

The Relationship between Vicarious Experiences and Self-Efficacy in Condom use among Adolescents in Tanzania

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Abstract

Inadequate condom use among adolescents is a health and behavioural concern across countries. Adolescents are largely vulnerable to sexually transmitted diseases and early pregnancies. However, little attention has been paid to studying the factors that are associated with self-efficacy in condom use among adolescents. The study presents results on the relationship between vicarious experiences and self-efficacy in condom use among adolescents in Tanzania. The study applied a quantitative approach using a sample of 552 respondents from two districts of Mpanda and Njombe in Tanzania. The data were collected with questionnaires, and the analysis used independent t-test and Spearman's rank-order correlation coefficient. The results revealed a positive and statistically significant relationship between vicarious experiences and self-efficacy in condom use among adolescents ($r=.462$, p value $=.001$). It was also revealed that girls had higher condom use self-efficacy than boys ($M=6.75$, $SD= 2.88$), $t=3.691$, $df=550$, p value $=.001$). It is, thus, recommended that health behavioural change programmes such as condom use, targeting adolescents, should encourage the use of vicarious experiences such as peer

educator programmes and TV/radio ads. That could help strengthening the use of condom, and it is practically effective in preventing HIV/AIDS and early pregnancies. It is further recommended that such programmes be packaged differently for boys and girls.

Keywords: Vicarious Experiences, Self-efficacy, Condom Use, Adolescents

Introduction

Condom use among adolescents is a global concern as adolescents comprise a vulnerable group with regard to sexually transmitted diseases and early pregnancies (World Health Organization (WHO), 2014). Adolescents are expected to use condoms because condoms have proved to produce positive health outcomes (Shariati et al., 2014). Among other sexual and reproductive health services offered to adolescents, condom use is now recognized within the international arena as an effective and essential strategy for HIV/AIDS prevention and early pregnancies (Folayan & Ezeanolue, 2016; Mugisha et al., 2011). In addition, the WHO has identified inadequate access to condoms among adolescents as a contributing factor to AIDS-related adolescent deaths, most of which occur in sub-Saharan Africa (WHO, 2019). Studies among the African counties have also shown that even when adolescents are aware of HIV/AIDS, the majority do not use condoms as expected (Dirar et al., 2013; Fikadie et al., 2014; Mugisha et al., 2011; Ntsepe et al., 2014; Peltzer et al., 2013). A study by WHO (2014) has shown that condom use helps adolescents reduce their risk of contracting HIV/AIDS and getting pregnancies. However, the available literature indicates that many adolescents in sub-Saharan Africa still underutilise condoms (Ferrand et al., 2010; United Nations Population Fund, 2015).

The WHO estimates that every year, approximately 16 million girls aged 15-19 years and one million under 15 years give birth, with the majority coming from low and middle income countries encounter unplanned early pregnancies (WHO, 2014). Recent data have also indicated that young men and women aged 15–24 represent almost 50 percent of all newly acquired STIs worldwide (International Planned Parenthood Federation, 2020). Moreover, the 2018 data estimated that adolescent birth rate globally was 44

births per 1,000 girls aged 15–19 years, with the highest rates of 115 births per 1,000 occurring in west and central Africa (UNICEF, 2020). In regard to HIV/AIDS, it was estimated that 2.1 million adolescents were living with HIV/AIDS in Africa in 2012, among whom approximately two-thirds of all new infections were girls from sub-Saharan Africa (UNICEF, 2013). The aforementioned statistics suggest that the problem of HIV/AIDS, early and unplanned pregnancy in Africa is a matter of serious concern. Apparently, the underutilisation of condoms exposed adolescents to unwanted pregnancies and sexually transmitted infections (STIs), including HIV/AIDS (Urassa et al., 2018).

