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# The Role of Condom Use Self-Efficacy on Intended and Actual Condom Use Among University Students in Ghana

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**Abstract** Little attention has been paid to the dimensions that help to predict and understand condom use among university students within an African context. A cross-sectional study involving 518 university students in Accra, Ghana was conducted to determine how the Condom Use self-Efficacy Scale-Ghana (CUSES-G) can predict both actual condom use and future condom use. Of all the participants, 84 % were sexually active but less than half of the sample (48 %) reported to have used condom during their last sexual intercourse. A hierarchical regression analysis showed that components of the Condom Use Self-Efficacy Scale (CUESE-G) such as appropriation, assertiveness, pleasure and intoxication, and STDs predicted condom use and condom use intentions. Behavioural change campaigns targeting university students should encourage condom use self-efficacy, as this would strengthen condom use, which is economically cheap and practically effective means of preventing STIs including HIV.

**Keywords** Condom use self-efficacy · Ghana · Sexually active · University students

## Introduction

Young people between 15 and 24 years of age account for nearly half of all new HIV infections worldwide [1]. Students in institutions of higher education, the majority within the age of 20 and 24 years, are reportedly at an increased risk of acquiring sexually transmitted infections (STIs) including HIV and experiencing unwanted pregnancies than the general public, owing to their higher levels of unsafe sexual practices [2, 3]. HIV in Africa is largely heterosexually transmitted [1], which suggests that maintaining consistent and proper condom use could offer safe, economically cheap and practically effective means of preventing not only the epidemic but also unwanted pregnancies [4]. Heterosexual transmission accounts for over 80 % of the spread of HIV/AIDS in Ghana [5].

Earlier studies suggest that levels of condom use are low across most of Sub-Saharan Africa [6, 7]. Available data in Ghana indicates that approximately 82 % of males and 76 % of females between the ages of 15–49 years know that consistent condom use is a means of preventing HIV infection [8]. The Ghana Statistical Service report further indicated that only 25 % of females and 45 % of males actually used condom during their last sexual intercourse with a person who was neither a spouse nor who live with them permanently [8].

Several quantitative and qualitative studies have been conducted to explore the underlying mechanisms of non-use of condoms. Among the reasons identified include not having a condom [9, 10], application problems [11], using substances before or during sex [10], fearing that it demonstrates a lack of trust in the partner [12, 13], financial constraints in buying them [11, 14, 15], having a long-term partner [16, 17], reduced sexual pleasure [18, 19], embarrassment related to use [10, 20] and difficulty using them in

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the heat of the moment [10]. The appropriate and timely tackling of these problems of non-use of condoms is important but the evidence so far suggests that other factors might contribute for individuals to actually use them consistently [4].

Self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment. According to Bandura [21], self-efficacy emphasizes on the individual and entails the general influences that are concerned not only with the skills one has, but with judgments of what one can do with whatever skills one possesses. Self-efficacy of condom use is defined as the belief that one is both capable of and likely to use condoms in sexual activities [22], and has been identified as one of the most important predictors of intended and actual condom use [23]. Consistent condom use is linked to high levels of self-efficacy [23, 24].

Numerous studies have been conducted on the use and non-use of condoms among young adults in universities colleges in Sub-Saharan Africa [25–30]. Determinants of use and non-use of condoms among young adults in universities have not been fully examined, especially in Ghana, although few studies have been conducted on actual condom use of students [2, 4]. For example, a study among university students in Ghana found that although the majority of their sample were never married, yet the majority reported were sexually active [4]. An earlier study by Tagoe and Aggor [2] observed that the majority of the sample in their study engaged in premarital sex, did not use condom consistently students and were less likely to use condom in a stable relationship. What was missing in both studies is the determinants of students intended and actual condom use. Furthermore, the reasons for use or non-use reported by adolescents and couples in other settings cannot necessarily be adduced to young adults in universities in Ghana.

Against this background of clear indications of the multidimensionality of condom use self-efficacy, it is remarkable that few studies have tried to uncover those dimensions that help to predict and understand condom use. Research gaps exist on the predictive role of condom use self-efficacy on both intended and actual among Ghanaian young adults. The present study was therefore conducted to fill the gap by examining how the self-efficacy measures: Condom Use Self-Efficacy Scale (CUSES-G) identified by Asante and Doku [4] can predict both actual and intended condom use among university students in Ghana. Answers to these questions should be helpful in constructing more economical and valid measurements of condom use self-efficacy, in differentiating educational messages for sexually active and/or inactive adolescents, and in designing intervention strategies that effectively prepare adolescents for condom use.

