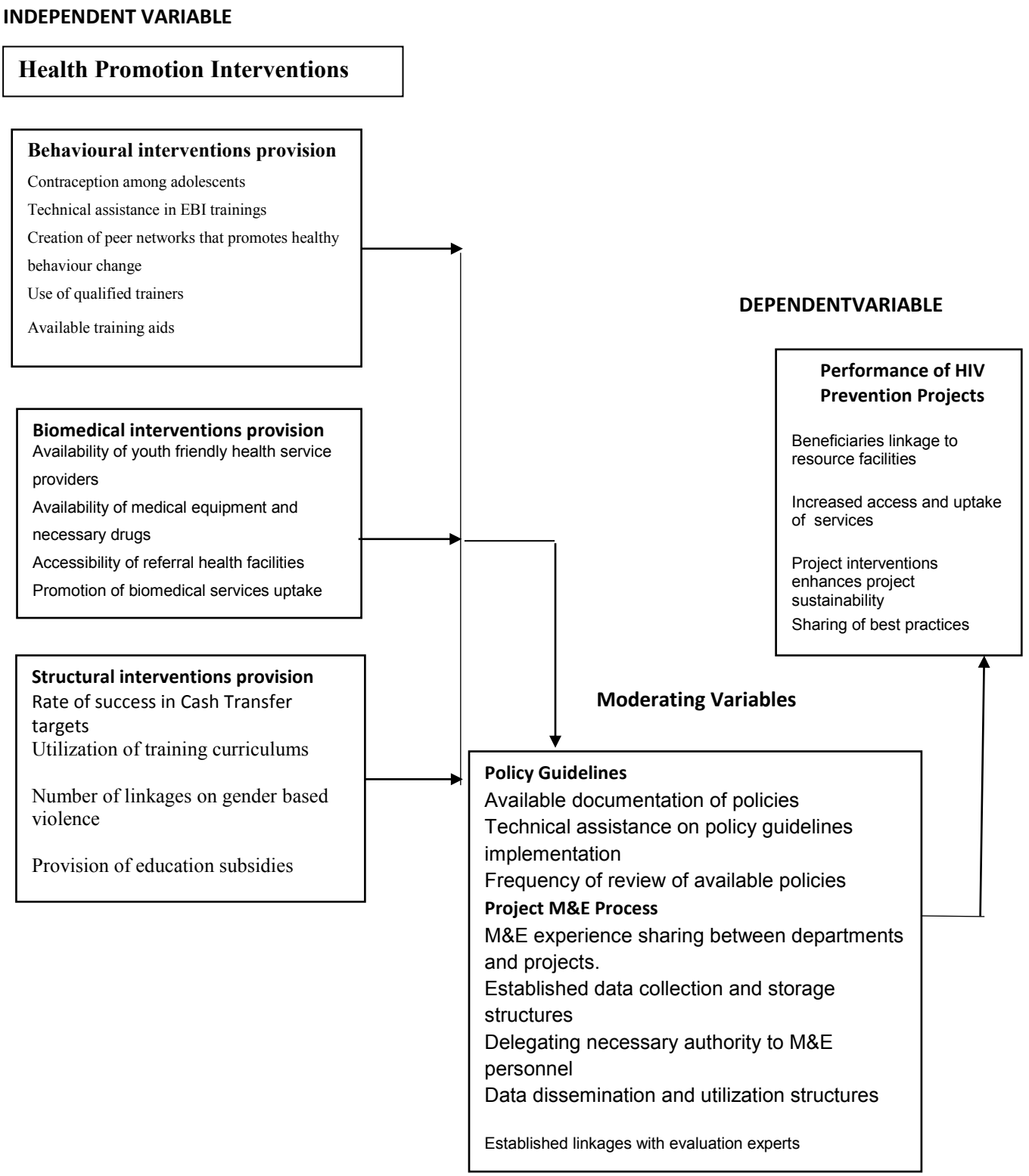

Fig 1: Conceptual Framework for Health promotion Interventions on Performance of HIV prevention projects

2.10 Gaps Established in the Literature

Table 2.1 shows comparative data obtained from various studies across the world by different researchers that had a focus on understanding the environment through which HIV prevention projects targeting adolescents across the world are implemented. The researcher has highlighted gaps in knowledge in the various studies and proposed ways through which these gaps can be addressed in the current study.

Table 2.1: Summary of Research Gaps

Researcher	**Variables**	**Findings**	**Knowledge Gap**
Rashida et al, 2007	Performance of HIV prevention projects for adolescents.	Most adolescents do not know their HIV status and this makes it difficult for programming be done efficiently	Need to address issues that are specific to adolescents
Tenkorang et al 2013	Biomedical interventions on HIV programs for adolescents	Most young people don't know their HIV status .	The study focused more on in-school adolescents without much emphasis on the out of school population within the targeted age bracket.
Guiella, 2013	Health promotion interventions on prevention projects effectiveness	Factors influencing risk perceptions among adolescents not adequately captured.	The combination prevention package (Health prevention interventions) are studied collectively to measure their effectiveness as opposed to single interventions approach as proposed in this study
Munthali et al, 2016	Behavioural interventions in adolescent	Uptake of HTS increased with age	This study was centred on girls only experiences

	projects interventions	HTS service among students was low since they thought they would be considered promiscuous	
Coovadia , 2010	HIV prevalence among adolescents	Most parents and students agreed to test for HIV.	The study did not establish the linkage between influence of monitoring and evaluation process and effectiveness of health programs. The study made a claim on existence of chronic lung and heart conditions but no proof was provided on their association with HIV status
Birungi et al, 2010	Monitoring and evaluation as a tool to reduce mother to child transmission.	PMTCT services was less utilized than prenatal care among HIV-positive adolescents Adolescent mothers made 4+ ANC visits in only 45% of pregnancies recorded Number of pregnant mothers adolescent mothers delivering in hospitals was very low	Categorization of this study was based on adolescent mothers and therefore the study had a bias on PMTCT as a mode of transmission hence did not give account of other structural and behavioural factors that influences the same.
Christian et al, 2013	Performance improvement	Technical assistance in overcoming systems barriers was essential to	Structural interventions influence on service

		participant success. Most providers were aware of the clinical performance measures, but had other barriers to meeting the standard of care.	uptake was not explored.
Hallman. 2005;	Structural interventions on performance of HIV projects	HIV incidences were more common among economically stable sector Lack of school fees was the main hindrance for people to stay in school	Influence of combined use of interventions was not assessed.
Mavedzenge, 2010	Combination approaches on interventions on adolescent projects effectiveness	Interventions targeting school going children were successful in knowledge and attitude changes but had no direct influence on vulnerability to HIV among adolescents	Even though collection of data was highlighted as a challenge no remedy was proposed in this study

2.11 Summary of Literature Review

From the literature reviewed, this study has picked out a number of concerns for each of the study variable. These concerns could be indicated by a variety of factors. The first intervention that this study considered is behavioural interventions. Activities considered are concerned with provision of technical assistance in facilitation of evidence based trainings, creation of peer networks that advocate for positive behaviour change, use of qualified trainers and availability of training aids. The indicators that this study was seeking are; Contraception among adolescents, No. of supervised EBI trainings, Number of peer networks established to promote healthy behaviour change, percentage of qualified trainers and Availability of training aids. The second variable is biomedical

intervention where the concerns are Availability of youth friendly health service providers, Availability of medical equipment and necessary drugs, Accessibility of referral health facilities and Promotion of biomedical services uptake. This study sought to establish if there are deliberate budgetary allocations for purchase of drugs and clinical equipment necessary in facilitating implementation of biomedical interventions, accessible health facilities providing tailored services for adolescents and record keeping to monitor uptake of biomedical services by adolescents.

The third was structural interventions which involves economic empowerment through implementation of cash transfer programmes, utilization of training curriculums recommended by the governing bodies, sensitization on gender violence and ways of curbing it as well as provision of education subsidies for beneficiaries. The fourth variable was M&E processes which was concerned with M&E experience sharing between departments and projects as well as establishment of data collection and storage procedures. Also policy guidelines were considered as the fifth variable with the aim of establishing whether there existed policies that govern implementation of HIV prevention projects. It was also aimed at determining whether there was strict adherence to existing policies. The dependent variable of performance of HIV prevention projects was also review to determine the effectiveness of the projects being implemented in relation to health promotion interventions.

Based on literature reviewed, there exists insufficient data in the projects and government facilities on adolescents. Previous studies have also laid more emphasis on the female gender and therefore the need to interrogate further factors affecting wellbeing of adolescents in both rural and urban settings. This study therefore incorporated both genders in the survey and utilized existing projects data to make comparisons between other studies findings and the conclusions made in this study

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes the methodology that was applied in this study. It details research paradigm, research design, target population, sampling techniques and sample size, research instrument, validity and reliability of instrument. It also explains data collection procedures and methods of data analysis that were used.

3.1 Research Paradigm

The study adopted a pragmatic knowledge claim which allows a researcher to seek knowledge and understanding of a situation under study, problems and consequences using multiple approaches (Creswell, 2008). A pragmatic approach is based on abduction reasoning that employ both induction and deduction reasoning to enable use of both qualitative and quantitative methods to conduct the same study (Creswell, 2008).Pragmatism perceives knowledge as being created and also based on the reality of experiences recorded.

It claims that knowledge is born from activities, circumstances, and repercussions; it is concerned with applicability and way forward thus putting the problem as most important instead of methods (Creswell, 2013). Alan (2009) posits that a researcher is guided by the ontological, epistemological, axiological, and methodological orientations. Ontologically, pragmatism offers the middle ground desired in mixed method. In this study both quantitative and qualitative aspects of the projects performance were investigated justifying the need for pragmatism (Johnson & Onwuegbuzie, 2004. Epistemologically, this approach allows the researcher to discerningly relate with the study. In this study the researcher will indulge with the research in gathering and synthesis of qualitative data.

The axiology stand in pragmatism is that reality is what is applicable at the moment. The axiology does not rely on strict union joining the mind and reality. It is totally independent of the mind. Hence, in studies applying mixed methods, researchers apply both quantitative and qualitative data because they endeavour to offer the best

comprehension of a research problem. Axiology perspectives, Johnson & Anthony (2004) argue that pragmatism is best applicable to mix methods study approach since it balances between quantitative which is value free with no research bias and qualitative research which is potentially value laden. In this study values will not be looked down upon nor will they be taken fully into guiding the study. Otherwise quantitative aspects required in project performance measurement were compromised.

Pragmatic paradigm was therefore applicable to this study because the nature of programs and projects being studied are diverse with different purposes that need different capacity and approaches in evaluations. The paradigm was also aimed to join both types of data discussed to bring up a holistic comprehension of the problem, to generate a complimentary scenario, to compare, prove and triangulate the outcomes, to provide demonstrations of context for series, or to evaluate procedures, lessons along with the results.

3.2 Research Design

This study utilized a mixed mode approach to carry out descriptive study of the phenomena with regard to pragmatism philosophical framework amenable to mixed-method view in conducting the study (Mackenzie, 2006). By use of mixed mode research approach, qualitative and quantitative data analysis was carried out simultaneously in a cross-sectional manner. In research methods, Sekaran (2003) indicates that mixed mode approach can be classified into mixed models and mixed methods. Under mixed models approach, descriptive data analysis is undertaken independently followed by inferential data analysis. Under mixed methods approach, both descriptive and inferential data analysis is conducted in parallel in an integrated way. In this study, mixed methods approach was used. It means that descriptive, inferential and qualitative analysis can be conducted in the study based on research objective simultaneously.

Proponents of mixed methods approach such as Alan Bryman and Emma Bell (2011) argue that mixed methods helps researchers conduct data analysis with the research freedom to make use of both descriptive and inferential data analysis techniques as advanced by pragmatism research paradigm (Johnson, Onwuegbuzie & Turner, 2007).

This approach attempts to consider multiple viewpoints, perspectives, positions, and standpoints of a phenomenon to enable confirmation or corroboration of each other through triangulation and to develop analysis in order to provide richer data. Creswell (2008) among other philosophers made strong arguments regarding the power of mixed method approaches over single methods approaches and the potential for a deeper understanding of a research problem. They held that by combining qualitative and quantitative worldviews, mixed method approaches are critical in enriching and deepening ones understanding of a phenomenon.

The approaches further offer greater opportunity for complimentary and divergent views (Teddlie and Tashakkori, 2009) and ability to create a convergence between qualitative and quantitative methods and subsequently neutralizes or cancels the limitations and biases inherent in any single method (Byrne and Humble, 2007). This study sought to understand the stakeholders experience and opinions on performance of HIV prevention projects for adolescents. Consequently the study generated qualitative data.

The purpose was to have an in-depth understanding of the health promotion interventions as practiced by HIV prevention projects for adolescents and the stakeholder's perspective of the practice in order to draw important lessons for health project's implementation (Cooper, Schindler & Sun, 2006). Inferences were made on the influence of health promotion interventions on performance of HIV prevention projects, thereby attributing the study to become a cross-sectional study (Levin, 2006). The study therefore was best suited to adopt mixed mode approach to obtain best results.

3.3 Target Population

The study was conducted in Kisumu County where HIV prevention projects for adolescents are being implemented by non-governmental organizations in collaboration with other stakeholders including the governments (county and national). The study targeted projects with a lifespan of two or more years that are donor funded and have been under implementation for more than 6 months from January 2016. The respondents included 10 members of staff in these projects constituting project managers, MERL officers, project officers, data officers and facilitators as well as 4483 adolescents

benefiting from the projects. These are responsible for direct implementation of projects as well as continuous monitoring of progress against objectives by ensuring collection of quality data and routine evaluation conducted either internally or together with external evaluators.

There are five organizations in the region that are actively implementing the project under the stated objectives. This study therefore focused on the DREAMS Western project which is being implemented within the county and covers the most populated section of the county. Table 3.2 shows the different organizations that are implementing HIV prevention projects/programs for adolescents in Kisumu County.

Table 3.2: Organizations Implementing HIV prevention projects for Adolescents in Kisumu County

Category	No. of Project Managers	No. of M&E Officers	No. of Beneficiaries
National Organization of Peer Educators (NOPE)	1	1	1024
Kenya Red Cross Society (KRCS)	1	1	1236
I Choose Life Africa (ICL)	1	1	1168
Center for Adolecents Study (CSA)	1	1	1055
TOTAL	**4**	**4**	**4483**

3.4 Sample and Sampling Procedure

In this section, the process of choosing the sampling method and procedures as well as determination of the sample size was explored. A sample in this study refers to the respondents from which information was obtained. Sampling is the process through which these groups are chosen.

3.4.1 Sample size

In conducting research for extremely big populations, the whole population is usually no subject to the study. Instead a representative sample is usually drawn from the larger

population. (Salant,(1994) described a sample as a group of interviewees selected from a big populace so as to be used in conducting a survey. This is done mainly to reduce cost and time taken to conduct the study.

Researcher must however understand that the selected sample must display characteristics that are generalizable and representative of the whole populace from where the sample have been drawn. (Maleske, 1995). If the sample size is too small, it lacks precision to generate reliable answers to research questions being investigated. Extremely large sample size is too large, it may waste time and resources. Therefore, the strength of a sample survey actually lies in the capability to acquire the required information from a few representatives to describe what applies to the entire populace.

In this study, respondents were drawn from the 4 organizations which have been in operation pursuing the stated objective in Kisumu County. Because the number of organizations is too small to be sampled, a census of the organizations is preferable rather than a sample (Mugenda & Mugenda, 1999). This means that the key respondents were drawn from all the selected organizations. In determining the sample size, Huber (2004) in Robust Statistics poses that a researcher is informed by precision rate and the desired confidence level. This study will apply a formula by Krejcie and Morgan (1970) to determine the sample size. It generates sample size that is adequate to offer enough accuracy from which decisions on the findings can be made with confidence.

$$S = \frac{x^2 NP\,(1-P)}{d^2\,(N-1) + x^2 P\,(1-P)}$$

Where; S = required sample size; x^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.84); N = the population size (4483), P = the population proportion (assumed to be .50 since this would provide the maximum sample size); d = the degree of accuracy expressed as a proportion (.05)

$$S = \frac{(3.84)\,(4483)\,(0.5)\,(1-0.5)}{0.0025\,(4483-1) + (3.84)\,(0.5)\,(1-0.5)}$$

S=353.78 Appx 354

Seeing that that this study has a targeted population of 4483 with a sample size of 3554; it can be concluded that there was sufficient room to conduct analysis. With the sample size determined, proportional allocation was adopted to distribute the respondents among different organizations aiming to have at least 8 percent as shown in

Table 3.3

Thus 354/4483× 100 = 8%

Table 3.3: Sample sizes selected from each Organization's beneficiaries

Job Category	Target Population	Sample Size
National Organization of Peer Educators (NOPE)	1024	81
Kenya Red Cross Society (KRCS)	1236	98
I Choose Life Africa (ICL)	1168	92
Center for Adolecents Study (CSA)	1055	83
TOTAL	**4483**	**354**

3.4.2 Sampling Procedure

Determination of sampling methods and procedures helped this study focus to remain objective in choosing the sample free of biasness. To sample the respondents, stratified random sampling was used to ensure that all parts of the populace are reflected in the sample so as to improve the efficiency of the study (Kothari, 2009). The study used different organizations from which respondents were picked from as strata. To ensure proportionality in representation from each stratum, a sample was picked autonomously in a similar ratio so as to have similar percentage of each total. Random sampling was applied to ensure that every element in each stratum has equal probability to be chosen for the study. Computer random numbers were generated for each category and respondents assigned these numbers randomly in proportion to the number of employees in each sector.