Some studies conducted in Tanzania also report underutilization of condoms among adolescents, whereas less than a third of them reported using a condom at their first sexual intercourse (Exavery et al., 2011; Jeckoniah, 2018; Mrema, 2015; Sanga et al., 2015). This implies that despite the high vulnerability among adolescents to HIV/AIDS infection and pregnancies, condom use is significantly lower, including at the time of sexual debut. A report from the Tanzania Ministry of Health and Social Welfare (2014) also revealed that among adolescents aged 10–19 years showed that more than 60 percent of those who reported to have had multiple sexual partners in the previous year did not use a condom. Similarly, TDHS-MIS (2015-2016) indicates that condom use is low since only 37 percent in adolescent girls and 35 percent in adolescent boys aged 15-19 years used condoms. This evidence is supported by studies carried out by Jeckoniah (2018) and Mrema (2015), who also reported that a small number of adolescent populations have access to condom, amounting to about only 40 percent of the country's total adolescent population.

Notably, self-efficacy in condom use can be defined as a person's confidence in his/her ability to purchase condoms, negotiate and use condoms during sexual intercourse (Asante & Doku, 2010). Additionally, literature has revealed that self-efficacy in condom use is an important determinant of condom use and intention to use condoms (Closson et al., 2018; Kwok et al., 2010). Specifically, it is established that adolescents who have a high sense of self-efficacy in condom use are likely to use condoms, while those who have low condom use self-efficacy are less likely to use condoms (Kwok et

al. 2010). Literature has also revealed the differences in the prevalence of condom use behaviour between boys and girls (Singh et al., 2000). This suggests that understanding sex differences is vital for developing appropriate sexual and reproductive health programmes that promote condom use among adolescents. A study by Mehra et al. (2014) revealed an association between low condom self-efficacy among girls who were found to be at a higher risk of inconsistent condom use.

Previous studies have also shown that increasing adolescents' condom self-efficacy promotes condom use and leads to low pregnancy rates, STIs, and HIV/AIDS risk reduction (Coffman et al. 2011; Free et al. 2011). This suggests that increasing adolescents' self-efficacy on condom use remains an important suggestion for improving condom use among adolescents. In addition, condom use is influenced by a range of socio-cultural and contextual factors including attitude, self-esteem, motivation, subjective norms, self-efficacy, stigma and discrimination, cultural and values, knowledge, and awareness. However, studies on adolescents' reproductive health empirically and consistently showed that self-efficacy as a construct of social cognitive theory played an important role in adolescents' condom use (Miller et al., 2019; Binu et al., 2018; Tlaye et al., 2018; Mahat & Scoloveno, 2010).

The practice of health behaviour and diseases prevention among adolescents is supported by various theories, including Hochbaum and Irwin Rosenstock's Health Belief Model (Strecher & Rosenstock, 1997), Leon Festinger's Cognitive Dissonance Theory (1962), Ajzen and Fishbein's Theory of Reasoned Action (1980; 1988, 1991) which in 1988 was extended to the Theory of Planned Behavior (1988, 1991), Ajzen and Fishbein's Integrated Behaviour Model (1970), Bandura's Social Cognitive Theory (1986, 1997) and protection motivation theory by Maddux & Rogers (1983). All of these theories seek to interpret or analyse health behaviours at the individual level, where the behaviour is independent of others' overt actions. Bandura's (1986, 1997) Social cognitive theory, on the other hand, is noticeably different among this group of theories. The theory comprehensively explains human functioning by appreciating the interplay between personal factors, environmental factors, and behaviour.

The construct of self-efficacy as an important factor in human behaviour was extensively explained in Bandura's Social Cognitive Theory (Bandura, 1997). The theory is based on the assumption that self-efficacy serves as a strong predictor of behaviour (Ezer et al., 2019; Meadows, 2018; Bandura, 1997). Self-efficacy beliefs are cognitions that determine whether health behaviour change will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and failures (Bandura, 1997, 1986). Thus, self-efficacy is an important and significant factor in human psychological functioning because it influences the way people feel, think, and act.