## Methods

### Design and Participants

A cross-sectional survey design was used. An anonymous, self-administered questionnaire was used to collect data during 2010. The sample included 518 university students from different socio-economic backgrounds from Regent University College of Science and Technology, Accra, Ghana. The Regent University College of Science and Technology, Accra, Ghana is one of the over 30 private universities located in Accra, Ghana. It has three faculties with a total population of about 2500 students pursuing various academic programmes in the field of Business Administration, Computer Science, Electrical and Electronic Engineering, Psychology and Theology. The sample size represented 20 % of the whole student population. Concerning the sampling procedure, one department was randomly selected from each of 3 faculties. For each selected department, the courses offered at the undergraduate level were ordered randomly, with large class sizes having a greater probability of being near the beginning of the list and small class sizes being near the end of the list. Out of 529 students approached, 518 agreed to participate in the study. The realized sample size represents 98 % of response rate from participants who took part in the study.

### Measures

#### *Condom Uses Self-Efficacy*

The Condom Uses Self-Efficacy Scale (CUSES-G) [4] was used to measure participant's perceived ability to use condoms (condom use self-efficacy). The measure which has been validated within the Ghanaian context measured perceived ability to use condoms along four major dimensions: appropriation, assertive, pleasure and intoxicant and STDs in the form of 14-item self-report questionnaire. The *appropriation* subscale (5 items) measures self-efficacy related to multifaceted appropriate condom use skills by self or a partner. For example, "I would feel embarrassed to put a condom on myself or my partner". The *assertive* subscale (3 items) measures self-efficacy dimensions of assertiveness, negotiation skills and ability to persuade a partner to use a condom. For example, "I feel confident I could suggest using a condom without my partner feeling "diseased". The *pleasure and intoxicants* subscale (3 items) assesses the ability to use condoms while under the influence of alcohol or drugs without feeling a reduction in sexual sensation. For example, "I feel confident that I would remember to use a condom even after I have been drinking". The final subscale *STDs* (3 items) represents the physiological feedback

component of self-efficacy. This sub-scale, thus, represent the fear (afraid) that may trigger physiological arousal. This subscale therefore primarily assesses the perception of condom users' confidence of negotiating condom use with new a sexual partner. For example "I would not feel confident suggesting using condoms with a new partner because I would be afraid he or she would think I have a sexually transmitted disease". The CUSES-G is scored on a 5-point Likert scale ranging from 0 (strongly disagree) to 4 (strongly agree). The total score ranges from 0 to 56, with higher scores indicating stronger or higher perception of condom use efficacy, after reversing 4 negatively worded items. The overall cronbach coefficient alpha for the study was 0.91.

#### *Actual and Intended Condom Use*

Condom use and intention to use condoms were assessed with two questions: Whether they used condom in their last sexual intercourse and whether they would use condom in future sexual activity (all scored as: No = 0 and Yes = 1).

#### *Demographic Characteristics*

The questionnaire also included participants' personal characteristics such as age, sex, year in university, religious affiliation, place of residence (affluent area or otherwise), marital status, sexual intercourse experience and condom use.

#### **Procedure**

The permission to conduct the study was obtained from the university authorities. Informed written consent from students was a requirement for participation with emphasis on voluntary participation, confidentiality and anonymity of the information obtained. The participants were appropriately informed about the rationale of the survey and the voluntary nature of it, and they were appropriately assured of the anonymity and confidentiality of their answers. The students were informed not to indicate their names on the form. Finally, the students were informed that participation was voluntary and they could withdraw from the study at any stage if they so desire, without any consequences. The questionnaires were administered to participants in their lecture hall as none indicated otherwise and completed within 20 min. The completion of the questionnaire was done in the absence of both the researcher and their lecturer. The data collection lasted for a period of four weeks.

#### **Ethical Statement**

In line with the Declaration of Helsinki, ethical issues were addressed before data collection. However, at the time of

the study no functional Institutional Review Board existed at the said university, permission to conduct the study was thus consequently obtained from the Registrar of the university after reviewing the research protocol. Heads of faculties also gave permission for students in their Departments to participate in the study but also indicated that they were free to withdraw any time from the study. A written informed consent was obtained from all participants with emphasis on voluntary participation, confidentiality and anonymity of the information obtained. It included all details about the study (title, objectives, methods, expected benefits and risks and confidentiality of data). To ensure anonymity, no form(s) of identifiers were on the questionnaire and the participants were informed that participation was voluntary and they could withdraw from the study at any stage if they so desire. Participants did not receive any form of inducement or reimbursement for participating in the study.