In stratified sampling technique, Kothari (2002) indicates that a random sample is drawn from all the strata. In addition, Sekaran (2003) argues that random sampling respondents from each stratum minimizes sampling error and contributes a sample size that is more representative than applying simple random sampling technique uniformly across the whole research population. This sampling procedure can also produce a weighted mean that has less variability than the arithmetic mean of a simple random sample of the entire population (Larry, 2013). For acquisition of the qualitative data in the study, the eight departmental heads for the selected departments were interviewed.

3.5 Research Instruments

In this study, all the data collected was used to source for information. Secondary information was obtained mainly from desktop review and internet Search. Raw data was gathered from respondents and was used to analyse the relationships that are being investigated in the study. To obtain sufficient information, triangulation of research instruments was done. The research instruments that were used in this study for data collection were self-administered structured questionnaire and an interview guide. A research instrument in this study is a device that the researcher used to collect data. A structured questionnaire was used to gather the quantitative data while the interview guide was used to gather the qualitative data in the study.

The application of multiple instruments was important for enhancing validity of data obtained and minimising the possibility of experiencing interviewer biases. Such biases often arise from non-verbal cues that may influence participants to give misleading responses by reporting positive aspects even where negative aspects are predominant (Jaeger, 1984). Details of the instruments used in the study and their relevance are described in the following sub-sections.

3.5.1 Questionnaire

The study applied a questionnaire with closed-ended and open-ended questions, targeting implementers of HIV prevention projects for adolescents in Kisumu County. The questionnaire was structured according to objectives of the study. More specifically,

section 1.0 comprised of questions on demographic characteristics of participants, section 2.0 contained questions on health promotion interventions, while section 3.0 involved questions on the M&E process indicators. Section 4.0 contained questions covering policy guidelines, donor policies and government policies.

Furthermore, section 1.0 of the questionnaire only covered questions on demographic data measured at nominal, interval and ordinal scales. Sections 2.0, 3.0, and 4.0 contained questions on the independent variables measured mostly at ordinal scales using five-point Likert scales. The instrument was meant to capture information that meets the requirements for positivistic paradigm and quantitative approach. The information was captured in the simplest variable forms was objective and used to confirm or refute hypothesised influence of health promotion interventions on performance of prevention projects for adolescents.

3.5.2 Focus Group Discussion Guide

These are a form of group interviews that optimizes on interaction between respondents and facilitators so as to provide data (Best & Khan, 2004). Muganda (2010) indicates that it is a study technique that collects information through group discussions on a topic specified by the researcher; the researcher's interest drives the focus while the information is generated through participant's interaction (Morgan, 1997 in Muganda, 2010). Even though group interviews are often used to quickly and conveniently to gather data from several sources concurrently, they explicitly, use group interactions as part of the method (Creswell, 2008). In this study, FGD guide targeted health promotion intervention beneficiaries.

The instrument captured in-depth information regarding the influence of health promotion interventions on performance of HIV prevention projects for adolescents, in accordance with constructivist thoughts and qualitative approach. In this, regard, the information enabled the researcher to focus on meaning of the causal relationship observed between health promotion interventions and performance of projects; understand dynamics and patterns of the causal relationship between the two aspects,

examine totality of reality from within and without, and develop generalisations through induction.

3.5.3 Piloting of the Research Instruments

Testing of the research instruments on a pilot sample was done. A pilot study is an essential part of instruments development, more so with regard to the pointing out of basic design errors (Oso & Onen, 2009). Areas that require compulsory testing includes clarity of questions and instructions, preciseness of statements, boredom and difficulty of questions and appropriateness of response options provided. It also helps in enhancing reliability of the Instructions.

Only 5% of the sample was considered for the study at the chosen institution. Mugenda and Mugenda (2003) support this as they argued that the number of cases in the pre-test should not be very large. Pre-test sample sizes often range between 1% and 10%, depending on the sampling frames. Necessary adjustments such as re-statement of unclear questions and instructions; omission of irrelevant questions and grammatical errors was effected based on results, comments from respondents and new insights.

The results of the pilot study were shared with my supervisors to evaluate the findings. Those involved in pretesting the instruments should not be included in the main study to avoid biasness in the results since they have already been exposed to the questions being posed to the respondents.

3.5.4 Validity of Instruments

Validity refers to the extent to which an instrument measures what it claims to measure. It is the level of accurateness to which results provided after the analysis of data truly represents the phenomena being studied (Kothari, 2008). In this study, a high level of validity was achieved by posing questions in the simplest way possible. Content validity was ascertained by using expert opinion to check the content and format of an instrument judge whether or not it was appropriate.

While determining the validity of the items in the research instruments, the advice of two experts was followed as proposed by Kothari (2002). For this study contrast validity was ascertained by defining clearly the variables being measured, formulating the hypothesis based on a theory underlying the variables and testing hypothesis logically and empirically. It was also ascertained by using different instruments to measure the same concept embodying the principle of triangulation. In addition, qualitative data was processed into manageable proportions through editing, coding, and tabulation method.

Data collected was checked while still in the field to ensure that all questions are answered and omissions as well as logical inconsistencies identified and removed. The data sourced was processed and discussed with supervisors to ensure that objectives of the study are adequately addressed.

3.5.5 Reliability of Instruments

This activity assists identifying internal consistency of scores made by the instrument of data collection. Donald, (2006) define reliability of research instruments as the consistence of scores obtained and has 2 characteristics; stability and equivalency. Reliability only exists if it provides the same results with repeated measurements of a similar object using the same instrument. Equivalency is therefore said to be the amount of error that the researcher may introduce through use of investigators or varying samples of the concepts under study. Researchers have poised that validity cannot be experienced without reliability and a proof of validity is enough to determine reliability (Lincoln, 1985). Since the appropriateness of the instruments was established by experts, this would increase reliability.

The inconsistency of a an instrument being utilized shows that there exists random error, that can easily arise at the point where data is being collected due to inaccuracy by an investigator or the instrument used to elicit information (Mugenda & Mugenda, 1999; Nachmias & Nachmias, 1996; Leary, 2004). There are many methods used by researchers to obtain reliability of research instruments. The study applied test-retest technique. It involves applying similar test twice to a similar group of respondents after a particular time period has expired between the two tests (Coopers and Schindler, 2003). This

criterion was chosen because the respondents being interviewed were expected to have an understanding of the importance of the research and were therefore voluntarily willing to respond to the questions in both times.

3.6. Data Collection Procedures

Donald and Delno (2006) indicate that both primary and secondary sources of data are permitted in research. The main focus was data obtained from primary sources through administering a structured questionnaire and an interview guide though secondary data will also be gathered. In the journal of mixed methods research, Tashakkori and Teddlie, (2010) indicate that the type of data collected is informed by the objectives of the study. In this study, primary data was collected from project beneficiaries while secondary data was obtained from project periodic reports and the Monitoring and Evaluation offices of the project.

The data collection methods chosen here were guided by the research objectives. Monitoring & evaluation managers and officers were interviewed through the guide provided. Before the interviews were carried out, letters were sent to respondents and/or organizations expressing the intention to conduct research from the selected departments. This was followed up through phone calls and emails to book appointments dates in which the exercise can be carried out. During the interviews, the researcher introduced the purpose of the research and its significance in respect to the performance of projects. The interviews helped clarify various aspects of project performance probably could not have been revealed by close ended questionnaires.

Data was gathered from the study's primary beneficiaries through utilization of vetted research assistants. This was hoped to increase questionnaires return rate. Seven research assistants were hired. Before deploying them to conduct the study in the field, the research assistants were trained on research ethics and integrity. The researcher also explained the structure of the instruments to the extent that they could comfortably and independently clarify queries raised by respondents. A follow up time schedule was agreed upon and drawn between the researcher and the research assistants to guide

supervision of the research progress. The research assistants were also given a copy of the letter of remittance permitting them to collect data on behalf of the researcher.

3.7 Data Analysis Techniques

This refers to methods of examining what has been gathered in a study and consequently inferences and anticipated decisions (Donald, 2006). Mixed methods data analysis techniques were employed in this study incorporating both descriptive and inferential data analysis. Non-parametric data was analysed descriptively by use of measures of central tendency and measures of dispersion as the tools of data analysis. The qualitative data was analysed by use of constant comparison analysis to identify underlying themes presented through the data (Leech & Onwuegbuzie, 2007). The data generated through the questionnaires and interviews was edited to detect errors and omissions and to correct these where possible. Correlation analysis was conducted to study the direction and strength of the variables to determine the amount of correlation between them. To test the significance of the influence the independent variable has on the dependent and hypothesis testing, regression analysis was done. Before the testing of Hypothesis, a number of tests to verify assumptions made in the study was conducted. Inferential statistics was used to analyse data from the likert scale. Data collected was analyzed using SPSS statistical package to improve efficiency, effectiveness and accuracy of results obtained. Although various tests are used to test hypotheses for Pearson's Product Moment Correlation

Coefficient (r) and Stepwise Regression ($R2$) like Student t-Tests, adjusted R2, Alkaike Information Criterion, Mallow's Cp and Bayesian Information Criterion; Moriya (2008) argues that in practice, F-Tests are the most commonly used to test confidence intervals and hypotheses. If for a given sample, F(r) is the Fisher transformation of r, and n is the sample size, then F(r) approximately follows a normal distribution given the assumption that the sample pairs are independent and identically distributed and follow a bivariate normal distribution. Thus an approximate r-value can be obtained from a normal probability table. For a large enough sample where $n > 30$ as was the case in this study, then F-values can be obtained using Fisher transformation and the hypotheses tested

normally by use of F-Tests (Moriya, 2008). Pearson correlation coefficient was used to test the relationship of hypothesis as follows:

H1: Behavioural interventions has a significant influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya. **H2:** Biomedical interventions has a significant influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya. **H3:** Behavioural interventions has a significant influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya. **H4:** Combination of behavioural, biomedical and structural interventions have a significant influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya. **H5:** Project M&E process, have a significant moderating influence on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu County, Kenya. **H6:** Policy guidelines, have a significant moderating influence on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu County, Kenya.

This helped establish the single significant relationship, strength and direction between health promotion intervention, policy guidelines and project monitoring and evaluation process on performance of HIV prevention for adolescent's projects. This was tested at 95% confidence level, implying that 95 times out of 100 we can be sure that there is a significant correlation between two variables, and there is a 5% chance that the relationship does not exist. This error margin of 5% was used to test the null hypothesis. For the variables whose calculated p value was less than 0.05, the null hypothesis that corresponded to it was accepted, otherwise rejected. H1 which tests the combined relationship of three independent variables and moderating variable on the dependent variable, was analyzed using Multi-linear Regression analysis.

This model examined the simultaneous influence of several variables on dependent variable that was Likert scaled. The model is based on the assumption that, any specific value of independent variable, the value of the Y variable was normally distributed (normality assumption) and that the variance for the Y variables was the same for each of

the dependent variables (equal-variance assumption). The model aids in understanding how much of a variance in the dependent variable explained by a set of predictors (independent variable). Multiple regression model was used to establish the combined influence of behavioural interventions, biomedical interventions and structural interventions on performance of HIV prevention projects.

3.8 Ethical Issues

Written communication seeking permission to carry out research was done and letters dispatched to the targeted respondents in appropriate offices. The respondents were required to sign the letters of consent before the actual data collection commencement. The respondents were assured that disclosures will not be made on the identity of the respondents. As such, the respondents were requested not to indicate their names on the questionnaires and disclosure of the findings was availed on request. Further, the researcher committed to make compensations in the event of any damages to the organizations under study or individual respondents, especially reputational related, arising as a result of this research.

3.9 Operational Definition of Variables

This section provides a summary of how each variable used in this study were operationalised and measured as indicated in Table 3.4. Important aspects of operationalization of variables include indicators, measurement scales and analysis techniques required.

Table 3.1: Operation definition of Variables

Research Objective	Indicator	Tools of Analysis	Tools of Collection
I. To determine the extent to which biomedical interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya	HTS uptake PrEP uptake and adherence Availability of skilled service providers	Means/percentages Correlation and Regression	Questionnaire Interview guide

	VMMC service uptake rate		
II. To assess the extent to which behavioural interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya	Quality of Trainings Availability of IEC materials Availability and accessibility of condoms	Means/percentages Correlation and Regression	Questionnaire Interview guide
III. To establish the extent to which structural interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya	Rate of success in Cash Transfer targets Quality of financial capabilities trainings Number of linkages for gender based violence	Means/percentages Correlation and Regression	Questionnaire Interview guide
IV. To determine the extent of moderating influence of M&E process on the relationship between Health promotion interventions and the performance of HIV prevention projects for adolescents in Kisumu county, Kenya	Data collection/Data entry Data Storage & accessibility Data Utilization	Means/percentages Correlation and Regression	Questionnaire Interview guide
V. To determine the extent to which policy guidelines influences the relationship between Health promotion interventions and the performance of HIV prevention projects for adolescents in Kisumu county, Kenya	Availability of policy guidelines Adherence to set guidelines	Means/percentages Correlation and Regression	Questionnaire Interview guide

3.10 Summary of Methodology

This chapter describes the research design, target population, sampling procedure, research instruments, data analysis techniques, ethical issues and operational definition of variables. The study used descriptive research design to collect and analyse both qualitative and quantitative data. To collect raw data from respondents the study used questionnaires and interview guides as the main instruments of data collection. Six null hypothesis corresponding to the objectives were formulated and tested. All the null hypothesis tested were rejected and alternative hypothesis accepted based on the results of linear regression conducted on each hypothesis. SPSS statistical package was used to analyse collected data and the results displayed in tables and percentages. Ethical issues considered in the study was also described in this chapter. Lastly the chapter is concluded by providing a detailed operational definition in tabular format.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSIONS

4.1 Introduction

This chapter is on data analysis, presentation, interpretation and discussion. The first section in this chapter is on the response rate of the respondents. The second section of this chapter presents the profiles of respondents. The third section presents tests of statistical assumptions and usage of the Likert-type scales in data analysis. The fourth section in this chapter is on the analysis, presentation, interpretation and discussion of the relationships under investigation. Since descriptive research design and correlation research design under mixed methods research approach were used in this study, descriptive, inferential and qualitative statistical analysis were carried out in this chapter simultaneously in a cross-sectional manner.

For each research objective, analysis was first done by use of the arithmetic mean and the standard deviation followed by Correlation analysis by use of Person's Product Moment Correlation and Stepwise Multiple Regression analysis to test the relationships under study. Since qualitative data was collected through interviews, qualitative analysis was done for each research objective after the descriptive and inferential statistics. Discussions in this chapter were done from the analysis and interpretation of descriptive, inferential and qualitative data.

4.2 Questionnaire Return Rate

A sample size of 358 respondents from a research population of 4483 adolescents in Kisumu County as recorded in the most recent census. Questionnaires were used as the main tool of data collection. A total of 352 questionnaires were returned which was a return rate of 96.7% which is adequate for this study. Richardson (2005) indicated that a response rate of 60% and above is both desirable and achievable in social sciences though in some cases it could go lower. The face to face interviews targeting ten key informants (project managers and M&E managers) were done guided by an interview schedule for the purpose of triangulating the results from the questionnaires.

Document analysis was used to collect secondary data. The targeted documents were from one organization from each sector that made up the target population. These organizations could only provide their project proposals and work plans as the only tools used in the planning of M&E, the main reference being the logical framework. There were documents showing a detailed implementation plan but there was no sufficient evidence of evaluation capacity building activities for particular areas mostly, behavioural interventions and policy guidelines. A total of 10 documents were reviewed. There were; 2 project proposals (only sections of them were given because organizations were reluctant to give them), EBI manuals, 2 work plans, and 2 power point presentation of M&E reports. The purpose of this review was also for triangulation.

Normality of the distribution of the population was achieved by making sure that there was no bias in picking the respondents from all the wards. Every effort was made to use the same proportion across the wards based on the overall number of respondents. Table 4.1 shows the targeted respondents, sample size and the response rate per category.

Table 4.1: Target population, sample size and number of respondents

Category	**N**	**n**
Adolescents	4483	348
M&E Managers	6	2
Project Managers	6	2
Policy Makers	5	2
TOTAL	**4,500**	**354**

Key N = target population (Total 4,483)

n = sample size (Total 354)

R = Number that responded (Total 345)

4.2.1 Distribution of Respondents by Level of Education

In this study in respect to responding to the research instruments as well as understanding the components of the interventions being offered. The options that were provided in this item were: primary level, secondary level and tertiary level. Table 4.2 shows that a the highest percentage of respondents were either in secondary school or had completed secondary level of education (54.5%); 382% had acquired primary level of education while 7.3% of those interviewed had tertiary education(polytechnic, college or university). The responses were as shown in Table 4.2.