Bandura (1997, p. 37) defined self-efficacy as “an individual's personal belief in their capability to perform a particular behaviour”. Bandura adds that the construct is concerned not with the number of skills, knowledge, attitudes or resources that people have, but rather with what they believe they can do with what they have under various circumstances. Bandura's theory of self-efficacy is grounded on the following premises: first, individuals are not only reactive to external influences but are also proactive and able to self-regulate. In other words, individuals become both products and producers of their environments. The self-efficacy theory provides a framework for understanding, predicting, and changing human behaviour. Secondly, the key argument on the role of self-efficacy beliefs in human behaviour is that “*peoples' level of motivation, affective states and action are based on what they believe than what is objectively true*” (Bandura's 1997, p. 2). In the context of adolescents, the belief in condom use can often be better predicted by the beliefs they hold about their capabilities to use a condom than what they are actually capable of accomplishing. Thus, self-efficacy helps determine what adolescents will do with their knowledge and skills about condom use. The theory helps to link what the notion of self-efficacy entails concerning condom use as part of sexual and reproductive health services and why adolescents' condom use is low even when they have similar knowledge and skills.

Based on the self-efficacy theory, self-efficacy of an individual can be determined in four main sources which are mastery experience, vicarious experiences, verbal persuasion, and physiological and emotional states. Thus,

in the concept of vicarious experience as sources of self-efficacy, Bandura contends that individuals develop their self-efficacy beliefs by observational learning. This source of self-efficacy is weaker than mastery experience in developing self-efficacy beliefs, but when individuals are not sure about their abilities or when they have limited prior experience, they become more strong, sensitive and important to vicarious experiences. Bandura (1977) further posits that people tend to imitate those who appear mostly like them, referring to them as social role models, including parents, peers, and TV/ads. The more a person observes another similar person behaving in a certain way, the more likely they will repeat that behaviour (Bandura, 1986, 1997).

Previous research has also shown that vicarious experience is one of the strongest predictors of one's self-efficacy on condom use (Abigail et al., 2013; Asare & Heights, 2015; Fikadie et al., 2014; Olumide & Ojengbede, 2016). For example, a study carried out in the United States of America by Asare and Heights (2015) found that a vicarious experience was a significant predictor of the participants' intentions to use condoms (p value=.001). In the same vein, a study conducted in rural South Africa by Abigail et al. (2013) found that boys' perceptions of male peer behaviour were associated with condom use self-efficacy ($r=.480$, p value= 0.01). Likewise, Olumide and Ojengbede (2016) in Nigeria found that television programmes related to condom use had a strong association on adolescents' condom use. This indicates that through television ads as an observational learning tool, adolescents often sought information on the television programmes related to condom use, and were motivated to imitate the behaviour. However, the findings of these studies contradict with the studies conducted in Asia and Nigeria by (Babalola et al., 2018; Habibov & Zainiddinov, 2017). For example, the study conducted in Asia by Habibov and Zainiddinov (2017) on the effect of TV and radio ads on condom use found no significant relationship on condom use among adolescents (p value= .089). These results concur with the study done in Nigeria by Babalola et al. (2018) on the assessment of the effectiveness of peers, adults and television and radio programmes on condom use in Nigeria which found no relationship between observational learning and condom use (p value= .072). The implication is that, while vicarious experiences have a significant association on

adolescents' condom use in one context, it may not be the case in a different context. The data are also controversial, and there are no consistent results about the association between vicarious experiences and adolescents' self-efficacy in condom use.

Overall, the foregoing review pinpoints three limitations about the relationship between adolescents' vicarious experiences and self-efficacy in condom use that warrant further investigation. First, most of the studies on adolescents' condom use that have been carried out in Tanzania and other parts of the world mainly focused on socio-cultural and contextual factors toward condom use among adolescents. Second, studies on self-efficacy have been conducted in Tanzania but mostly focusing on the relationship between students' self-efficacy and academic achievement, career choice, sports and physical activities (Amani, 2018; Hofman & Kilimo, 2014; Raphael & Mtebe, 2017). Third, there is existing little and inadequate information regarding vicarious experiences as source of self-efficacy and adolescents' condom use. Given these limitations, there is a need for an empirical study to be conducted in Tanzania to inform about the relationship between vicarious experiences as source of self-efficacy and adolescents' self-efficacy in condom use. This paper reports findings on the relationship between adolescents' vicarious experiences and self-efficacy in condom use. The findings are presented based on two hypotheses. First, there is no statistically significant difference between boys and girls in self-efficacy in condom use; second, there is no statistically significant relationship between vicarious experiences and self-efficacy in condom use among adolescents in Tanzania.