#### **Data Analyses**

All analyses were conducted using version 19 of the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to examine the demographic characteristics of the sample. Pearson correlation coefficients matrix was computed to examine the associations among the variables, especially the subscales of the Condom Use Self efficacy, actual condom use at last sexual intercourse and the intentions to use condom later. A hierarchical regression was performed to examine the relative contribution of the factors of the CUSES-G in predicting actual condom use and condom use intentions. Following the entry of demographic variables (sex, age, marital status and religious affiliations), the next block of variables (CUSES-G factors) was entered into the model. This procedure was followed to ensure that those variables that were strongly associated with intended and actual condom usage would account for unique variance beyond that accounted for by the demographic variables. Information is provided for the standardized beta weight ( $\beta$ ), the  $R^2$  and the  $\Delta R^2$  accounted for in the model.

#### **Results**

##### **Demographic Characteristics**

The demographic characteristics of the sample are presented in Table 1. More than half of the respondents were aged 20–24 years and about 34 % were less than 20 years. The average age of the participants was 21.59 years (SD = 4.74). Seventy-four percent of the respondents were in first year while 16 % were in their second year. About

**Table 1** Background characteristics of respondents

Variable	Male (N = 280)	Female (N = 238)	Total (N = 518)	$\chi^2$
Age of respondents				17.72**
<20	27.50	41.18	33.78	
20–24	55.00	50.00	52.70	
25–29	10.0	2.94	6.76	
30+	7.50	5.88	6.76	
Level of education				15.16**
First year	67.50	82.36	74.32	
Second year	20.00	11.76	16.22	
Third year	12.50	5.88	9.46	
Marital Status				9.82*
Single	66.07	52.52	65.25	
Dating	21.43	38.66	23.94	
Married	12.50	8.82	10.81	
Religion				52.01***
Catholic	2.50	2.94	2.70	
Protestant	40.00	38.23	39.19	
Charismatic	47.50	55.89	51.35	
Moslem	10.00	2.94	6.76	
Previous school attended				7.76*
Public	65.00	52.94	59.46	
Private	35.00	47.06	40.54	
Had sex in the last month				
Yes	83.57	83.61	83.59	0.012
No	16.43	16.39	16.41	
Condom used at last sex				1.57
Yes	48.57	46.64	47.68	
No	51.43	53.36	52.32	
Intentions for Condom use				2.03
Yes	54.28	60.50	57.14	
No	45.72	39.50	42.86	

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.01$ 

11 % of the students were married and the rest were either dating or single. More than 93 % of the respondents professed one Christian faith or the other (Catholic–3 %; Protestant–39 %; Charismatic–51 %) and 7 % were Muslims. Approximately 59 % of the students interviewed attended public senior secondary school. Of all the participants, 84 % had ever had sexual intercourse in the last month prior to the study. Forty-eight percent of the respondents had reported using condom during their last sexual intercourse, while the rest had not. More males (49 %) had used condoms in their last sexual encounters but more females (61 %) indicated that they would use condom in the future. There was however, no statistical difference in the proportion of males and females with regards to actual and intended condom use ( $p > 0.05$ ).

### Associations Among the Study Variables

Correlation coefficients between Condom Use Self efficacy subscales, actual condom use at last sex and the intentions to use condom in the future are presented in Table 2. All correlations are positive, and are of moderate to strong magnitudes [31]. The only exceptions were the correlations between STDs and Assertive ( $r = .11$ ,  $p < 0.05$ ) and STDs and pleasure and intoxicant ( $r = .11$ ,  $p < 0.05$ ), the strengths of which suggested that these variables correlated weakly with each other [31].