Table 4.2. Distribution of respondents by level of education

Level of Education	Frequency	Percentage
Primary	137	38.2
Secondary	195	54.5
Tertiary	26	7.3
Total	**358**	**100**

4.2.2 Distribution of Respondents by Gender

Data was sought on whether respondents were males or females. This was done to ascertain that respondents were normally distributed between the two genders because in this study, none of the gender was given preferential consideration in the selection of respondents. Respondents were therefore asked to indicate their gender. The responses were as shown in Table 4.3.

Table 4.3 Distribution of Respondents by Gender

Gender	Frequency	Percentage
Females	196	54.7
Males	162	45.3
Total	**358**	**100.0**

Results indicate that 54.7% of the respondents were females while 45.3% were males. That respondents in this study were skewed favourable in respect to gender spread enhanced the quality of the analysis of results given that the study was guided by pragmatism research paradigm which Anthony (2004) indicates as the best suited paradigm for mixed methods research design in that it incorporates multiple realities in research like the gender factor.

4.2.3 Distribution of Respondents by Marital Status

Respondents were asked to indicate their marital status on whether they were single, married, divorced or separated. This information was considered important to understand the dynamics of different respondents in a peer based setting. The results were as shown in table 4.4.

Table 4.4: Distribution of respondents by marital status

Marital Status	Frequency	Percentage
Single Married	278	77.7
Divorced/Separated	44	12.3
Widowed	31	8.7
	5	1.3
Total	**358**	**100.0**

The results show that 77.7% of respondents interviewed were single and had never been married. Most of the respondents in this category were school going. Out of the total population questioned 12.3% indicated that they were married. This information would later be used by the researcher to establish the influence of early marriages among adolescents in the region. A small percentage (8.0%) indicated that they had earlier been married but were now divorced or separated. Others indicated that they were widowed (2.0%)

4.2.4 Distribution of Respondents by Duration of Engagement in the Project

Respondents were also asked to indicate how long they had been engaged in the projects. The duration an individual had been involved in the projects was considered important in appreciating the project performance. The data was clustered and categorized as shown in Table 4.5

Table 4.5: Distribution of respondents by duration of engagement in the project

Duration of engagement	Frequency	Percentage
0 months - 3 months	44	12.6
4 months - 6 months	12	3.4
7 months - 9 months	80	22.3
10 months - 12 months	148	41.9
Above 12 Months	62	17.6
Non- responsive	8	2.2
Total	**354**	**100**

The results indicate that 12.6 % of the respondents had been enrolled in the project for utmost 3 months while 3.4 % had been involved for a period between 4 to 6 months. This result implies that 22.3 % of the respondents had been involved in the project for a period between 7 – 9 months. Although majority (41.9 %) of the respondents had been involved for 12 months or less in the projects, this was not an indicator of the respondents experience in the projects. Interviews conducted in this study indicated that many respondents had worked with similar projects for more than 3 years which was considered in this study sufficient to make objective responses on the performance of HIV prevention projects.

4.3 Tests for Statistical Assumptions

Pedace (2013) indicates that violation of statistical assumptions can invalidate statistical assumptions. This section shows how tests of normality, multicollinearity, singularity, homoscedasticity and heteroscedasticity were carried out as well as how Type I and Type II errors which occur due to the wrong interpretation of results during tests of various

statistics were controlled. In addition, the usage of the Likert Scale in data analysis is also explained in this section.

4.3.1 Normality Test

Most parametric tests are anchored on the assumption that the populations from which the samples are drawn are normally distributed. When this assumption is not true, any conclusion derived from it cannot be taken in as accurate and reliable (Thode, 2002). This test compares the scores in the sample to a normally distributed set of scores with the same mean and standard deviation. For small sample sizes (less than 40), these tests have little power to test normality thus they most often pass the test (Oztuna, Elhan & Tuccar 2006). But for large samples, normality test are important so as to give credibility to the hypothesis testing. Besides estimating normality visually, normality test should be done. This study used Shapiro-Wilk W test which is based on the correlation between the data and the corresponding normal scores and provides better power (Peat and Barton, 2005). Power is the ability to detect whether a sample comes from a normal distribution or not.

$$W = \frac{\left(\sum a_i x_{(i)}\right)^2}{\sum (x_i - \bar{x})^2}$$

Source; Shapiro & Wilk, (1965): An analysis of variance test for normality

The statistic is positive and less than or equal to one. Being close to one indicates normality. The judgment followed these guidelines; W is insignificant if the variable's distribution is not different from normal. W statistics = 1 when a sample variable data is perfectly normal. When W is significantly smaller than 1, then the distribution is non-normal (Smirnov.Ghasemi & Zahediasl, 2012). SPSS software tests for both Shapiro Wilks and Kolmogorov. The choice of which between the two follows recommendations that for test that have a small sample of n= 3 to 2000, use Shapiro Wilks and for those n > 2000 use Kolmogorov-Smirnov The sample size for this study was n=358 therefore Shapiro Willks was used. In this test statistics stands for W. Following a SPSS run, the

following results were obtained using the main independent variables and dependent variable as shown in Table 4.6

Table 4.6: Normality Test

	Shapiro-walk		
Variables	**Statistic**	**df**	**Sig.**
Biomedical interventions.	.976	182	.003
Behavioral Interventions	.972	182	.001
Structural Interventions	.963	182	.000
M&E process	.983	182	.027
Policy guidelines	.970	182	.001
Project performance	.997	182	.002

All the statistics in the test (W) were above 0.96. The list was 0.963 and the highest was 0.997. None of the variables had W statistics =1, therefore none was a perfectly normal distribution but the scores were significantly closer to 1 which was acceptable since, perfectly normal distribution is rarely achievable.

4.3.2 Likert Scale as an Interval Measure

Likert scale types of questions were used in the study. These are differentiated as likert item; when an item is used to measure a single variable and likert scale; when a number of items are arranged as a group intended to measure a single variable (Brown, 2011). Boone and Boone, (2012) argued that Likert scale data, can be analyzed as an interval measurement scale. These scales are created by the researcher by calculating a composite score (sum or mean) from four or more Likert-type items. Therefore, the composite score for Likert scales should be analyzed as an interval measurement scale. Descriptive statistics recommended for interval scale items include the mean for central tendency and standard deviations for variability. Additional data analysis procedures appropriate for interval scale items would include the Pearson's r, t-test, ANOVA, and regression

procedures. To support this view Carifio and Rocco (2007) argued that Likert Scale can themselves be scaled to add further refinements and weighted scoring to the aggregation of items into sub-scale and total scale scores, which also tends to improve the linear and interval scale properties of the resulting composites.

To support this Bertram (2007) said that in summing up likert question responses which makes the data interval, all questions must use the same scale (for example. 5 point scale) and there must be a defendable approximation to an interval scale. (. coding indicates magnitude of equal distance between the items). The equidistance issue in likert scale has been the point of departure for the debate of whether the scale is ordinal or interval but the creation of a composite score as argued by Boone and Boone (2012) gives this debate another statistical dimension. Composite score were used in analysis and decision rules after analysis of mean scores were guided by the logical equal levels of the score approximated to the first decimal point in line with equidistance arguments (Carifio and Rocco, 2007; Bertram, 2007; lantz, 2013). This study used one verbal anchors; 1=Strongly Disagree (SD); 2= Disagree (D); 3= Neutral (N); 4= Agree (A); 5= Strongly Agree (SA) Therefore the judgment rule followed this argument; Strongly disagree would be for values lying between 1<S.D>1.8; Disagree for values between 1.8<D>2.6; Neutral for values between 2.6<N>3.4; Agree for values between 3.4<A>4.2; Strongly Agree for values between 4.2<S.A>5.0. This creates a scale that has an equidistance of 0.8.

Correlations coefficient was used to measure relationships. Decision rule followed Cohen (1988) suggested guidelines that r-value of between .10 to .29 means small or weak correlation; r-value of between .30 to .49 means medium or moderate correlation and r-value

of between .50 to 1.0 means large or strong correlation. These guidelines apply whether or not there is a negative sign out in front of the r value. The negative sign refers only to the direction of the relationship, not its strength. These guidelines were also used by Shirley, Stanley and Daniel (2005).

4.3.3 Tests for Multi-co Linearity and Singularity

Linear assumptions of singularity and multicollinearity were also checked before undertaking regression analysis through correlations and residual tables generated by SPSS. During data analysis, singularity occurs when an independent variable is formed from a combination of other independent variables. On the other hand, multicollinearity is checked by analyzing the tolerance values under collinearity to ensure that the assumption is not violated (Asteriou and Hall, 2011). In particular, $1 - R^2$ values should be more than 0.1 which implies low multicollinearity (Shirley et al., 2005). If two variables are perfectly collinear, singularity is said to exist and an exact linear relationship exists between the two predictor variables with a correlation coefficient equal to 1.0 or -1.0. On the other hand, Pedace (2013) argues that multicollinearity occurs when the correlation coefficient of two predictor variables is equal to or greater than 0.7. In this study, multicollinearity was non-existent between the predictor variables. Correlations and residual tables that were used to test for collinearity are attached as Appendix VII

4.3.4 Control of Type I Error and Type II Error

For statistical findings to be valid, a researcher has to control Type I and Type II errors which occur due to the wrong interpretation of results during tests of various statistics. Type I error occurs when the null hypothesis is rejected when it was supposed to be accepted while Type II error occurs when the null hypothesis is accepted when it was supposed to be rejected (Larry, 2013). In this study, Type I error was minimized by using a confidence level of 95% implying that the standard variate was 1.96 and the sample proportion (p) was less than or equal to 0.05 as recommended by Larry (2013). Type II error was minimized by taking a large enough sample of 358 respondents as recommended by Sekaran's (2003) sample size criterion.

4.3.5 Test for Homoscedasticity and Heteroscedasticity

Scatter diagrams were plotted prior to undertaking correlation analysis to counter check homoscedasticity and heteroscedasticity. In statistics, a sequence of random variables is

homoscedastic if all random variables in the sequence have the same finite variance. Although the assumption of homoscedasticity simplifies mathematical modelling, Moriya (2008) argues that serious violations in homoscedasticity may result in overestimating the goodness of fit as measured by the Pearson coefficient although this does not invalidate regression results. In this study, homoscedasticity was checked by looking at scatterplots between each predictor variable and the dependent variable to ascertain that the cluster of points were approximately the same width in the residuals plots derived by SPSS.

Heteroscedasticity is the absence of homoscedasticity. A collection of random variables is heteroscedastic if there are sub-populations that have different variabilities from others. Heteroscedasticity in regression analysis can invalidate statistical tests of significance that assume that the modelling errors are uncorrelated and normally distributed and that their variances do not vary with the effects being modelled. In Spherical-Homoscedastic Distributions, Hamsici and Aleix (2007) argue that the correlation and residual tables generated by SPSS that are used to test for collinearity can also be used to check for existence of heteroscedasticity. In this study, this assumption was not violated. Correlation and residual tables are attached as Appendix VIII.

4.4 Descriptive Analysis of Study Variables

The study was conducted in Kisumu county, respondents being adolescents, government officials, project managers and M&E managers working HIV prevention projects for adolescents. The variables were measured on a Likert scale as such all the mean values ranged from 1 to 5, a mean of 1-2 indicating the lowest measure and that of 4-5 indicating the highest measure of any category respectively. The standard deviation (SD) was used to measure the spread of the variables, where a small SD of less than 1 showed a small spread (indicating the responses were scattered close to the mean value) and that of more than 1 showing the responses were more scattered (most of the responses away from the mean value). The frequencies (reported relatively with their percentages) were used to report on the particular proportions of the responses that were in agreement or disagreement with any indicator

4.4.1 Analysis of Projects Performance

Project performance was identified in this study as the dependent variable. Theoretical and empirical review in this study indicated that health promotion interventions, monitoring & evaluation processes and policy guidelines are pointers of project performance. Data was therefore collected to measure these aspects of organizational performance. Respondents were required to tick appropriate response that answered the item question. The responses were given in Table 4.7.

Table 4.7: Means and Standard Deviations for Project Performance

No	Item	Scale of Measurement					Total	Mean	Std Dev
		SA	A	N	D	SD			
1.	The activities I have participated in the project have met my expectations	171	50	34	69	34	358	3.71	1.454
		47.7%	14.1%	9.3%	19.5%	9.3%	100%		
2.	Project activities have kept me away from vulnerabilities of contracting HIV	88	78	26	61	105	358	2.95	1.599
		24.6%	21.9%	6.9%	17.1%	29.4%	100%		
3.	The project has changed my economic livelihood	85	142	67	47	17	358	3.65	1.116
		24.0%	39.6%	18.6%	13.2%	4.5%	100%		
4.	Through my interaction with the project I have learnt new facts about HIV transmission, treatment and prevention	126	112	52	45	23	358	3.76	1.241
		35.1%	31.2%	14.4%	12.6%	6.6%	100%		
5.	I intend to confidently share my experiences and lessons from the	128	105	47	52	26	358	3.72	1.281
		35.7%	29.4%	13.2%	14.4%	7.2%	100%		

	program with my peers								
6.	More of my peers are accessing HTS services after introduction of the project since inception	170 47.4%	103 28.8%	54 15.0%	19 5.4%	12 3.3%	358 100%	4.12	1.062
7.	Gender roles and responsibilities are well explained in the program	148 41.4%	108 30.3%	56 15.6%	25 6.9%	21 5.7%	358 100%	3.95	1.167
8.	There was no favouritism in choosing project beneficiaries	87 24.3%	166 46.5%	39 10.8%	42 11.7%	24 6.6%	358 100%	3.7	1.153
9.	My parents and family are aware of the activities that I participate in the project	120 33.6%	111 30.9%	66 18.3%	38 10.5%	23 6.6%	358 100%	3.74	1.214
10.	There is clear sustainability plans for project activities	142 39.6%	111 30.9%	32 9.0%	42 11.7%	31 8.7%	358 100%	3.81	1.307
Composite average		**127** **35.4%**	**109** **30.4%**	**47** **13.1%**	**44** **12.3%**	**31** **8.8%**	**358** **100.0%**	**3.711**	**1.2594**

On overall analysis found that the project performance is satisfactory and are on track towards achievement of their goals. Some projects have even attracted extra funding after expiration of their implementation period based on the data that they were able to report during and after implementation. The researcher considered this a pointer of good performance by the projects. The reference to overall mean scores and standard deviations computed from table what? With a composite mean of 3.71 and standard deviation of 1.259. This was shown in table 4.8

Table 4.8: Means and Std. Deviation under project performance

Scale of measurement	Frequency	Percentage	Mean	Standard Deviation
1. Strongly Agree	126	35.3	3.71	1.259
2. Agreed	108	30.4%		
3. Neutral	47	13%		
4. Disagree	45	12.3%		
5. Strongly Disagree	32	9%		
Total	**358**	**100%**		

Table 4.8 shows that a good number of respondent strongly agreed 126 (35.3%) and agreed 101 (30.4%) on the ten items of dependent variable while 45 (12.3%) and 32 (9%) disagree and strongly agreed respectively. Only 47 (13%) were neutral. The composite mean recorded on the response on the ten items was 3.71 and standard deviation of 1.259. The mean tends toward 4 which indicate general agreement on the ten items which is confirmed by 219 (65.7%) of respondents agreeing to the items. This implies that majority 65.7% (mean = 3.71) agreed that project performance was satisfactory.

4.4.2 Descriptive Analysis of Influence of Behavioural Interventions on Performance of HIV Prevention Projects

This section analyses data related to the first objective of the study that is aimed at establishing the extent to which biomedical interventions influences performance of HIV prevention projects for adolescents in Kisumu County. The section provides descriptive analysis on the ten items related to behavioral interventions, summary of the mean on the ten items, and correlation of the interventions and performance of projects as well as testing of the hypotheses related to the objective. The study sought to investigate behavioral interventions used in HIV prevention projects for adolescents in Kisumu. To help in doing this, ten items related to students M&E procedures were designed and responses put on a Likert type of scale and respondents asked to express their level of agreement or disagreement on each one of them. The results were as given in Table 4.9

Table 4.9 Descriptive analysis of Behavioral interventions used in HIV prevention projects (Means and Standard Deviations)

No Item		Scale of measurement					Total	Mean	Std Dev
		SA	A	N	D	SD			
1.	EBI trainings are comprehensive	134 37.5 %	146 40.8 %	27 7.5%	30 8.4%	21 5.7%	358 100%	3.96	1.141
2.	The EBIs delivery structure promotes peer interactions	54 15.0 %	132 36.9 %	55 15.3 %	69 19.2 %	48 13.5 %	358 100%	3.21	1.29
3.	The project has a feedback mechanism for participants to air opinions	127 35.4 %	113 31.5 %	30 8.4%	55 15.3 %	33 9.3%	358 100%	3.68	1.34
4.	Commodities such as condoms are easily accessible to participants	143 39.9 %	129 35.7 %	23 6.3%	37 10.5 %	26 7.5%	358 100%	3.9	1.246
5.	EBI trainers are qualified	127 35.4 %	134 37.5 %	30 8.4%	43 12.0 %	24 6.6%	358 100%	3.83	1.221
6.	The training involves use of audio visual aids to help participants understand concepts better for example. video screening sessions	133 37.2 %	100 27.9 %	52 14.4 %	40 11.1 %	33 9.3%	358 100%	3.73	1.315
7.	There are community resource centres near the safe spaces for example. counselling	113 31.5 %	114 31.8 %	44 12.3 %	63 17.7 %	24 6.6%	358 100%	3.64	1.272

	centres, police station, children's office among others							
8.	The training area has restricted access to provide a good learning environment for participants	102 28.5 %	150 42.0 %	35 9.9%	48 13.5 %	21 6.0%	358 100%	3.74	1.183
9.	There are sessions for drugs and substance abuse for all primary beneficiaries.	107 30.0 %	135 37.8 %	49 13.8 %	48 13.2 %	19 5.1%	358 100%	3.74	1.168
10.	Training centres are easily accessible	137 38.4 %	106 29.7 %	39 10.8 %	54 15.0 %	22 6.0%	358 100%	3.8	1.264
Composite average		**118 32.9 %**	**126 35.2 %**	**38 10.7 %**	**49 13.6 %**	**27 7.6%**	**358 100.0 %**	**3.723**	**1.244**

The overall mean score for the ten items was 3.723 while the standard deviation for the same was 1.2244 indicating that project performance is a function of behavioral interventions in HIV prevention for adolescents. Computations were shown in Table 4.10 below.