Methodology

The study was conducted in Katavi and Njombe Regions. The selection of the two regions was based on the prevalence rates of teenage pregnancy and HIV/AIDS compared to other regions in the country based on data provided by the Ministry of Health, Community Development, Gender and Children (2017) and TACAIDS (2018). Katavi Region had the highest prevalence rate of teenage pregnancy in the country, with 45.1 percent of teenage girls aged 15-19 compared to the overall prevalence rate of adolescents' pregnancies of 27 percent in the country, followed by Tabora (42.5%), Morogoro (38.6%), Dodoma (38.5%), Mara (37.5%), Mbeya (37.4%) and Shinyanga (33.5%).

Similarly, the data also indicate that the Njombe Region had the highest HIV/AIDS prevalence of 14.8 percent in Tanzania among adolescents aged 14-24, followed by Iringa (11.3%), Mbeya (9.3%), Mwanza (7.2%) and Pwani (5.5%) (TACAIDS, 2018). Specifically, the study was conducted in Njombe and Mpanda Districts. The researchers purposively selected the districts because of the following reasons; firstly, the districts had the highest teens' pregnancy and HIV/AIDS prevalence rates in Tanzania (Ministry of Health, Community Development, Gender and Children, 2017; TACAIDS, 2018). Secondly, the two districts had secondary schools that implemented programs on HIV/AIDS at schools with trained teachers who were teaching sexual and reproductive health education in schools (Basic Education Statistics in Tanzania [BEST], 2020).

The paper employed a quantitative research approach. The choice of this approach is supported by Johnson and Onwueghuzie (2004) and Creswell (2009) who stated that a quantitative approach to research collects and analyses numerical data to establish the relationship between independent and dependent variables. The approach enabled the researchers to test research hypothesis, which was done quantitatively in examining the relationship between adolescents' vicarious experiences and self-efficacy in condom use by using standardised questionnaires as a data collection method (Cohen et al., 2011). The numerical data made it possible for the researchers to draw conclusions on whether the vicarious experiences associated with adolescents' self-efficacy in condom use or not. Therefore, the quantitative approach was a necessary aspect for achieving the research objectives of this study, which were primarily focused on establishing relationships between variables. The population size was 1,020, including 488 and 572 students from Mpanda and Njombe Districts, respectively. The researchers applied Cohen et al.'s (2011) sample size statistical table to determine the sample size for the study from the study population. The table suggests that for a population size ranging from 1,000 to 1,999 with a sampling error of 5 percent and confidence level of 95 percent, the sample size should be 278.

With regard to the Cohen's statistical table, the actual sample size was 278, but the number has increased to 716. This was based on the recommendation by Cohen et al. (2011) that in most social sciences studies. Thus, if different

strata are to be used, then the requirements used in the study population may also apply to each subgroup or strata (Cohen et al., 2011). In this case, researchers decided to use schools as strata to arrive at a good sample size so as to improve the test's statistical power rather than the whole population of the study.

For that reason, from each school population, the researchers applied Cohen et al. (2011) sample size statistical table to determine the sample size for the study. Therefore, the sample of the study included a total of 716 students who were selected from 11 schools. Out of them, 407 were respondents from the Njombe District, and 309 were adolescent students from the Mpanda District.

A total of 11 secondary schools were selected in a sequence of four main steps. First, researchers requested and obtained the list of all secondary schools from the district education office in each of the two districts. Second, from the list of schools, researchers, with the assistance of District Education Officers, identified all schools that provided education on sexual and reproductive health, and with trained teachers who were teaching sexual and reproductive health education. After that, five privately owned and six publicly owned schools were selected through stratified sampling. The schools were stratified on the basis of their ownership (private and public) and gender composition of the students (single-sex or co-education). These selection criteria for schools were used on the basis of the insights obtained from the literature review (Mathews et al. (2016). Specifically, the reviewed literature established that students' experiences, maturity and perception on condom use differed based on their sex and class level or level of education.

In the selection of actual student respondents to participate in the study, stratified and simple random sampling were used to select secondary school adolescent students from Form III to VI, each in a separate class. Therefore, before conducting simple random sampling, the researchers employed stratified sampling to get demographic characteristics based on the information needed in the study. The stratification was based on gender and class levels. Then from each stratum, the required number of participants was randomly selected. The random selection was achieved by assigning numbers on special cards; the special cards had numbers ranging from 30 to 40 that

were having numbers from 30, 31, 32, 33, 34, 35, 36, 37, 38, 39 and 40. To select the respondents, researchers gave the cards to the students and asked them to pick the cards as random as per the sample size required for both boys and girls students in each class. Those students whose cards had even numbers 32, 34, 36, 38 and 40 were selected for the study.

The study employed questionnaire as a data collection tool. The questionnaire was used in this study as a versatile and effective way of gathering information like attitudes, feelings, experiences and beliefs about condom use directly from respondents (Estacio et al., 2011). The private nature of sexual behavior presents with significant religious, moral, and cultural constraints for participants to report sexual information by using interview of focus group discussion (Fenton et al., 2001; Sue & Sue, 2008). Thus, researchers decided to use the questionnaire because in most African culture it is commonly believed that it is a taboo to talk about sexual matter when you are a student.

The information on vicarious experiences was collected using a questionnaire adapted from Music Performance Self-Efficacy Scale (MPSES) developed by Zelenak (2010). The items for vicarious experiences were developed to reflect Bandura's (1986) sources of self-efficacy. Coding and data entry were done as qn1, qn2 qn3 qn4, qn5, to qn6. During analysis, the items were transformed into two levels, high and low, to simplify interpretation and discussion of the results (Field, 2014). For vicarious experiences scale, the total score was calculated for all 6 items measuring adolescents' vicarious experiences in condom use. The minimum score was 6 and the maximum scale score was 24. All the respondents who scored 6-12 were considered to have high level and those who scored 13-24 were considered to have low level vicarious experiences in condom use

The information on adolescents' condom use self-efficacy was collected using the Condom Use Self-Efficacy Scale (CUSES), adapted from Brafford and Beck (1991). This scale is a tool for measuring an individual's degree of belief that they can successfully engage in particular health behaviours, and several researchers have widely used it (Brafford & Beck, 1991; Brien et al., 1994; Mahoney et al., 1995). The respondents were prompted to indicate their confidence in their capability in the utilisation of condoms in four Likert scale

levels; 1 = *strongly agree*, 2 = *agree*, 3 = *disagree*, and 4 = *strongly disagree*. Data were coded and entered as qn1, qn2 qn3 to qn12. During data analysis, the total scale score was calculated after reversing the item 12 which was positively worded.

Thirty (30) students from private schools and 30 from public schools took part in the pilot study. The data obtained from the pilot study were first entered into the SPSS Version 25. Thereafter, the confirmatory factor (CFA) analysis was conducted using SPSS to determine whether or not the data generated from vicarious experiences as sources of self-efficacy were consistent with the Bandura's proposed model. In addition, the methods and techniques used in the current paper have been used in previous analyses of sources of self-efficacy scales (Lent, Lopez, & Bieschke, 1994; Matsui, Matsui, & Ohnishi, 1990; Usher & Pajares, 2006, 2009; Zelenak, 2010) to provide evidence on the validity of the scale.