Table 4.10 Means and Standard Deviation of behavioural interventions and project performance

Scale of measurement		Frequency	Percentage	Mean	Standard Deviation
1.	Strongly Agree	118	32.9%	3.723	1.244
2.	Agreed	126	35.2%		
3.	Neutral	38	10.7%		
4.	Disagree	49	13.6%		
5.	Strongly Disagree	27	7.6%		
Total		**358**	**100%**		

Table 4.10 shows that a good number of respondents strongly agreed 118 (32.9 %) and agreed 126 (35.2 %) on the ten items of independent variable while 49(13.6%) and 27 (7.6%) disagree and strongly disagreed respectively. Only 38 (10.7%) were neutral. The average mean recorded on the response on the ten items was 3.723 and standard deviation of 1.244. The mean tends toward 4 which indicates general agreement on the ten items which is confirmed by 244 (68.1%) of respondents agreeing to the ten items. This implies that majority 244 (68.1%) with mean = 3.723 agreed that behavioral interventions were effectively conducted and has an influence on the overall project performance.

4.4.3 Descriptive Analysis of Influence of Biomedical Interventions on Project Performance

This section analyses data related to the third objective of the study that aimed at establishing the extent to which biomedical interventions influences performance of HIV prevention projects for adolescents in Kisumu County, Kenya. The section provide descriptive analysis on the ten items related to biomedical interventions, summary of the mean on the ten items, and correlation between biomedical interventions and performance of projects and testing of the hypotheses related to the study objective.

The study sought to investigate biomedical interventions and their influence on performance of HIV prevention projects for adolescents in Kisumu County. To help in doing this ten items related to biomedical interventions were designed and respondents put on a Likert type of scale and respondents asked to express their level of agreeing or disagreeing on each one of them. The results were as shown in Table 4.11 below;

Table 4.11 Descriptive analysis of Biomedical interventions carried out in HIV prevention projects (Means and Standard deviations)

No	Item	Scale of Measurement					Total	Mean	Std Dev
		SA	A	N	D	SD			
1.	HIV testing and counselling services(HTS) are easily available to beneficiaries facilities bought using education subsidy	189 52.9%	140 39.0%	15 4.2%	12 3.3%	2 0.6%	358 100%	4.4	0.772
2.	HTS counsellors are professional	120 33.6%	135 37.8%	48 13.5%	34 9.3%	21 5.7%	358 100%	3.84	1.156
3.	The project has a linkage procedure that links those who test HIV positive to care and treatment	171 47.7%	115 32.1%	47 13.2%	17 4.8%	8 2.1%	358 100%	4.19	0.979
4.	Age appropriate participant are sensitized on use of post exposure prophylaxis (PrEP).	153 42.6%	132 36.9%	45 12.6%	20 5.7%	8 2.1%	358 100%	4.12	0.979
5.	PrEP drugs are easily available at the project service centres	146 40.8%	107 30.0%	55 15.3%	29 8.1%	21 5.7%	358 100%	3.92	1.182
6.	All beneficiaries are sensitized on use of post exposure prophylaxis (PEP) in case of occurrences that expose them to HIV virus such as rape	155 43.2%	143 39.9%	26 7.2%	26 7.2%	9 2.4%	358 100%	4.14	0.996
7.	Screening of STIs and treatment is accorded to project primary beneficiaries	114 31.8%	141 39.3%	49 14.7%	53 8.7%	19 5.4%	358 100%	3.83	1.13
8.	Biomedical services are provided by qualified medical practitioners	120 33.6%	158 44.1%	29 8.1%	38 10.5%	13 3.6%	358 100%	3.94	1.078
9.	The project provides channels to monitor feedback on side effects of PrEP	156 43.5%	121 33.9%	43 12.0%	27 7.5%	11 3.0%	358 100%	4.08	1.06
10.	Biomedical services offered by the project are affordable	150 42.0%	104 29.1%	61 17.1%	29 8.1%	13 3.6%	358 100%	3.98	1.115
	Composite average	**147** **41.2%**	**130** **36.2%**	**42** **11.8%**	**26** **7.3%**	**13** **3.4%**	**358** **100.0%**	**4.044**	**1.0447**

The overall mean score for the ten items was 4.04 % while the standard deviation for the same ten items was 1.045 indicating that the biomedical interventions are truly a function of performance of HIV prevention projects. Computations were reflected as shown in Table 4.12

Table 4.12 Means and Standard Deviation of biomedical interventions and Performance of projects

Scale of measurement	Frequency	Percentage	Mean	Standard Deviation
1. Strongly Agree	143	40%	4.04	1.045
2. Agreed	129	36%		
3. Neutral	39	11%		
4. Disagree	35	10%		
5. Strongly Disagree	11	3%		

Source: Survey Data (2018)

Table 4.12 shows that a good number of respondent strongly agreed 143 (40%) and agreed 129 (36%) on the ten items of independent variable while 35 (10%) and 11 (3%) disagree and strongly disagreed respectively. Only 39(11%) were neutral. The average mean recorded on the response on the ten items was 4.04 and standard deviation of 1.045. The mean is 4 which indicate general agreement on the ten items which is confirmed by 272 (76 %) of respondents agreeing to the ten items. This implies that majority 272 (76%) with mean = 4.04 agreed that biomedical interventions were adequately provided.

4.4.4 Descriptive Analysis of Influence of Structural Interventions on Performance of HIV Prevention Projects

This section analyses data related to the fourth objective of the study that aimed at establishing the extent to which structural interventions influences performance of HIV prevention projects for adolescents in Kisumu County, Kenya. The section provide descriptive analysis on the ten items related to structural interventions, summary of the mean on the ten items, and correlation between structural interventions and performance of projects and testing of the hypotheses related to the study objective.

The study sought to investigate structural interventions used in HIV prevention projects. To help in doing this ten items related to structural interventions were designed and respondents put on a Likert type of scale and respondents asked to express their level of agreeing, disagreeing or neutral on each one of them. The results were given in Table 4.13

Table 4.13 Descriptive analysis of Structural interventions used in HIV prevention projects (Means and Standard Deviations)

No	Item	Scale of Measurement					Total	Mean	Std Dev
		SA	A	N	D	SD			
1.	Cash transfer process is transparent	85	194	30	34	15	358	3.83	1.03
		23.7%	54.1%	8.4%	9.6%	4.2%	100%		
2.	Education subsidy provision is on highest need basis	170	116	31	30	11	358	4.13	1.075
		47.4%	32.4%	8.7%	8.4%	3.0%	100%		
3.	Financial capabilities trainings are provided to age-appropriate beneficiaries as specified in the curricular	141	120	64	29	3	358	4.02	0.991
		39.3%	33.6%	18.0%	8.1%	0.9%	100%		
4.	Session attendance is monitored during financial capabilities trainings	125	184	29	12	8	358	4.13	0.874
		34.8%	51.4%	8.1%	3.3%	2.4%	100%		
5.	Trainers are knowledgeable about the topics	131	163	25	29	9	333	4.05	1.002
		36.6%	45.6%	6.9%	8.1%	2.7%	100%		
6.	The parents of beneficiaries are involved in project implementation	129	128	44	45	11	358	3.89	1.13
		36.0%	35.7%	12.3%	12.6%	3.3%	100%		
7.	Trainings are comprehensive	76	169	44	47	21	333	3.65	1.133
		21.3%	47.1%	12.3%	13.2%	6.0%	100%		
8.	The project ensures sustainability of its activities after project period ends	158	136	32	27	4	358	4.17	0.957
		44.1%	38.1%	9.0%	7.5%	1.2%	100%		

	for example. linking established financial groups to micro finance institutions.								
9.	The project monitors school performance for beneficiaries of education subsidies	173 48.3%	124 34.5%	38 10.5%	18 5.1%	5 1.5%	358 100%	4.23	0.937
10.	All resources provided by the project are distributed equitably	155 43.2%	139 38.7%	46 12.9%	14 3.9%	4 1.2%	358 100%	4.19	0.89
Total (Average)		**134** **37.5%**	**147** **41.1%**	**38** **10.7%**	**30** **8.0%**	**9** **2.6%**	**358** **100.0%**	**4.029**	**1.0019**

The composite mean score for the ten items was 4.29 % while the standard deviation for the same ten items was 1.0019 indicating that the use of structural interventions has a significant influence on performance of HIV prevention projects.

4.4.5 Analysis of Combined Influence of Behavioural; Biomedical and Structural Interventions on Performance of Projects

This section analyses data related to the fourth objective of the study that aimed at establishing the extent to which combination of behavioural; biomedical and structural interventions influences performance of HIV prevention projects for adolescents in Kisumu County, Kenya. The section provided detailed analysis of the three independent variables and their summary effect on the dependent variable and testing of the hypotheses related to the study objective. The study sought to investigate behavioural; biomedical and structural interventions used in HIV prevention projects schools. To help in doing this, three items related to interventions were designed and responses put on a Likert type of scale for each one of the three and respondents asked to express their level of agreeing or disagreeing on each one of them. The results were given in Table 4.14.

Table 4.14 Regression Results for Combined Effect of Independent Variable on Dependent Variable

Model 1		Value
1.	R	.596[a]
2.	R Square	.356
3.	Adjusted R Square	.348
4.	Standard Error of the Estimate	7.009

a. Predictors: (constant), structural interventions, Behavioral interventions and structural interventions

b. Dependent Variable: performance of projects

Table 4.14 indicates that the four independent variables contributed up to 34.8% of the variance in performance of projects (Dependent Variable). It was concluded that the three independent variables were statistically significant in contributing to the variance in performance of projects as adjusted square value was 0.348. When ANOVA was analyzed to establish whether it was a good fit for the data and that regression model existed between them, the results were given in Table 4.15

Table 4.15. Regression Results for Influence of Each Independent Variable on performance of projects

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	**Std. Error**	**Beta**	**t**	**Sig.**	**Tolerance**	**VIF**
(Constant)		8.644	2.522		3.428	.001		
1.	Behavioural interventions	.135	.068	.151	1.979	.049	.337	2.971
2.	Biomedical interventions	.341	.080	.309	4.279	.000	.377	2.650
3.	Structural interventions	.170	.105	.148	1.626	.105	.237	4.224
	Total			. **0.655**	.	**.163**		

a. Dependent variable: Performance of projects

From the Table 4.15 a linear regression equation was developed as $y = 8.644+.341x_2 +.135x_1+ .170x_3+ .072x_4$ which finally became $y = 8.644+.341x_2 +.135x_1$

In order to answer the question which of the independent variable contributed more to the variance in dependent variable (performance of projects, beta values were used and summary was given as follows: On level one, Table 4.15. indicates that behavioural interventions explained up to .151 (15.1 %) of the variance in performance of projects. Its P value was 0.049 ($P < 0.05$). This result indicates that there is a strong positive correlation between behavioural interventions and performance of projects. On level two, Table 4.3.5.1 indicates that biomedical interventions explained up to .309 (30.9%) of the variance in performance of projects with P value of $P = .000$ ($P < 0.05$). This indicates that there is a strong positive correlation between biomedical interventions and performance of projects. On level three, Table 4.15 indicates that structural interventions explained up to .148 (14.8 %) of the variance in performance of projects with P value of $P = .105$ ($P > 0.05$). This indicates that there was no significant correlation between structural interventions and performance of projects.

In order of contribution of each independent variable the use of beta values reflects that at first place is biomedical interventions.309 (30.9%); second place is behavioural interventions .151 (15.1%); and finally, structural interventions .149 (14.9%) indicating that all the independent variables contributed to the variance in performance of projects (dependent variable). From table 4.15 on average the P value for the combined independent variables tested and averaged at 95% confidence level was 0.163 that of behavioural was .049; biomedical was .000 and structural was .105 average of which resulted into 0.163 indicating that the P value was greater that 0.05 ($P > 0.05$). The null hypothesis was accepted and it was concluded that there is no significant relationship between the combined influence of the three independent variable and performance of projects and that the influence of each one of them played a major role in the model than the combined influence as the remained moderating variables than constant variables in the model.

The study agrees with the recommendations made by UNAIDS and World Bank report (UNAIDS 2005, World Bank, 2007; UNAIDS 2007) indicating that national HIV strategic planning should include an open, inclusive, transparent process for identifying key prevention priorities and guiding allocation of finite resources. This process should

engage key stakeholders, including people living with HIV, strategic government ministries, key affected communities, women's groups, the private sector, community and cultural leaders, individuals with relevant research and evaluation expertise (for example., behavioural, sociological, epidemiological), donors and other relevant organizations. Ensuring the full engagement of affected communities in the design of the programme is one of the defining features of combination prevention.

Time and support should be provided to enable participants in this process to assess available data and assist national authorities in identifying key programmatic priorities as well as important synergies. A central purpose of this participatory planning process is political: to build relationships among stakeholders, and to forge agreement on common approaches and outcomes. In particular, attention should be paid to developing consensus that evidence should guide decision-making on prevention priorities and resource allocations, and that all parties are accountable for human rights-based action and results. The participatory forum for combination prevention planning ideally will function on an ongoing basis, allowing stakeholders to collectively assess progress and adapt programmatic strategies in response to emerging evidence and findings from monitoring and evaluation.

In addition to understanding who is most likely to become infected and how these new infections are occurring, prevention planners also need to understand where new HIV infections are happening. Identifying of important geographic variations in HIV risk enables countries to focus services where they are most needed. Based on the data from the project reports HIV prevalence tends to be much higher in urban than in rural areas. Without recognition of the epidemic's varying geographic intensity, more heavily affected settings may receive insufficient resources (Aids 2031 Programmatic working group, 2010). Differences in risk and access to services must be taken into account as should the extraordinary challenges in humanitarian emergencies.

With the ultimate focus on results, national aids authorities should take steps such as support for information sharing and multi-sectoral peer reviews, to promote increasing coordination among diverse prevention service providers and between HIV prevention

and treatment programmes and broader development initiatives. Incentives and opportunities for collaboration and efficiency such as regular multi-stakeholder meetings, or high-profile consolidated reports to national decision makers, can be included in the annual programme cycle to avoid a fragmented or "silo" approach to service delivery that focuses on single interventions

4.4.6 Analysis of Moderating Influence of M&E Process on the Relationship Btetween Health Promotion Intervention and Performance of HIV Prevention Projects

In order to establish the influence of project M&E processes on the relationship between behavioral; biomedical and structural interventions and performance of the projects, the study first determined the moderation influence of project M&E processes between the two variables and tested the hypothesis to establish the significance of the relationships. To establish the influence of M&E process on the relationship between health promotion interventions and performance of projects, ten items related to M&E processes were designed and respondents put on a Likert type of scale and respondents asked to express their level of agreeing or disagreeing on each one of them. The results were given in Table 4.16.

Table 4.16 Descriptive analysis of Monitoring & Evaluation processes Used in projects (Means and Standard Deviations)

No	Item	Scale of Measurement					Total	Mean	Std Dev
		SA	A	N	D	SD			
1.	Tools for data collection are standardized for example. registration lists	185	139	20	5	9	358	4.36	0.851
		51.7%	38.7%	5.7%	1.5%	2.4%	100%		
2.	M&E staff are well skilled	122	192	31	11	2	358	4.18	0.758
		34.2%	53.5%	8.7%	3.0%	0.6%	100%		
3.	Project data is handled with confidentiality	105	158	57	26	12	358	3.89	1.015
		29.4%	44.1%	15.9%	7.2%	3.3%	100%		
4.	Project administration conducts routine supervision on training sessions.	74	159	63	49	11	358	3.65	1.058
		20.7%	44.4%	17.7%	13.8%	3.3%	100%		

5.	Longitudinal data of beneficiary's status is kept by the project	137	160	45	10	5	358	4.16	0.855
		38.4%	44.7%	12.6%	2.7%	1.5%	100%		
6.	The project shares it's implementation status updates with the beneficiaries	106	161	50	30	9	358	3.91	1.006
		29.7%	45.0%	14.1%	8.4%	2.7%	100%		
7.	The project maintains a database where data is stored or retrieved for use.	117	198	27	11	5	358	4.15	0.799
		32.7%	55.3%	7.5%	3.0%	1.5%	100%		
8.	The project provide a feedback mechanism for project beneficiaries to give feedback	127	133	56	27	14	358	3.92	1.089
		35.4%	37.2%	15.6%	7.5%	4.2%	100%		
9.	There is clear documentation of all projects	90	162	58	37	11	358	3.8	1.027
		25.2%	45.3%	16.2%	10.2%	3.0%	100%		
10.	The beneficiaries made aware of the work plans before activities are implemented	119	153	60	18	7	358	4	0.947
		33.3%	42.6%	16.8%	5.1%	2.1%	100%		
	Composite average	**110**	**150**	**44**	**21**	**8**	**358**	**4.002**	**0.9405**
		33.1%	**45.1%**	**13.1%**	**6.2%**	**2.5%**	**100.0%**		

In conclusion the overall influence of M&E processes on performance of projects was interpreted as given in summary results were in Table 4.17 below.

Table 4.17 Overall Influence of M&E processes on performance of projects

Scale of measurement		Frequency	Percentage	Mean	Std. Dev.
1.	Strongly Agree	110	33.1%	4.002	.941
2.	Agreed	150	45.1%		
3.	Neutral	44	13.1%		
4.	Disagreed	21	6.2%		
5.	Strongly Disagree	8	2.5%		
Total		**333**	**100%**		

Source: Survey Data (2018)

From the Table 4.17 shows that a good number of respondent strongly agreed 110 (33.1%) and agreed 150 (45.1%) on the ten items of independent variable while 21 (6.2 %) and 8 (2.5%) disagree and strongly disagreed respectively. Only 41 (13.1%) were neutral. The average mean recorded on the response on the ten items was 4.002 and standard deviation of .9405. The mean was 4 which indicates general agreement on the

ten items which is confirmed by 260 (78.2 %) of respondents agreeing to the ten items. This implies that majority 260 (78.2 %) with mean = 4.002 agreed that performance of projects was influenced by M&E processes.

4.4.7 Descriptive analysis of Moderation Influence of policy guidelines on the Relationship between health promotion interventions and performance of projects

This section analyses data related to the fifth objective of the study that aimed at establishing the extent to which policy guidelines influences the relationship between health promotion interventions and performance of HIV prevention projects in Kisumu County, Kenya. The section provided detailed analysis on the three moderators, summary of their means, and regression effect on the relationships and testing of the hypotheses related to fifth objective of the study. The study sought to investigate the moderation effect of policy guidelines. To help in doing this, ten items related to policy guidelines were designed and responses put on a Likert type of scale and respondents asked to express their level of agreeing or disagreeing on each one of them. The results were given in Table 4.18

Table 4.18 Descriptive analysis of Influence of policy guidelines on Relationship between health promotion interventions and performance of projects in HIV prevention projects

No	Item	SA	A	N	D	SD	Total	Mean	Std Dev
1.	Trainings adhere to the curriculum provided by national governing bodies such as NASCOP	72	190	53	27	16	358	3.77	1.002
		20.1%	53.2%	14.7%	7.5%	4.5%	100%		
2.	Trainings are facilitated by qualified trainers	146	112	43	38	19	358	3.92	1.197
		40.8%	31.2%	12.0%	10.5%	5.4%	100%		
3.	There are mechanisms in the Project to ensure accountability	92	113	79	47	26	358	3.56	1.21
		25.8%	31.5%	22.2%	13.2%	7.2%	100%		
4.	Failure to fund particular activities by the donors influences perfomance of the	101	171	44	31	11	358	3.89	1.008
		28.2%	47.7%	12.3%	8.7%	3.0%	100%		

	project.								
5.	Government policies on projects aligns with Project policies specified by donors without affecting Project performance	102 28.5%	129 36.0%	42 11.7%	55 15.3%	30 8.4%	358 100%	3.61	1.274
6.	Project implementers are bound by the universal child protection policy	125 34.8%	108 30.3%	31 8.7%	52 14.4%	42 11.7%	358 100%	3.62	1.389
7.	The project has distinctive role on HIV prevention that does not conflict with political advocacy	111 30.9%	136 38.1%	35 9.9%	42 11.7%	33 9.3%	358 100%	3.7	1.276
8.	Data collected in the project is under the scope of national statistics body under conformity of specified procedures.	125 34.8%	114 31.8%	40 11.1%	43 12.0%	37 10.2%	358 100%	3.69	1.33
9.	National bodies representatives provide support supervision during project activities	107 30.0%	116 32.4%	70 19.5%	32 9.0%	32 9.0%	358 100%	3.65	1.246
10.	Regulation on distribution of medical equipment affects project performance.	111 30.9%	140 39.0%	38 10.5%	41 11.4%	29 8.1%	358 100%	3.73	1.238
	Composite average	**109** **30.5%**	**133** **37.1%**	**47** **13.3%**	**41** **11.4%**	**28** **7.7%**	**358** **100.0%**	**3.714**	**1.217**

On overall Table 4.18 indicates that a good number of respondent strongly agreed 102 (30.5%) and agreed 124 (37.1 %) on the ten items of independent variable while 38 (11.4 %) and 26 (7.7 %) disagree and strongly disagreed respectively. Only 44 (13.3 %) were neutral. The average mean recorded on the response on the ten items was 3.714 and standard deviation of 1.217. The mean tends toward 4 which indicate general agreement on the ten items which is confirmed by 226 (67.6 %) of respondents agreeing to the ten items. This implies that majority 226 (67.6 %) with mean = 3.714 agreed that policy guidelines contributed significantly to the variance in performance of projects as the value of 'R' square change was .012 indicating the level of enhancement of the variance in performance of projects by effective adoption of policy guidelines.

4.5 Correlation Analysis

Correlation analysis was conducted using Pearson Moment Correlation, to explore the direction of the relationships between independent variables and dependent variables. This was determined by checking the positive or negative value before the (r). the strength of the relationship was based on looking at the correlation value of (r) where a rank (r) of 1 implies perfect positive correlation, a Rank of $0.10<r<0.29$ implies a weak positive correlation, a Rank of $0.30<r<0.50$ implies a positive moderate correlation, a rank of $0.50<r<1$ implies a strong positive correlation ; a rank (r) of -1 implies a perfect negative correlation, a rank of $-0.29<r<-0.10$ implies a weak negative correlation, a rank of $0.50<r<-0.30$ implies a moderate negative correlation, a rank of $-1<r<-0.5$ implies a strong negative correlation (Ratner, 2009). Since the variables were measured on a Likert scale, Pearson Moment Correlation was used and these relationships were determined at a 95% confidence level, meaning that the sample proportion (p) was less than or equal to 0.05 thereby considered statistically significant.

4.5.1 Correlation analysis of behavioural interventions on project performance

In order to establish the influence of behavioural interventions on project performance the study first determined the relationship between the two variables and tested the hypothesis to establish the significance of the relationships. To test the relationship between behavioural interventions and performance of projects, Pearson's Product Moment Correlation coefficient was used to test a null hypothesis that 'There is no significant relationship between behavioural interventions and performance of projects. The results were as shown in Table 4.19

Table 4.19 Correlation analysis of Behavioural interventions on performance of projects

Model 1		**N**	**Performance of projects 'r' Value**
Behavioral interventions	Pearson Correlation	1	.528[xx]
	Sig. (2-tailed)		.000
Total		**358**	

**. *Correlation is significant at the 0.01 level (2-tailed).*

From the Table 4.19, it indicates that behavioural interventions were positively correlated with performance of projects and was significant where r value was $r = .528$ ($P < 0.05$) and as Shirley *et al*. (2005) indicates that for a weak correlation, 'r' ranges from + 0.10 to + 0.29; in a moderate correlation, "r" ranges between + 0.30 and + 0.49; while in a strong correlation, "r" ranges from + 0.5 and + 1.0. Since 'r' value was r = 0. 528 it was concluded that the relationship was a strong one. When hypothesis was tested at 95% confidence level to establish the level of relationship, the P value was found to be $P = 0.000$ ($P < 0.05$). The null hypothesis was therefore rejected and it was concluded that there was a significant strong positive relationship between behavioral interventions and performance of projects.

The findings were supporting systems theory proponents Draft and Armstrong (1959) study on organizational theory and design that argues that when all other parts of the system are operational, then the whole systems operation would be achieved as all parts are directed towards one goal, when beneficiaries' as part of project implementation process are given responsibility for instance that of educating their peers in the organizational system, they have a role as a supra system of the whole organizational system to facilitate the functional role of the system that is why their role in peer education should not be overlooked.

4.5.2 Correlation analysis of biomedical interventions on Performance of projects

In order to establish the influence of biomedical interventions on performance of projects the study started by determining the relationship between the two variables and tested the hypothesis to establish the significance of the relationships. To test the relationship between biomedical interventions and performance of projects, Pearson's Product Moment Correlation coefficients were used to test a null hypothesis that 'There is no significant relationship between biomedical interventions and performance of projects. The interpretation of Pearson's Product Moment Correlation coefficients was based on Rartner(2009) interpretation that indicates that for a weak correlation, "r" ranges from + 0.10 to + 0.29; in a moderate correlation, "r" ranges between + 0.30 and + 0.49; while in

a strong correlation, "r" ranges from + 0.5 and + 1.0. Correlation results were given in Table 4.20

Table 4.20 Detailed Correlation Results for Influence of biomedical interventions on performance of projects

Model 1			**Performance of Projects**
Biomedical interventions	Pearson Correlation	1	.541**
	Sig. (2-tailed)		.000
	N	333	333

Table 4.20 indicates that 'r' value was = 0.541 and P = 0.000 (P < 0.05). The results indicate that there is a significant positive correlation between biomedical interventions and performance of HIV prevention projects. Biomedical interventions contributed 54.1% in the variance in performance of projects and that a unit increase in biomedical interventions, there would be an improvement of 54.1% in performance of the project. In order to know the level of relationship, hypothesis was tested at 95% confidence level given that 'r' value was r = 0.541 and P value was found to be P = 0.000 (P < 0.05). The null hypothesis was rejected and it was concluded that there was a significant positive relationship between biomedical interventions and performance of projects.

4.5.3 Correlation Analysis of Influence of Structural Interventions on Performance of HIV Prevention Projects

In order to establish the influence of structural interventions on performance of projects, the study first and foremost determined the relationship between the two variables and tested the hypothesis to establish the significance of the relationships. To test the relationship between structural interventions and performance of HIV prevention projects Pearson's Product Moment Correlation coefficients was used to test a null hypothesis that 'There is no significant relationship between structural interventions and performance of

HIV prevention projects'. The Pearson's Product Moment Correlation Coefficient was computed at 95% confidence level. The results were as shown in Table 4.21

Table 4.21 Correlation analysis between structural interventions and performance of projects

			Performance of projects
Structural interventions	Pearson Correlation	1	.520**
	Sig. (2-tailed)		.000
	N	333	333

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.21 indicates that correlation value (r) was = 0.520, P value was P = 0.000) (P < .05). It indicates that there is a significant strong positive correlation between the two variables and that structural interventions contributed 52% of variance in performance of projects an indication that for any unit increase in structural interventions a total of 52 units would be realized in performance of projects. When hypothesis was tested at 95% confidence level given that P value was P = .000 (P < 0.05). The null hypothesis was rejected and it was concluded that there was a significant strong positive correlation between structural interventions and performance of projects.

4.5.4 Correlation Analysis on Influence of M&E processes on the relationship between behavioural interventions and performance of projects

In order to establish the influence of M&E process on the relationship between behavioral interventions and performance of projects, the study first and foremost sought to determine the moderation influence of M&E processes between the two variables and tested the hypothesis to establish the significance of the relationships.

The results were given in Table 4.22

Table 4.22 Descriptive analysis of Moderation Influence of project M&E processes on Relationship between behavioural and performance of projects

Model	Value 1 (Before)	Value 2 (After)
1.R	.701[a]	.701[b]
2.R Square	.491	.491
3.Adjusted R Square	.488	.486
4.Std. Error of the Estimates	6.211	6.221
5.R Square Change	.491	.000
6.F Change	158.993	.000
7.Df1	2	1
8. Df2	330	329
9. Sig. F Change	.000	.990

a. Predictors: (Constant), Influence of project M&E processes on performance of projects, behavioural interventions

b. Predictors: (Constant), Influence of project M&E processes on performance of projects, behavioural interventions, project M&E processes x behavioural interventions

Table 4.22, indicates that the independent variable accounted for significant amount of variance in the dependent variable where $R^2 = .491$, F (2, 330) = 158.993, P value was P = 0.000 (P < .05). The result indicates that independent variable accounted for 49.1% of the variance in dependent variable and this was positively enhancing the variance as "R' square value was positive .491. It was concluded that the model could work without introducing principal's attributes as a moderator variable. However, introduction of a model including project M&E processes to establish the moderating influence was done, the results indicates that it did not account for any variance in the relationship and therefore behaved as constant in the model as value of R^2 change was $\Delta R^2 = .000$, ΔF (1, 329) = 0.000, and P value was = .990 (P > 0.05). It was concluded that there was no moderation influence of project M&E processes on the relationship between behavioural interventions and performance of projects.

4.5.5.Correlation Analysis on Moderation Influence of project M&E processes on Relationship between biomedical interventions and performance of projects

In order to establish the influence of M&E process on the relationship between biomedical interventions and performance of projects, the study first sought to determine the moderation influence of M&E processes between the two variables and tested the hypothesis to establish the significance of the relationships. The results were given in Table 4.23.

Table 4.23 Descriptive analysis of Moderation Influence of project M&E processes on Relationship between biomedical and performance of projects

Model	Value 1 (Before)	Value 2 (After)
1.R	.701[a]	.701[b]
2.R Square	.491	.491
3.Adjusted R Square	.488	.486
4.Std. Error of the Estimates	6.211	6.221
5.R Square Change	.491	.000
6.F Change	158.993	.000
7.Df1	2	1
8. Df2	330	329
9. Sig. F Change	.000	.990

a. Predictors: (Constant), Influence of project M&E processes on performance of projects, biomedical interventions

b. Predictors: (Constant), Influence of project M&E processes on performance of projects, biomedical interventions, project M&E processes x biomedical interventions

Table 4.23 indicates that biomedical interventions (independent variable) accounted for significant amount of variance (49.5%) in performance of projects (dependent variable) where R^2 square was = .495, F (2, 330) = 161.910, P value was P = 0.000 (P < .001). The conclusion was that the model could work without introduction of project M&E processes. However, introduction of project M&E processes in the model indicates that it did not account for a significant variance in the relationship as value of R square change was ΔR^2 = .000, ΔF (1, 329) = 0.043, P value was P = 0.836 (P > 0.05). It was concluded

that there was no significant influence of project M&E processes in the relationship between biomedical interventions and performance of projects.

4.5.6 Detailed Analysis of Moderation Influence of Project M&E processes on Relationship Between Structural Interventions and Performance of Projects

In order to establish the influence of M&E process on the relationship between structural interventions and performance of projects, the study sought to determine the moderation influence of M&E processes between the two variables and tested the hypothesis to establish the significance of the relationships. The results were given in Table 4.24.

Table 4.24 Analysis of Moderation Influence of Project M&E processes on Relationship between structural interventions and performance of projects

Model	Value 1 (Before)	Value 2 (After)
1.R	.699[a]	.700[b]
2.R Square	.488	.490
3.Adjusted R Square	.485	.485
4.Std. Error of the Estimates	6.227	6.227
5.R Square Change	.488	.002
6.F Change	157.418	.973
7.Df1	2	1
8.Df2	330	329
9. Sig. F Change	.000	.325

a. Predictors: (Constant), Influence of project M&E processes on performance of projects, structural interventions

b. Predictors: (Constant), Influence of project M&E processes on performance of projects, structural interventions, project M&E processes x structural interventions

Table 4.24 indicates that structural interventions (independent variable) accounted for significant amount of variance (48.8%) in the performance of projects (dependent variable) as R square change was $R^2 = .488$, F (2, 330) = 157.488, P value was P = 0.000 (P < .05) indicating that structural interventions influence on performance of projects model could work without introduction of project M&E processes. However, introduction of project M&E processes as a moderator variable indicates that it did not account for a significant variance in dependent variable as R square change value was $\Delta R^2 = .000$, ΔF (1, 329) = 0.973, P value was P = 0.325 (P > 0.05) indicating that the moderation influence of project M&E processes on the model was not statistically significant and

therefore there was no need for introducing it in the model as it had no influence on the model but acted as a constant term. On overall when hypothesis was tested at 95% level of significant, based on the values of P given in three various tests the summarized results were given in Table 4.25

4.5.7 Overall Moderation Influence of project M&E processes on the Three Relationships

Table 4.25 Overall Moderation Influence of project M&E processes on the Three Relationships

Principal's attributes as Interaction variable	R^2 change change)	P value (Sig. F
1. Behavioural interventions and performance projects	.000	.990
2. Biomedical interventions and performance projects	.000	.836
3. Structural interventions and performance projects	.002	.325
Total (Average)	**.003**	**.541**

Table 4.25 indicates that the average R^2 value was .003 and P value was P = .541 (P > 0.05). The null hypothesis was accepted and it was concluded that there is no significant moderation influence of project M&E processes on the relationship (three independent variables) behavioural; biomedical; structural interventions and performance of projects. From the three test of moderation influence of project M&E processes, it is true that project M&E processes had no moderation influence relationship.