During the analysis of CFA, four indices, namely the Root Mean Square Error of Approximation (RMSEA), Root Mean Square Residuals (SRMR), Goodness of Fit Index (GFI), and Comparative Fit Index (CFI) were presented as fit statistics. The Root Mean Squared Error of Approximation (RMSEA) values below .10, and the Root Mean Square Residuals (SRMR) values below .05 are accepted as regular fit values. Moreover, the Goodness of Fit Index (GFI) greater than .90 and Comparative Fit Index (CFI) higher than .90 indicate a good fit to the data (Hu & Bentler, 1999). The CFA results from the pilot study revealed a fit indexes as follows; RMSEA =.07, SRMR =.08, GFI= .94 and CFI=.79. The results from the fit indexes model fit for vicarious experience were unsatisfactory. Considering the CFA results during the pilot study, two items from vicarious experiences that did not well contribute to the total variability had very low loading factors were ignored. A second CFA was conducted on the remaining items.

The second CFA revealed a good model fit for all the remaining items, as follows RMSEA =.07, SRMR =.04, GFI= .81 and CFI=.07. Therefore, in the current paper, these problematic items were not included in the analysis. The number of the items were four (4) for vicarious experience. Generally, the second confirmatory factor analysis was found to measure a unique form of

sources of self-efficacy that demonstrated modest relationships with vicarious experiences in condom use. Additionally, the validity of the results was ensured through the clear match of the research objectives, hypothesis, theory and problem of inquiry. The respondents involved in the study were randomly selected to ensure their representativeness.

Each component of the questionnaires' internal and overall reliabilities was tested using the Cronbach's Alpha Coefficient. The items in all scales used in this study met the international internal consistency value of .07 for social science studies (Creswell & Creswell, 2018). The overall Cronbach's alpha for vicarious experiences was $\alpha = .08$. Similarly, the Cronbach's alpha for the condom use self-efficacy scale was .073. This implies that the items in all scales were correlated, measuring the intended construct. The quantitative raw data was systematically analysed using the Statistical Package for Social Sciences (SPSS) version 25. Inferential statistics, including independent t-test and Spearman's Correlation Coefficient, was used as a statistical test for determining the relationship between the variables. Furthermore, confirmatory factor analyses were conducted to reduce the number of vicarious experiences variables that had low loading factors to the convenient level.

For ethical purposes, the researchers adhered to the procedures by requesting letters of permission from the University of Dar es Salaam, Deputy Vice Chancellor's Research office. The letters were thereafter directed to Njombe and Katavi Administrative Secretaries (RAS) and then to District Administrative Secretaries (DAS). The DAS introduced researchers to the Municipal Executive Directors who forwarded the letters of permission to the heads of secondary schools allowing that the study be conducted in the area. During the study, all respondents, school heads, students and academic masters were informed about the purpose of the study, its objectives, the manner in which it would be conducted and its significance. Throughout the study period, the respondents were guaranteed that the information they provided would be kept confidential and that it would only be used for the purpose of the study. To make this a reality, ethical issues were taken into consideration between the researchers and the respondents. To ensure

confidentiality, the respondents were not required to provide their names or any other identities on the research instruments.

Results

Relationship between Vicarious Experiences and Self-Efficacy in Condom use among Adolescents

The Spearman's rank-order correlation coefficient was performed in order to investigate the relationship between adolescents' vicarious experiences and self-efficacy in condom use. The respective hypothesis stated that there is no statistically significant relationship between adolescents' vicarious experiences and self-efficacy in condom use. The results are presented in Table 1.1

Table 1.1 Spearman's Rank Order Correlation Coefficient between Vicarious Experiences and Self-efficacy in Condom use among Adolescents

		Vicarious Experiences	Condoms Use
Spearman's rho	Vicarious Experiences in Condom Use	Correlation Coefficient	1.000
		Sig. (2-tailed)	.462**
		N	.000
		N	552
Condom Use		Correlation Coefficient	.462**
		Sig. (2-tailed)	1.000
		N	.000
		N	552

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

Table 1.1 presents the Spearman's rank-order correlation coefficient results, which revealed a positive and statistically significant relationship between vicarious experiences and adolescents' self-efficacy in condom use ($r=.462$, p value=.001). This indicates that an increase in adolescents' vicarious experiences in condom use is more likely to be associated with an increase in self-efficacy in condom use. That is, the more adolescents are exposed to

TV/radio ads about condom use, the more they observe peers and adults buying condoms, their self-efficacy in condom use increases as well. Therefore, the null hypothesis which hypothesised that there is no statistically significant relationship between adolescents' vicarious experiences and self-efficacy in condom use was rejected.

Discussion

The results of the current study showed that a vicarious experience is associated with adolescents' self-efficacy in condom use ($r=.462$, p value $=.001$). The results indicate that there is a positive relationship between vicarious experiences and self-efficacy in condom use among adolescents. These results suggest that adolescents with a higher level of vicarious experiences are more likely to have higher self-efficacy in condom use. This can be attributed to the view that as more adolescents interact with and get exposed to peer educators and TV/radio programmes related to condom use, the more their self-efficacy in condom use increases. This is to say that educative messages from TV and radio ads about condom use and persuasive models, including adults and peers, are associated with adolescents' self-efficacy in condom use. Likewise, the results of this study provide a theoretical link between the literature and Bandura's (1986) social cognitive theory. Bandura (1986) contends that vicarious experiences are compelling when observers see similarities in some attributes, and then assume that the model's performance is suggestive of their own capability. The more a person observes another similar person behaving a certain way, the more likely they will repeat that behaviour (Bandura, 1986, 1997).

This result also suggests some basic facts documented from previous studies, which found a significant relationship between vicarious experiences and adolescents' condom use self-efficacy. The results of this paper concur with the study conducted in America by Asare and Heights (2015). They found that vicarious experiences were associated with the students' self-efficacy in using condoms (p value <0.001). This suggests that vicarious experiences through peers and TV and radio ads to other factors helping to boost adolescents' belief about their ability to buy and use condoms. The more

adolescents get the chance to observe others use or buy condoms, the more likely they can develop the belief and confidence to use condoms.

In the same vein, a study conducted by Abigail et al. (2013) on peer influences on adolescent HIV risk in rural South Africa found a strong significant relationship between vicarious experiences and self-efficacy in condom use ($r = .072$, p value = .001). The study revealed that as more adolescents observe their peers buying condoms talking about the importance of condoms, the more adolescents' condom use self-efficacy decreases. Both studies revealed a positive direction of the relationship between the variables. However, the studies differ in terms of the strength of the relationship, whereby the current study revealed a weak relationship between vicarious experiences and self-efficacy in condom use ($r = .462$). In contrast, the study by Abigail et al. (2013) revealed a strong relationship between the variables ($r = .072$). The reasons for such variation may possibly be attributed to the nature of the study population and cultural factors. For example, values and norms of adolescents from South Africa on condom use are not the same as adolescents from Tanzania.

Similar results were found from a study conducted by Babalola et al. (2018) which revealed an increase of 3–16 percentage points in the likelihood of condom use due to exposure to condom use messages from TV/radio ads. Taken together, these findings suggest that adolescents' vicarious experiences through TV/radio ads, peers and parents have a significant contribution toward adolescents' self-efficacy on condom use. This result suggests that when adolescents observe others who are similar to them buying condoms, they make judgments about their own capabilities to buy condoms. Therefore, if adolescents see a friend buying a condom, he/she might believe that he/she can also do the same. In a similar line of argument, the study conducted in Nigeria by Oladeji and Ayanganna (2017) found a positive and weak relationship between vicarious experiences and adolescents' condom use self-efficacy ($r = .162$, p -value .042). The results of the current study, and those of Oladeji and Ayanganna (2017) revealed a weak relationship between vicarious experiences and self-efficacy in condom use among adolescents; the reasons for such similarities might be attributed to the study population and cultural context where the studies were conducted. For example, both studies

were conducted among secondary schools students in a similar age group (that is 15-21 years) who share some beliefs, perceptions and attitudes about condom use in general, which to some point their self-efficacy beliefs in condom use. Both studies suggest that adolescents' likelihood of using condoms might be higher among those who are more exposed to these media messages than among others. They are also an indication that observing the model would strengthen condom use self-efficacy.