4.6 Tests of Hypothesis

Hypothesis testing was done to establish the statistical significance of the independent variables on the dependent variable. P-values represents the confidence level at 95% or 0.05 significant level at which point a decision to confirm the hypothesis was made at values of F-ratio where $p<0.05$. The decision rule adopted was; if p-value<alpha, reject the null hypothesis and accept alternative hypothesis and if p-value>alpha, accept the null hypothesis and reject the alternative. The models in this tests focus on determining the

contribution of the independent variables being measured to the dependent variable and not the goodness of the model in explaining the phenomenon in totality. Regression models were used to test the strength of the independent variables as far as their relationship with the dependent variable is concerned. The contribution of each of the health promotion interventions to project performance was determined using the coefficient of determination. F statistics were used to test hypothesis of the study.

Table 4.26: Models for testing the hypothesis

Objective	**Hypotheses**	**Model for Hypothesis testing**
To determine the extent to which behavioural interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya	Hypothesis 1; **H1:** Behavioural interventions has a significant influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya.	$y = a + þ_1X_1 + e$ y= project performance a=constant β_1= Beta coefficient X_1= Behavioural interventions e= error term
To assess the extent to which biomedical interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya	Hypothesis 2; **H1:** Biomedical interventions has a significant influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya.	$y = a + þ_2X_2 + e$ y= Project performance a=constant β_2= Beta coefficient X_2= Biomedical intervention e= error term
To establish the extent to which structural interventions influence the performance of HIV prevention projects for adolescents in Kisumu county, Kenya	Hypothesis 3 **H1:** Structural interventions has a significant influence on the performance for adolescents in Kisumu County, Kenya.of HIV prevention projects	$y = a + þ_3X_3 + e$ y= Project performance a=constant β_3= Beta coefficient X_3= Structural interventions e= error term

To determine the extent to which policy guidelines influences the relationship between Health promotion interventions and the performance of HIV prevention projects for adolescents in Kisumu county, Kenya	Hypothesis 4: **H1:** Policy guidelines have a significant moderating influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya.	$y = a + \beta_4 X_4 + e$ y= Project Performance a=constant β_4= Beta coefficient X_4= policy guidelines e= error term
To determine the extent to which project M&E process influences the relationship between Health promotion interventions and the performance of HIV prevention projects for adolescents in Kisumu county, Kenya	Hypothesis 5: **H1:** Project M&E process, have a significant moderating influence on the performance of HIV prevention projects for adolescents in Kisumu County, Kenya.	$y = a + \beta_5 X_5 + e$ y= project performance a=constant β_5 = Beta coefficient X_5 = M&E process e= error term

4.6.10Hypothesis 1

Ho: There is no significant relationship between behavioral interventions and performance of projects.

The hypothesis aimed at establishing the influence of behavioral interventions on performance of HIV prevention projects in Kisumu County. A composite index for Performance of HIV prevention projects was used as the dependent variable where nnumber of new HIV infections recorded, number of pregnancies recorded and Frequency of service uptake were used as indicators. Behavioral interventions was measured using Level of knowledge on HIV facts, number of Information, education and communication(IEC) materials shared, quality of Evidence based interventions trainings conducted and Number of beneficiaries trained as indicators and its composite mean was used as the independent variable. .

The test was based on a linear regression model; $y = a + þ_1X_1 + e$ where

y= Performance of HIV prevention projects

a=constant

β_1= Beta coefficient

X_1= Behavioural interventions

e= error term

The results are presented in Table 4.27. The model summary show the correlation (r) and the coefficient of determination (R-square), where r = 0.639 meaning that behavioural intervention activities have a relatively strong influence on performance of HIV prevention projects at P=0.0005<0.05. The value of R squared (0.408) suggest that behavioural interventions explain 40.8% of the variation in performance of HIV prevention projects score. This means that 59.2% of performance of HIV prevention projects is explained by other factors not in the model. The Durbin-Watson statistic was 1.778, which is less than 2.0 but close enough, showing absence of autocorrelation and that the regression analysis had not violated the assumptions of correlation.

Table 4.27; Regression results of the influence of professional development in M&E on M&E results utilization

Model summaries	R	R square	Durbin Watson	Unstandardized coefficient	
				B	Std. error
	.639	.408	1.778		
(Constant)				2.657	0.105
Behavioural Interventions				0.436	0.039
F(1,181) = 124.688, p=.0005<.05					

a. Dependent Variable: Performance of HIV Prevention projects

b. Predictors: Professional Development Activities

The F ratio was significant as F (1,181) =124.688, P=0.0005< 0.05. This means that behavioural interventions had a strong and positive influence on performance of HIV prevention projects. Therefore from the results of the test above we reject the null hypothesis and accept the alternate hypothesis which means that behavioural interventions has significant influence on performance of HIV prevention projects in Kisumu County at 0.05 level of significance.

The journals reviewed did not report the variance of behavioural interventions on performance of HIV prevention projects in actual figures but the findings agrees with Ouko et al. (2002) who viewed these behavioural interventions as designed to improve performance of HIV prevention projects that leads to reduction of HIV incidences among populations. With a composite mean of 2.6153, the projects could be said to be implementing behavioural interventions to a moderate extent, which correlate to performance of HIV prevention projects at [r =.639, n=183, p=.0005<.05]. This is a high correlation which means that with more sensitization, there would be an improvement in performance of HIV prevention projects.

4.6.2Hypothesis 2

Ho: There is no significant relationship between biomedical interventions and performance of projects.

The composite index for performance of HIV prevention projects was used as the dependent variable while composite mean for biomedical interventions was used as the independent variable. The indicators of biomedical interventions were; Frequency of HIV testing and counselling service uptake, frequency of return visits by clients, accessibility of health facilities and services and availability of skilled service providers. A linear regression model; $y = a + \beta_2 X_2 + e$ was used where;

y= Performance of HIV prevention projects

a=constant

β_2= Beta coefficient

X_2= Biomedical interventions

e= error term

The results presented in Table 4.28 show the correlation coefficient r = 0.399 meaning that biomedical interventions have a moderate positive influence on performance of HIV prevention projects at P=0.0005<.05. The value of R squared = 0.159, suggesting that biomedical interventions explain only 15.9% of the variation in the respondent score on performance of HIV prevention projects and 84.1% is explained by other factors not in the model. The Durbin-Watson statistic was 2.016, showing that there was no autocorrelation.

Model summaries	**R**	**R- Square**	**Durbin-Watson**	**Unstandardized coefficient B**	**Std. Error**
(Constant)	.399	.159	2.016		
Biomedical Interventions				3.747 0.261	0.129 0.045
F(1,181) = 34.273, p=.0005<.05					

a. Dependent Variable: Performance of HIV prevention projects
b. Predictors: Biomedical Interventions

The F ratio was significant with F(1,181)=34.273, P=0.0005<0.05. This means that biomedical interventions have statistically significant influence on Performance of HIV prevention projects. From these result, we reject the null hypothesis and accept the alternate hypothesis thus concluding that biomedical interventions has significant influence on Performance of HIV prevention projects in Kisumu County at 0.05 level of significant.

These findings put emphasis on the provision of biomedical interventions in implementation of HIV prevention projects for adolescents. The respondents felt that this would improve performance of projects. If these biomedical interventions are not sufficiently catered for the project would suffer. From these findings, the study agrees with robinson (2008) who concluded that if biomedical interventions are not provided in a HIV prevention project, the rate of reduction of new incidences would be slow.

4.6.3 Hypotheses 3

Hypothesis Ho: There is no significant relationship between structural interventions and performance of HIV prevention projects.

Still using performance of HIV prevention projects in Kisumu, County as the criterion variable the significance of the influence of structural interventions was sought. The indicators for this were; Number of clients benefiting from livelihood improvement services, number of clients accessing education subsidies, quality of linkages for gender based violence and level of understanding on financial literacy by beneficiaries. The composite mean of these indicators was computed and used in the analysis. The test used linear regression model; $y = a + \beta_3 X_3 + e$ where;

y= Performance of HIV prevention projects

a=constant

β_3= Beta coefficient

X_3= Structural Interventions

e= error term

The results presented in Table 4.29 show the correlation (r) and the coefficient of determination (R-square), where r = 0.472 meaning that Structural Interventions have moderate positive influence on Performance of HIV prevention projects at P=0.0005<0.05. The value of R squared (0.222) suggest that Structural Interventions explain 22.2% of the variance of the respondent score in Performance of HIV prevention projects and 77.8% is explained by other factors not factored in the model. The Durbin-Watson statistic was 1.985, which is very close to 2, showing that there was no autocorrelation.

Model summaries	**R**	**R- Square**	**Durbin-Watson**	**Unstandardized coefficient**	**Std. Error**
				B	
(Constant)	.472	.222	1.985		
Structural Interventions				3.428	0.098
				0.270	0.038
F(1,180) = 51.483, p=.0005<.05					
a. Dependent Variable: Performance of HIV prevention projects					
b. Predictors: Structural interventions					

The F ratio for this model was significant with F (1,180) =51.483, p=0.0005<0.05. This implies that there was a statistically significant influence of Structural interventions on Performance of HIV prevention projects. From the results above, the null hypothesis was rejected and the alternate hypothesis was accepted. This means that Structural interventions significantly influence Performance of HIV prevention projects in Kisumu County at 0.05 level of significant.

4.6.4 Hypotheses 4

Hypothesis Ho: M&E processes has no moderating influence on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu County, Kenya.

The focus in this hypothesis was to see the totality of the influence of combination interventions on performance of HIV prevention projects for adolescents in Kisumu

County, Kenya. Therefore, the composite mean of performance of HIV prevention projects was used as the dependent variable and a composite index of behavioural, biomedical and structural interventions as the dependent variables. The test was done using linear regression model;

$y = a + þ_4X_4 + e$ where;

y= performance of HIV prevention projects for adolescents

a=constant

$þ_4 \ldots n$ = Beta coefficient

$X_4 \ldots .n$ = combination prevention interventions

e= error term

The results presented in Table 4.30 show the correlation (r) and the coefficient of determination (R-square), where r = 0.719 meaning that combination prevention interventions have high influence on = performance of HIV prevention projects for adolescents at P<0.0005. The value of R squared (0.517) suggest that combination prevention interventions explain 51.7 % of the variance of the respondent score in performance of HIV prevention projects for adolescents and 49.3% is explained by other factors not fitted in this model. The Durbin-Watson statistic was 1.907, which is very close to 2, showing that there was no autocorrelation.

Model summaries	**R**	**R- Square**	**Durbin-Watson**	**Unstandardized coefficient B**	**Std. Error**
(Constant)	.719	.517	1.907		
Combination prevention Interventions				3.402	0.158
				0.513	0.045
F(1,180) = 192.103, p=.0005<.05					
a. Dependent Variable: Performance of HIV prevention projects					
b. Predictors: Combination prevention Interventions					

The F ratio was significant at F (1,180) =192.103, p=0.0005<0.05. This implies that the influence of Combination prevention Interventions on Performance of HIV prevention projects was statistically significant. From these results, the null hypothesis was rejected and the alternate hypothesis accepted. Therefore conclusion was made that Combination prevention Interventions has significant influence on Performance of HIV prevention projects for adolescents in Kisumu County at 0.05 level of significance.

4.6.5 Hypotheses 5

Hypothesis Ho: M&E processes have no moderating influence on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu County, Kenya.

This hypothesis sought to establish the moderating influence of M&E processes on performance of HIV prevention projects for adolescents. Moderated influence in a regression model shows the influence of an independent variable on the dependent variable as a function of a third variable. The aim is to see how the influence of the explanatory variables changes when the moderator variable is introduced in the model. The moderate variable in this study was M&E process.

The aim was to find out how the relationship between health promotion interventions and performance of HIV prevention projects for adolescents would be moderated by M&E processes. This moderating influence was measured in terms of how the influence of the explanatory variables changes when the moderator variable is introduced. M&E processes are aimed at improving health promotion interventions for better performance of projects. M performance of HIV prevention projects was used as the criterion and the composite index of combination prevention interventions as the independent variable and M&E activities as the moderator. This was expressed in a regression model; $y = a + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_1 X_2 X_3 X_4 X_5 X_6 + e$ Where

y= performance of HIV prevention projects

a=constant

$\beta_5 \ldots n$ = Beta coefficient

X_5 = dimension of combination prevention intervention

X_6= M&E process

$X_1X_2X_3X_4X_5X_6$= represent the interaction term e= error term

Stepwise regression technique was used in order to test the influence of M&E processes on the relationship between health promotion interventions and performance of HIV prevention projects. In this, three SPSS regression models 1, 2 and 3 were used. The variables in Regression model 1 were composite means of combination prevention interventions and performance of HIV prevention projects. Model 2 used the variables in model 1 plus M&E processes with performance of HIV prevention projects being used as the criterion variable. Model 3 has all the variables in model 2 plus the interactive term. If the difference in R square in model 1 is significantly different from that of model 3, the moderator has influence.

Step one; Influence of Combination Prevention Interventions on Performance of HIV Prevention Projects

From Table 4.32 the value of R-squared in model 1 is 0.515 meaning that combination prevention interventions explain 51.5% of the variance in the score of performance of HIV prevention projects. The F ratio was F (1,178) =189.301, p=.0005<.05 showing that the model was statistically significant. The beta values for combination prevention interventions was .513 indicating that for every unit increase in combination prevention interventions, performance of HIV prevention projects increased by 51.3%. The overall Durbin Watson statistics was 1.900 which was close enough to 2 thus there was no autocorrelation.

Step two; Influence of Combination Prevention Interventions and M&E Processes on Performance of HIV Prevention Projects

After the introduction of the moderator M&E activities in Model 2, there was a significant improvement of the influence of M&E process on the relationship between combination prevention interventions and performance of HIV prevention projects. From Table 4.32 model 2, the R squared value was 0.543 meaning that combination prevention interventions and M&E process explain 54.3% of the variation in performance of HIV prevention projects. The change in R squared was 0.027, an increase of 2.7%. The F values are statistically significant (F(2,177) = 105.073,

p=.0005<0.05 showing that the influence of the independent variable and the moderator were significant in the model.

Model	R	R Square	Change Statistics						Durbin Watson
			R Square Change	df	F ratio	Sig.	F Change	Sig. F Change	
1	.718[a]	.515	.515	1,178	189.301	.000	189.301	.000	
2	.737[b]	.543	.027	2,177	105.073	.000	10.617	.001	
3	.775[c]	.600	.057	6,173	43.301	.000	6.219	.000	1.900

a. Predictors: (Constant), combined prevention interventions
b. Predictors: (Constant), combined prevention interventions, M&E processes
c. Predictors: (Constant), combined prevention interventions , M&E Processes, behavioural interventions, biomedical interventions and structural interventions
d. Dependent Variable: Performance of HIV prevention projects

Table 4.22; Regression results of the influence of combined prevention interventions, M&E processes and the interaction term on Performance of HIV prevention projects

Step three; Influence of combination prevention interventions, M&E processes and the interactive term on performance of HIV Prevention Projects

In this step, the interaction term was introduced in the model. The results under change statistics in Table 4.32 reveal that the R squared change increased by .057 from .718 to .775 when the interaction variable was added which means there is an improvement of 5.7%. The change was significant at p=.0005<0.05 therefore, the results show statistically significant relationship between the variables and the interaction term. F ratio was F (6,173) = 43.301 p=.0005<.05) showing that the model was statistically significant. The F changed from 189.301 to 43.301 showing a decrease when interaction was added indicating that the regression of combination prevention interventions and M&E processes on performance of HIV prevention projects was statistically significant.

Table 4.23; Unstandardized Coefficients of the regression models of combination prevention interventions, M&E process, the interaction term and Performance of projecs

Model		Unstandardized coefficients	
		B	Std. Error
1	(Constant)	3.405	.090
	Combination prevention interventions	.513	.037
2	(Constant)	3.051	.140
	Combination prevention interventions	.487	.037
	Behavioral interventions	.156	.048
3	(Constant)	2.418	.219
	Combination prevention interventions	.449	.036
	Behavioral interventions	.186	.046
	Biomedical interventions.	.109	.034
	Structural interventions	-.001	.036
	M&E process	.050	.040

a. Dependent Variable: projects performance of HIV prevention

The test of hypothesis shows that there is a relationship between the three variables since M&E process improves the goodness of fit in the relationship between health promotion interventions and performance of HIV prevention projects by 8.5% which is significant at 0.05 level of significant. Therefore the null hypothesis was rejected and alternate hypothesis accepted. The conclusion was that M&E processes in general moderate the relationship between health promotion interventions and performance of HIV prevention projects for adolescents based on this study.