The study also assessed the difference in condom use self-efficacy among the respondents based on their sex. The results revealed a statistically significant difference in self-efficacy in condom use among the respondents concerning their gender as adolescent girls revealed a higher mean score of condom use self-efficacy than adolescent boys ($M=6.75$, $SD= 2.88$), $t=3.691$, $df=550$, $p\text{-value}<.001$). This suggests that adolescent girls are more likely to have higher self-efficacy in condom use and are more likely to use condoms consistently than their adolescent boys. Interestingly, girls' information and knowledge about access to and ability to negotiate condom use might have been limited by the girls' socio-cultural and gender norms.

The results of this study also concur with those of the study by Abigail et al. (2013) on gender, peer and partner influences on adolescent HIV risk in rural South Africa, involving 983 adolescents aged 14-17 years. The study revealed that girls' peer behaviour related to condoms use was associated with condom use self-efficacy at last sex ($OR = 1.79$, $p\text{ value}= 0.01$). The girls who associated with friends who were also using a condom were more likely to use them. This suggests that adolescent girls with friends who use condoms are more likely to use condoms than girls with friends who do not encourage the use of condoms.

Likewise, a study conducted in Tanzania by Exavery et al. (2011) on the role of condom negotiation on condom use among women revealed that self-efficacy in condom use is a significant predictor of actual condom use among women in rural Tanzania ($OR = 3.13$, $95\% CI 2.22-4.41$). Similar results were found from Taylorukznacza et al. (2017) on the reasons for inconsistent condom use by rural South African and Kenya high school students. The results revealed that adolescent girls reported higher condom use self-efficacy

when they receive greater social support from their peers (p value < .005) and had more self-efficacy on condom use than adolescent boys. This suggests that adolescent girls are more likely to raise their condom use self-efficacy when they see other adolescent girls model exhibit such behaviour, but not after seeing an adolescent boys' model do so. In this case, gender is the quality that matters substantially in explaining the assumed similarity. The results are also supported by Bandura who posits that people tend to imitate those who appear most like them; the more a person observes another similar person behaving in a certain way, the more likely they are to repeat that behaviour (Bandura, 1986, 1997).

Limitation and Recommendations for Further Studies

The study was based exclusively on the use of questionnaires self-completed by the respondents owing to the sensitivity of the studied phenomena. Most evidently, some of these respondents were intentionally misreported due to the prevalence of feelings of shame in responding to sexuality, topics that are regarded as cultural taboos, especially at younger ages in the Tanzanian context. Thus, to gain a deep insight into the relationship between vicarious experiences and self-efficacy in condom use, there is a need for more qualitative studies to be carried out using interview and focus group discussion methods. Correspondingly, various studies on vicarious experience scales are found to be problematic with interpretation (Usher & Pajares, 2006). Accordingly, Lent, Brown, and Gore (1996) suggested that vicarious experiences sub-scale items should be separated into categories so that the influence of adults, TV/radio ads and peers can be measured independently. Thus, future studies can separate vicarious experiences from peers, TV/radio ads and adults separately without consolidating them into an overall vicarious experience sub-scale. The present study sheds light on adolescents' vicarious experiences and self-efficacy in condom use beliefs among adolescents. Since studies on vicarious experiences are rarely in Tanzania, other researchers may venture into vicarious experiences in different domains such as academic performance.

Conclusion

The study concludes that adolescents' vicarious experience is associated with self-efficacy in condom use. Thus, adolescents' HIV prevention and

reproductive health programmes aiming at promoting increased self-efficacy in condom use among adolescents should focus on using peer educators' programmes and condom advertising and promotion programmes through TV/radio ads. Likewise, the issue of gender should be taken into consideration when designing programmes focusing on increasing self-efficacy in condom use among adolescents. These programmes should aim at improving adolescents' condom use self-efficacy, that includes building condom use negotiation skills. The proper intervention programmes for promoting sexual and reproductive health and condom use should be differently packaged for boys and girls.

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