4.6.6: Hypotheses 6

Hypothesis Ho: Policy guidelines have no moderating influence on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu County, Kenya.

This hypothesis sought to establish the moderating influence of policy guidelines on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents. The aim was to find out how the relationship between health promotion interventions and performance of HIV prevention projects for adolescents would be moderated by policy guidelines. This moderating influence

was measured in terms of how the influence of the explanatory variables changes when the moderator variable is introduced. Performance of HIV prevention projects was used as the criterion and the composite index of combination prevention interventions as the independent variable and policy guidelines as the moderator. This was expressed in a regression model; $y = a + \beta_6 X_6 + \beta_7 X_7 + \beta_7 X_1 X_2 X_3 X_4 X_5 X_6 + e$ Where

y= performance of HIV prevention projects

a=constant

$\beta_6 \ldots n$ = Beta coefficient

X_6 = dimension of combination prevention intervention

X_7= Policy guidelines

$X_1X_2X_3X_4X_5X_6$= represent the interaction term e= error term

Stepwise regression technique was used in order to test the influence of policy guidelines on the relationship between health promotion interventions and performance of HIV prevention projects. In this, three SPSS regression models 1, 2 and 3 were used. The variables in Regression model 1 were composite means of combination prevention interventions and performance of HIV prevention projects. Model 2 used the variables in model 1 plus policy guidelines with performance of HIV prevention projects being used as the criterion variable. Model 3 has all the variables in model 2 plus the interactive term. If the difference in R square in model 1 is significantly different from that of model 3, the moderator has influence.

Step one; Influence of Combination Prevention Interventions on Performance of HIV Prevention Projects

From Table 4.32 the value of R-squared in model 1 is 0.515 meaning that combination prevention interventions explain 51.5% of the variance in the score of performance of HIV prevention projects. The F ratio was F (1,178) =189.301, p=.0005<.05 showing that the model was statistically significant. The beta values for

combination prevention interventions was .513 indicating that for every unit increase in combination prevention interventions, performance of HIV prevention projects increased by 51.3%. The overall Durbin Watson statistics was 1.900 which was close

Model	R	R Square	Change Statistics						Durbin Watson
			R Square Change	df	F ratio	Sig.	F Change	Sig. F Change	
1	.718[a]	.515	.515	1,178	189.301	.000	189.301	.000	
2	.737[b]	.543	.027	2,177	101.045	.000	10.617	.001	
3	.775[c]	.600	.057	6,173	43.301	.000	6.219	.000	1.900

a. Predictors: (Constant), combined prevention interventions
b. Predictors: (Constant), combined prevention interventions, policy guidelines
c. Predictors: (Constant), combined prevention interventions , policy guidelines, behavioural interventions, biomedical interventions and structural interventions
d. Dependent Variable: Performance of HIV prevention projects

enough to 2 thus there was no autocorrelation.

Step two; Influence of Combination Prevention Interventions and policy guidelines on Performance of HIV Prevention Projects

After the introduction of the moderator policy guidelines in Model 2, there was a significant improvement of the influence of M&E process on the relationship between combination prevention interventions and performance of HIV prevention projects. From Table 4.32 model 2, the R squared value was 0.543 meaning that combination prevention interventions and M&E process explain 54.3% of the variation in performance of HIV prevention projects. The change in R squared was 0.016, an increase of 1.6%. The F values are statistically significant ($F(1,162) = 101.045$, $p=.0005<0.05$ showing that the influence of the independent variable and the moderator were significant in the model.

Step three; Influence of combination prevention interventions, Policy guidelines and the interactive term on performance of HIV Prevention Projects

In this step, the interaction term was introduced in the model. The results under change statistics in Table 4.32 reveal that the R squared change increased by .036 from .718 to .754 when the interaction variable was added which means there is an

improvement of 3.6%. The change was significant at p=.0005<0.05 therefore, the results show statistically significant relationship between the variables and the interaction term. F ratio was F (4,161) = 41.202 p=.0005<.05) showing that the model was statistically significant. The F changed from 189.301 to 41.202 showing a decrease when interaction was added indicating that the regression of combination prevention interventions and policy guidelines on performance of HIV prevention projects was statistically significant.

The test of hypothesis showed that there is a relationship between the three variables since policy guidelines improves the goodness of fit in the relationship between health promotion interventions and performance of HIV prevention projects by 6.5% which is significant at 0.05 level of significant. Therefore the null hypothesis was rejected and alternate hypothesis accepted. The conclusion was that policy guidelines in general moderate the relationship between health promotion interventions and performance of HIV prevention projects for adolescents based on this study.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of findings, conclusions and recommendations. In the summary of findings, the results and conclusions made for each of the hypothesis in the study were presented for the five research objectives. The conclusions presented in this section were guided by the research objectives and informed by the findings of analysis, interpretation and discussions of each study objectives. Based on the conclusions made, the contribution of the study to the body of knowledge was examined. Recommendations based on the results for policy and practice and for methodology as well as suggestions for further research were made.

5.2 Summary of Study Findings

In testing hypotheses of this study, Pearson's Product Moment Correlation Coefficient and Multiple Regression analysis were used. Five (5) major hypotheses were formulated and tested in the study. Two were accepted while three were rejected. In testing these hypotheses, levels of significance of F statistics and Pearson's Product Moment Correlation were considered since these relationships were linear. Where $p < 0.05$, the null hypothesis was rejected and it was concluded that a correlation model existed implying a significant relationship was established between the variables under consideration. For the strength of the established relationships, r values were considered while interpreting results. Where $r < 0.1$, meant that the relationship considered was too weak to be statistically significant. For $0.1 < r < 0.3$, the relationship was considered weak; for $0.3 < r < 0.5$, the relationship was considered moderate; and for $0.5 < r < 1.0$, the relationship was considered strong. The positive or negative sign of the 'r' values denoted the direction of the relationship under investigation.

For the 1st research objectives, one hypothesis was formulated and tested. To test the 1st hypothesis, the existence of a regression model that included the variable under investigation was considered. For H1, $r = 0.528$, P value was $= 0.000$ ($P < 0.05$. Null hypothesis was rejected and it was concluded that there was positive significant relationship between behavioral interventions and performance of projects. When the

independent variable was regressed against dependent variable it was noted that independent variable could explain up to 27.9% of variance in dependent variable (performance of projects). This was indicating that for any unit increase in independent variable a total of 27.9 units improvement would be added in dependent variable (performance of projects).

For the 2nd objectives, one hypothesis was formulated and tested. In testing this hypothesis, the existence of a regression model that included the variable under investigation was considered. The result was that 'r' value was r = 0.541, P value was P = 0.000 ($p < 0.05$) indicating that there was a positive correlation between biomedical interventions and performance of projects. Null hypothesis was rejected and it was concluded that there was a strong positive significant relationship between biomedical interventions and performance of projects. When the independent variable was regressed against dependent variable (performance of projects) it was noted that independent variable could explain up to 29.3% of variance in dependent variable (performance of projects). This was indicating that for any unit change in independent variable a total of 29.3 units improvement would be added in dependent variable (performance of projects).

For the 3rd objective, one hypothesis was formulated and tested. The result was that for H3, r = 0.520, P value was P = 0.015 ($P < 0.05$). Results indicate that there was strong positive correlation between structural interventions and performance of projects as 'r' value was 0.520. Null hypothesis was rejected and conclusion was that there was positive significant relationship between structural interventions and performance of projects. When the independent variable (structural interventions) was regressed against dependent variable (performance of projects) it was noted that independent variable could explain up to 27% of variance in dependent variable (performance of projects). This was indicating that for any unit increase in independent variable a total of 27 units improvement would be added in dependent variable (performance of projects).

For the fourth objective, one hypothesis was formulated and tested. The results were that the three independent variables were found to have strong positive correlation with dependent variable (performance of projects). For behavioural interventions, p = .049, P value was less than 0.05 as P = 0.049 ($P < 0.05$); for biomedical interventions

P = .000, P value less than 0.05 as (P < 0.05) and for structural interventions P = .105, P value is greater than 0.05 (P > 0.05) The average means of the three cases that was P value of 0.163 (P > 0.05) indicates that Null hypothesis was rejected and it was concluded that there is no significant relationship between combined independent variables and performance of projects.

For the 5th objective, three hypotheses were formulated and tested. For H_5 to H_{1d} were to establish the moderation influence of project monitoring and evaluation processes on the relationship between behavioral interventions and performance of projects; biomedical interventions and performance of projects and structural interventions and performance of projects. The 1st moderation variable was project monitoring and evaluation processes. The results for the moderation influence of project monitoring and health promotion interventions were that on the relationship between behavioral interventions and performance of projects. R^2 change was = 0.012, F (1. 329) = 7.127, P value was .008 (P < 0.05). The moderation influence on the relationship between behavioral interventions and The 1st moderation variable was project monitoring and evaluation processes. The results for the moderation influence of project monitoring and health promotion interventions were that on the relationship between behavioral interventions and performance of projects.

R^2 change value was = .030, F (1, 329) = 19.350, P value was 0.000 (P < 0.05). The moderation influence on the relationship between behavioural interventions and The 1st moderation variable was project monitoring and evaluation processes. The results for the moderation influence of project monitoring and health promotion interventions were that on the relationship between biomedical interventions and performance of projects. R^2 change value was = .006, F (1, 329) = 3.910, P value was = .049 (P < .05). While the moderation influence on the relationship between structural interventions and performance of projects. R^2 change value was = .005, F (1, 329) = 2.932, P value was = .088 (P > 0.05). The average of the three-moderation influence on the three relationships revealed that R^2 change value was .0132 and P (Significant F. Change) value was .036 (P < 0.05).

Null hypothesis was rejected and it was concluded that the strength of the relationship between behavioural interventions; biomedical interventions and structural interventions and performance of projects depend on project monitoring and

evaluation processes. It contributed up to 13.2% of the variance in the relationship. The $H5_2$ was to establish moderation influence of policy guidelines on the relationship between behavioral interventions and performance of projects; biomedical interventions and performance of projects and structural interventions and performance of projects.

The 2nd moderation variable was policy guidelines. The moderation influence of policy guidelines on the relationship between behavioral interventions and performance of projects was that R^2 change value was = .000, F (1,329) = .000, P value was = .990 (P > 0.05), the moderation influence on the relationship between biomedical interventions and performance of projects was that R^2 change value was = .000, F (1, 329) = .043, P value was = .836 (P > 0.05); the moderation influence on the relationship between structural interventions and performance of projects was that R^2 change value was = .002, F (1,329) = .973, P value was = .325 (P > 0.05). The average of the moderation influence on the three relationships revealed that R^2 change value was .003 and P (Significant F. Change) value was .540 (P > 0.05).

Null hypothesis was rejected and it was concluded that there is significant moderation influence of policy guidelines on the relationship between behavioral's; biomedical's and structural's interventions and performance of projects. It contributed up to only 0.03% of the variance in the relationship which was insignificant.

Table 5.1 Summary of Study Findings

Research Objective	Hypothesis	Table	Table No. & Page	Remark
1.To determine the extent to which Behavioural interventions influences performance of projects in HIV prevention projects for adolescents in Kisumu County, Kenya	**$H_0$1:** There is no significant relationship between behavioural interventions and Performance of projects	r = 0.528 P = 0.000 P < 0.05	Table 4.5.2 & 4.5.3	H_O Rejected
2: To assess the extent to which Biomedical interventions influences performance of projects in HIV prevention projects for adolescents in Kisumu County, Kenya	**H2:** There is no significant relationship between biomedical interventions and Performance of projects	r = 0.541 P = 0.000 P < 0.05	Table 4.5.2.1 & 4.5..2.2	H_O Rejected

3: To establish the extent to which Structural interventions influences performance of projects in HIV prevention projects for adolescents in Kisumu County, Kenya	**H3:** There is no significant relationship between structural interventions and Performance of projects	R = .520 P = 0.399 P > 0.05	Table 4.24 &4.30	H_O Rejected
4: To establish the extent to which combination of behavioural, biomedical and structural interventions influences performance of projects in HIV prevention projects for adolescents in Kisumu County, Kenya	**H4:** There is no significant relationship between combination of behavioural, biomedical and structural structural interventions and Performance of projects	P = 0.163 P > 0.05	Table 4.37	Ho accepted
5:To determine the extent of moderating influence of M&E processes between health promotion interventions and performance of projects in HIV prevention projects for adolescents in Kisumu County, Kenya	**H5**: There is no moderating influence caused by M&E processes on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu county, Kenya	R^2 = 0.132 P = 0.036 P < 0.05	Table 4.44	Ho Rejected
6: To assess the extent of moderating influence of policy guidelines between health promotion interventions and performance of projects in HIV prevention projects for adolescents in Kisumu County, Kenya	**H6**: There is no moderating influence caused by policy guidelines on the relationship between health promotion interventions and performance of HIV prevention projects for adolescents in Kisumu county, Kenya	R^2 = 0.003 P = .540 P > 0.05	Table 4.49	Ho Accepted

5.3 Conclusions

This section presents the conclusions made in the study. Consideration is made to study objectives and hypothesis that were formulated and tested to answer study objectives. In its summary, the study made the following conclusions. The first research objective in this study was to establish the extent to which behavioural interventions influences performance of HIV prevention projects for adolescents in Kisumu County, Kenya. The indicators of behavioural interventions as independent variable were evidenced based intervention trainings and indicators performance of projects as dependent variable were enrolment of beneficiaries, availability of

materials, quality of trainings and quantity of instructional facilities. For the study to answer the question which indicator was more important, regression coefficients of indicators was considered. Whereas study found out that there was positive relationship between behavioural interventions and performance of projects as 'r' value was 0.528 and it was clear that for effective performance projects need to conduct behavioural interventions in bid to improve performance of projects.

Interventions derived from behavioural science have a role in overall HIV-prevention efforts, but they are insufficient when used by themselves to produce substantial and lasting reductions in HIV transmission between individuals or in entire communities. The second research objective in the study was to establish whether biomedical interventions influences performance of projects in HIV prevention projects for adolescents in Kisumu County, Kenya. The indicators for biomedical interventions were identified to be supervision by for medical staff, availability of medical equipment. For the study to answer the question which of the indicators was more important in predicting higher variation in dependent variable regression coefficients of indicators was considered and beta values were used. When biomedical intervention regression model summary was considered, it was found that R square was 0.293 indicating that biomedical interventions as independent variable explains up to 29.3% of variance in dependent variable. It meant that even without incorporating other variables in the model, biomedical interventions was a good strategy of influencing performance of projects that HIV prevention projects for adolescents should adopt as ma measure of projects' performance.

When regression coefficients for indicators were considered, it was concluded that only two indicators significantly explained the variation in dependent variable as their beta values were 0.319 (STI screening), 0.290 (HIV testing and counselling) and - . 051 (medical equipment) which was insignificant as it P value was .478. It was concluded that projects need to incorporate HIV testing and counselling project implementation so that their positive and significant influence would improve performance of projects. The third research objective in the study sought to determine to what extent structural interventions influences performance of projects in HIV prevention projects for adolescents in Kisumu County, Kenya. The indicators for structural interventions were financial literacy trainings, cash transfer and education

subsidies provision. Through regression model summary of influence of structure interventions on performance of projects, it was found that it contributed up to 26.8% in the variance of performance of projects and it was concluded that structural interventions were key to improving performance of projects. It should therefore be incorporated in implementation for improved performance of HIV prevention projects. Further to answer the question which of the indicators was very important for the model, regression coefficients were used and standardized coefficients beta values were considered. To understand whether there were variations that could be caused by specific indicators on dependent variable, regression coefficients for indicators was examined. The result was that only financial literacy trainings as a predictor variable had significant influence on structural interventions and performance of projects with beta value of 0.500, the rest of predictor variables (cash transfer) had beta value of 0.052 and education subsidy had beta value of -.007 which was not significant. It was concluded that structural as predictor variable is key and should be incorporated in HIV prevention project implementation for adolescents

The fourth research objective in this study was to determine the extent to which performance of projects was influenced by behavioural, biomedical and structural interventions. The indicators identified in the study for combined influence of independent variables were behavioural interventions; biomedical interventions and structural interventions while for performance of projects were participation, enrolment of beneficiaries, distribution of commodities; adequacy of laboratory equipment; adequacy and accessibility to all learning-teaching materials; parents involvement; sustainability of project activities; enough support staff and sponsor of all activities in the project.

In overall study found out that the influence of combined independent variables indicated on regression model summary is that the three predictor variables predicted up to 34.8% of variance in dependent variables (performance of projects) as adjusted R square value was 0.348. The result was positive and significant. The study concluded that the three predictor variables were key tools of health promotion interventions in influencing variation in performance of projects that was the concern of this study. The application of such tools in implementation of objects is therefore enforced by this study and the implementers have what they can rely on as directed by

government policy framework to influence performance of HIV prevention projects for adolescents.

The study noted that some of independent variables contributed more to the variance in performance of projects to get this beta values for regression coefficient for independent variables were considered. The results indicates that biomedical interventions had beta value of 0.309 and P value of 0.000; behavioural interventions had beta value of 0.151 and P value of .049 while structural interventions had beta value of 0.148 and P value of 0.105. It was concluded that both behavioural and biomedical interventions were very important tools that would assist projects to control improve their performance The government and donors should also enforce law supporting the use of the two tools in implementation of HIV prevention projects for adolescents.

The fifth research objective in the study was to determine the extent to which project M&E process and policy guidelines influences the relationship between health promotion interventions and performance of HIV prevention projects in Kisumu County, Kenya. The two moderation variables were tested against four cases of relationships as were given in the study and the results were that in the first case of project monitoring and evaluation processes was significantly influencing the relationships since it had significant influence on all cases that was relationship between behavioural interventions and performance of projects its R^2 change value was 0.012 and P value was $P = 0.008$ ($P < 0.05$); on biomedical interventions its R^2 change was 0.030 and P value was $P = 0.000$ ($P < 0.05$) while on structural interventions and performance of projects its R^2 change value was 0.006 and P value was $P = 0.049$ ($P < 0.05$) It was concluded that project M&E process had positive and significant influence on the three relationships.

The second moderation variable was policy guidelines. This was tested against all the three cases of independent variables. The result was that out of three cases, it was found that it did not have moderation influence on the relationship between behavioural interventions; biomedical interventions; structural interventions and performance of projects. The conclusion is that even though it had moderation influence on the relationships, this could be improved by making policy development

participatory and using several tools of implementation at the same time so that all parts are catered for.

5.4 Study's contribution to knowledge

Although this study was based on systems theory that could be traced back to the work of Draft and Armstrong (2009) in the study of organizational theory and practice, in this study HIV prevention projects for adolescents as units of analysis were used as an organization that was a system in itself and had supra systems that were to function in totality as systems under specific control mechanisms (management team) to achieve improved performance of projects. The study findings reveal that projects as organizational units did not have operational system where both forward and backward linkages could operate sufficiently to facilitate project implementation systems flow. Although only major stakeholders in the system were used as independent variables, their specific functions and operations did not influence much of the operation of others meaning supra systems were not ideally in operation.

Whereas study sought to know the relationship between behavioural interventions and performance of projects, it was very difficult to identify working indicators for beneficiaries in this study and as a result of this study has been confirmed that for policy issues project implementers need to utilize school settings to source for important information so that performance of projects can improve. It has been identified as one of the very few interventions that can work in any HIV prevention projects especially in adolescents centred projects to source for relevant information for improvement and policy implementation.

In the case of biomedical interventions, they were found to contribute significantly to performance of projects. It was noted that the beneficiaries preferred having all services 'under one roof' as compared to referrals to general health facilities. Availability of youth friendly service providers for biomedical services was also considered to be a contributor in increasing uptake of services by the beneficiaries at the project sites. On the issue of structural interventions, the study found out that they contributed significantly to the variance in performance of projects and this was supported by support supervision as the key indicator in providing important

information for analysis. This was a new knowledge for the study as the study ruled out many other variables that were not significant. This confirmation would support betterment of the livelihoods of beneficiaries and their households through cash transfers, financial literacy trainings and education subsidies provided. For policy and practice, it would enable governments to enact laws to protect adolescents and to include their role in improving performance of projects.

The Study confirms that project M&E processes had moderation influence on the relationship between behavioural interventions and performance of projects; biomedical interventions and performance of projects and structural interventions and performance of projects. This was a new knowledge for the study that needed to be registered to the body of knowledge of monitoring and evaluation processes. This is because in the literature reviewed, there was minimal emphasis on the role of project M&E processes in the study of these interventions Further it was found out that monitoring and evaluation processes were key to improving the performance of projects as it was found to have had significant variance on all the three cases of relationships that were tested and this was a bit special for this study. This was a new knowledge for this study.

5.5 Recommendations

This section presents recommendations made in the study based on the research findings, analysis, interpretation and discussion. The recommendations given are meant for policy, to confirm theory and practice in any relevant discipline that could share statements and policies as developed through studies as well as project implementers

5.5.1 Recommendations for project managers and M&E practitioners.

The research firstly noted that

1) Research and programme agendas need to move beyond intervention studies at the individual level, especially those using approaches based on cognitive theories, and explore other potentially more potent approaches to behavioural change. This study therefore recommends a combination approach on adoption of various categories of interventions to optimize on their combined effectiveness. Families

are clearly important in HIV risk, in addition to HIV transmission between partners, parents to children, and infections resulting from home-based care activities. A series of studies on problem behaviours in adolescents in the Kenya have documented the important role that families have in promotion of a variety of health-promoting and HIV-associated risk reduction strategies in adolescents. Specific strategies that focused on communication between parents and adolescents have shown efficacy in reduction of problem behaviours. Family-based interventions in Kisumu for parents with HIV infection have been efficacious in reducing emotional distress and problem behaviours in adolescents in such families. This study therefore recommends more involvement of parents and families of beneficiaries in implementation of the program.

2) Lastly but not least, the study results showed that that new motivational models, beyond those based on various methods of persuasive communication, are needed. One example involves the use of economic incentives, cash, or other benefits transferred to individuals or families on the completion of publicly observable behaviours that support prevention or treatment. Financial incentive strategies have been used quite successfully in different regions to decrease stimulant addiction and in Mexico to improve child health and education. Experiments are underway in South Africa to establish the effect of conditional cash transfers on child and family wellbeing, and programmatic efforts are underway in New York City (USA) to assess the benefits of cash incentives for successful completion of high school. Barnett and Weston postulate that these types of interventions, as well as microfinance and other economically-based approaches, work by increasing predictability and thus hope for the future, leading to decisions that enhance health. These types of interventions are but one example of innovative thinking in behavioural change. This study therefore recommends exploration of new persuasive methods such as conditional cash transfer to encourage students to stay in school by supporting their livelihoods.

5.5.2 Recommendations for policy makers

It is recommended that:

1) Management information system be established at county level for learning and managing knowledge which will be instrumental in informing policy development at the national level.

2) There is also a need to establish an independent monitoring and evaluation department in the counties with a primary focus on health promotion interventions so as to build the capacity of project implementers especially in the counties with high HIV prevalence.

5.6 Suggestions for further studies

Performance of HIV prevention projects among adolescents was examined using the selected interventions and M&E processes. From the study, it was perceived that to a large extent, specific interventions, have contributed to good project performance in Kisumu County yet in previous studies, the variables had not been considered as performance factors. The study is based on cross sectional research design which means that data was collected at one point in time; future research can use longitudinal research design to determine the long term effect the interventions being studied.

From the interviews and focused group discussions, it was clear that all those involved in the implementation of projects, were of the view that information collection need to be participatory rather than the collaborative approach. There is therefore need to carry out a study to show the benefits of participatory data collection and use of M&E information and the extent to which such information is used to influence performance of projects.

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APPENDICES

Letter of Introduction

Anthony Ndungu
P.O. Box 10498-00100
NAIROBI.

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Dear Sir/madam,

RE: A REQUEST TO CARRY OUT RESEARCH

I am a PhD candidate in the University of Nairobi, pursuing the award of PhD in Project Planning and Management, monitoring and evaluation specialization. I am conducting a research on health promotion interventions, project monitoring and evaluation mechanisms, policy guidelines on performance of HIV prevention projects for adolescents in Kisumu County, Kenya.

Your organization has been selected to be part of this study. I humbly request you to allow me to collect data from your employees. I would also request that you grant me time for an interview and/or allow me access to your project reports, M&E plan and curriculums used in your organization. The information being sought is meant for research purposes only and would not be used against anyone. Your responses was treated in a confidential manner. No name of individuals or business enterprise is needed from the respondents.

Thank you in advance.

Yours faithfully

Anthony Ndungu

Questionnaire for Adolescents

The information being sought in this questionnaire is meant for educational research purposes only and will not be used against anyone. Your responses was confidential. No name of individuals or organization is needed from the respondents. Please answer truthfully following instructions for each question. Thank you in advance.

This research instrument uses a point five (5) Likert scale with the values given as follows

Strongly Agree (SA) =5; Agree (A) = 4; Neutral (N) =3; Disagree (D) =2; Strongly Disagree (SD) =1

Using this information, answer the questions that follow. Follow instruction as given.

FOR OFFICIAL USE ONLY
DATE OF INTERVIEW:
TIME OF INTERVIEW:

1.0	**BACKGROUND INFORMATION**					
	INSTRUCTION : ***Tick or write down appropriate answer that correspond to your opinion***					
1.1	How old are you?	10 – 14 ( ), 15 – 19 ( ), 20 and above				
1.2	State your sex	Male ( ), Female ( )				
1.3	What is your level of education?	Primary ( ), Secondary ( ), Tertiary ( )				
1.4	What is your marital status	Married ( ), Single ( )				
1.5	How long Since you joined the program	1-3 months ( ) 4-6 months ( ) Above 6 months ( )				
	BEHAVIOURAL INTERVENTIONS	**SA**	**A**	**N**	**D**	**SD**
2.1	EBI trainings are comprehensive					
2.2	The sessions gives time for peer interactions					
2.3	There is a procedure for participants to give feedback that participants are comfortable with					
2.4	Training facilitators are knowledgeable about the topics being covered.					
2.5	Items such as condoms are accessible to participants at all times					
2.6	The training involves use of audio visual aids to help participants understand concepts better for example. video screening sessions					
2.7	Participants are introduced to community resource centres where they can easily seek help or obtain services for example. counselling centres, police station, children's office among others.					
2.8	The training area has restricted access to					

	provide a good learning environment for participants					
2.9	Session on drugs and substance abuse are conducted for all primary beneficiaries of the project and linkage to drugs abuse support systems is provided					
2.10	Training location is easily accessible to participants.					
	FOR OFFICIAL USE TOTAL					
	BIOMEDICAL INTERVENTIONS	**SA**	**A**	**N**	**D**	**SD**
3.1	HIV testing and counselling services(HTS) are easily available to beneficiaries					
3.2	HTS sessions are carried out in confidentiality					
3.3	The project has a linkage procedure that links those who test HIV positive to care and treatment					
3.4	Age appropriate participant are sensitized on use of post exposure prophylaxis (PrEP).					
3.5	PrEP drugs are easily available at the project service centres					
3.6	All beneficiaries are sensitized on use of post exposure prophylaxis (PEP) in case of occurrences that expose them to HIV virus such as rape					
3.7	Screening of STIs and treatment is accorded to project primary beneficiaries					
3.8	Biomedical services are provided by qualified medical practitioners					
3.9	The project provides channels to monitor feedback on side effects of PrEP					
3.10	Biomedical services offered by the project are affordable					
	FOR OFFICIAL USE TOTAL					
	STRUCTURAL INTERVENTIONS	**SA**	**A**	**N**	**D**	**SD**
4.1	Cash transfer process is transparent					
4.2	Education subsidy provision is on highest need basis					
4.3	Financial capabilities training is provided to age-appropriate beneficiaries as specified in the curriculum.					
4.4	Enterpreneurship training is provided to age appropriate beneficiaries in accordance to the requirements of the curriculum being utilized					
4.5	Needs assessment is conducted for individuals and households to determine their vulnerability and appropriateness to receive services under this intervention					

4.6	The project provides an intervention targeting parents of adolescents on skilful parenting					
4.7	Trainings are comprehensive					
4.8	The project ensures sustainability of its activities after project period ends for example linking established financial groups to micro finance institutions.					
4.9	The project monitors school performance for beneficiaries of education subsidies					
4.10	All resources provided by the project are distributed equitably					
	FOR OFFICIAL USE TOTAL					
	MONITORING PROCESS	**SA**	**A**	**N**	**D**	**SD**
5.1	Tools for data collection are standardized for example. registration lists					
5.2	M&E staff are well skilled					
5.3	Project data is handled with confidentiality					
5.4	Project administration conducts routine supervision on training sessions.					
5.5	Longitudinal data of beneficiaries status is kept by the project					
5.6	There exists an M&E plan for the project.					
5.7	There is evidence of meaningful dissemination of information					
5.8	The project provide a feedback mechanism for project beneficiaries to give feedback					
5.9	The referrals made to other resource centres are well documented from the project office and the link facility					
5.10	The project keep contact with participants after completion of sessions whether in school or out of school to document possible effects of training on them					
	FOR OFFICIAL USE TOTAL					
	POLICY GUIDELINES	**SA**	**A**	**N**	**D**	**SD**
6.1	Trainings adhere to the curriculum provided by national governing bodies such as NASCOP					
6.2	Trainings are facilitated by qualified trainers					
6.3	While providing biomedical services, does the service providers adhere to national guidlines such as not disclosing test results					
6.4	Donor policies such as ban for funding particular activities interferes with the running of the Project.					
6.5	Government policies on projects aligns with Project policies specified by donors without affecting Project performance					

6.6	Project implementers are bound by the universal child protection policy					
6.7	The project has distinctive role on HIV prevention that does not conflict with political advocacy					
6.8	Data collected in the project is under the scope of national statistics body under conformity of specified procedures.					
6.9	National bodies representatives provide support supervision during project activities					
6.10	Regulation on distribution of medical equipment affects project performance.					
	FOR OFFICIAL USE TOTAL					
	PROJECT PERFORMANCE	**SA**	**A**	**N**	**D**	**SD**
7.1	The activities I have participated in the project has met my expectations					
7.2	Project activities has kept me away from vulnerabilities of contracting HIV					
7.3	The project has changed my economic livelihood					
7.4	Through my interaction with the project I have learnt new facts about HIV transmission, treatment and prevention					
7.5	I intend to confidently share my experiences and lessons from the program with my peers					
7.6	More of my peers are accessing HTS services after introduction of the project than before					
7.7	Gender roles and responsibilities are well explained in the program					
7.8	There was no favouritism in choosing project beneficiaries					
7.9	My parents and family are aware of the activities that I participate in the project					
7.10	The project ensures sustainability of its project endeavours after the project period has ended. For example. by linking beneficiaries to other ongoing projects					
	FOR OFFICIAL USE TOTAL					

Key Informant Interview Guide

The purpose for this interview is to collect information on the influence of Health promotion Interventions, monitoring & evaluation process and policy guidelines on performance of HIV prevention programs in Kisumu County. The information collected was used for academic purposes only and it is expected that the findings from this study will make a significant contribution towards enhancing service delivery in Government Ministries in Kenya. The information collected was handled with confidentiality and with academic professionalism. Kindly assist with the interview.

Section A: Demographic Information

1) What is your Highest Level of Education?

_____

_____

_____

2) How long have you worked in this department?

_____

_____

_____

3) How long have you worked in the Non Profit making sector?

_____

_____

_____

Section B: Specific Information

1) Has the performance of your project been satisfactory (Since Jan 2017)?

_____

_____

_____

2) What are the indicators of performance in your project?

_____

_____

_____

3) How would you rate beneficiaries' satisfaction in your project?

_____

_____

_____

4) How would you rate staff satisfaction in your department?

_____

_____

_____

5) Do you consider service delivery of the biomedical intervention satisfactory in your project?

_____

_____

_____

6) How would you describe the success rate of the behavioural intervention implementation in your project

_____

_____

_____

7) To what rate of success has structural interventions been implemented in your project so far?

_____

_____

_____

8) How effective is the monitoring & evaluation process in the implementation of your project

_____

_____

_____

9) How has donor and government policies influenced implementation of your project?

_____

_____

_____

Focus Group Discussion Guide For Adolescents

Introduction to FGD Sessions

We would like to thank you all for coming today. My name is Anthony Ndungu from the University of Nairobi. I am conducting a study on Influence of Health promotion interventions, monitoring & evaluation process and policy guidelines on performance of HIV prevention programs among adolescents in Kisumu County. Some of the topics we are going to discuss level of education, economic status, I am particularly interested in how people perceive HIV prevention programs in this region. I feel by talking to people like you we can best find out about practices, opinions and feelings about these issues in order to help us improve on health information and health services in our country. There are no wrong or right answers. We are interested in your views, so please feel comfortable to say what you honestly feel. I have a list of topics I would like us to talk about but please feel free to bring up any other issues you feel are relevant.

During the discussion, my colleague was taking notes to keep track of what has been covered, and to remind me if I forget to ask certain things. However, so that s/he does not to have to worry about getting every word down on paper, we will also record the discussions on tape. Please, do not let that worry you. The tapes and written material was kept safe and not shared outside the research team. After writing our report, all the tapes and written notes was erased, so no one will know who said what. Regarding the language, we want you to feel comfortable throughout the talk, so please just use the language that you use when you chat with friends. Finally, please try to let everyone have a turn at saying something, since all your views are important, and please try to keep the talk within the group.

The discussion is confidential. Are there any questions? Please may we begin

Ice-breaker

The participants were asked to introduce themselves (first names only), their level of education and what they do.

1. Are you familiar with HIV prevention programs that targets adolescents in your region? Name the ones you know
2. What is your experience participating on such programs?
3. What are your feelings, views and opinions about such initiatives?
4. Would you recommend for your peers to join such programs
5. What are the challenges that you may have experienced or heard about that would hinder young people from participating in such projects
6. Do you believe that such initiatives are capable of addressing behavior change among adolescents in your region.
7. Are the service provided in these projects adolescent friendly

Thank you for your participation in this exercise.