Condom use at last sexual activity correlated significantly with intentions to use condom ( $r = .83$ ,  $p < 0.01$ ), appropriation ( $r = .53$ ,  $p < 0.01$ ), assertive ( $r = .55$ ,  $p < 0.01$ ), pleasure and intoxicant ( $r = .39$ ,  $p < 0.01$ ) and

**Table 2** Association between subscales of Condom Use Self-Efficacy and condom use (actual and intended)

Source		1	2	3	4	5	6
1	Assertive	1	–	–	–	–	–
2	Pleasure & intoxicant	.36**	1	–	–	–	–
3	STDs	.11*	.11*	1	–	–	–
4	Appropriation	.46**	.44**	.24**	1	–	–
5	Total scale	.70**	.65**	.51**	.85**	1	–
6	Condom used at last sex	.55**	.39**	.54**	.53**	.73**	1
7	Intentions to use condom	.50**	.43**	.57**	.50**	.72**	.83**

\*  $p < 0.05$ , \*\*  $p < 0.01$

STDs ( $r = .54, p < 0.01$ ). Additionally, intentions to use condom also correlated significantly with appropriation ( $r = .50, p < 0.01$ ), assertive ( $r = .50, p < 0.01$ ), pleasure and intoxicant ( $r = .43, p < 0.01$ ) and STD ( $r = .57, p < 0.01$ ). The Condom Use-Self Efficacy scale correlated significantly high with condom use at last sex and intention to use condom in the future with coefficients of ( $r = .73, p < 0.01$ ) and ( $r = .72, p < 0.01$ ) respectively.

**Actual Condom Use**

Results of the hierarchical regression analyses are summarized in Table 3. When reported condom use at last sex was considered as an outcome variable, the following statistically significant predictors were found in Model 1: religion ( $\beta = 8.18, p < 0.001$ ), marital status ( $\beta = 2.01, p < 0.01$ ) age ( $\beta = 1.10, p < 0.01$ ). Model 1 accounted for 13 % of the variance of actual condom use;  $R^2 = 0.13, F(4, 422) = 8.06, p < 0.001$ . In model 2, in which the subscales

of the condom use self-efficacy was examined, a statistically significant predictors for all the factors were found: appropriation ( $\beta = 2.08, p < 0.001$ ), assertiveness ( $\beta = 8.44, p < 0.001$ ), pleasure and intoxication ( $\beta = 1.35, p < 0.001$ ) and STDs ( $\beta = 19.29, p < 0.001$ ). The regression model accounted for 63 % of the variance in actual condom use  $\Delta R^2 = 0.63, F(4,422) = 58.39, p < 0.001$  (Table 3).

**Intentions for Condom Use**

Using the same independent variables as in the first analysis, with intentions to use condom as a dependent variable, the model accounted for 14 % of the variance,  $R^2 = 0.14, F(4, 507) = 10.29, p < 0.001$ , with religion ( $\beta = 11.98, p < 0.001$ ) and marital status ( $\beta = 3.79, p < 0.01$ ) found to be significant predictors of intentions for condom use. In model 2, in which the subscales of the condom use self-efficacy was examined, statistically significant predictors for all the factors were found: appropriation ( $\beta = 2.22,$

**Table 3** Summary of hierarchical regression models

	Reported condom use at last sex		Condom use intentions	
	Total $R^2 = 0.13$		Total $R^2 = 0.14$	
	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$
<i>Step 1</i>		0.63		0.61
Gender	0.09		0.16	
Religion	8.18***		11.98***	
Marital status	2.01**		3.79**	
Age	1.10**		0.04	
<i>Step 2</i>				
Gender	0.13		0.44**	
Religion	0.03		1.13**	
Marital status	0.50		0.03	
Age	0.56**		0.17	
Appropriation	2.08***		2.22***	
Assertiveness	8.44***		6.32***	
Pleasure & intoxication	1.35***		3.52***	
STDs	19.29***		21.60***	

\*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

$p < 0.001$ ), assertiveness ( $\beta = 6.32$ ,  $p < 0.001$ ), pleasure and intoxication ( $\beta = 3.52$ ,  $p < 0.001$ ) and STDs ( $\beta = 21.60$ ,  $p < 0.001$ ). The regression model accounted for 61 % of the variance of intentions for condom use  $\Delta R^2 = 0.61$ ,  $F(4,507) = 63.45$ ,  $p < 0.001$ .

## Discussions

The study was conducted to determine whether a validated self-efficacy measure: Condom Use Self-Efficacy Scale-Ghana (CUSES-G) can be used to predict reported condom use at last sex and intentions for future condom use among sexually active university students in Ghana. The findings have demonstrated that psychosocial correlates of self-efficacy such as appropriation, assertiveness, pleasure and intoxication influence condom use and condom use intentions.

Higher self-efficacy of condom use as reported in other studies [23, 32, 33], was positively related to past condom use and intention to use condoms. In an earlier study, self-efficacy was found as a major determinant of condom use among Ghanaian youth [34]. Ghana is a conservative culture where issues on sexuality and condom use are rarely discussed [4]. The findings that higher condom use self-efficacy predicted actual and intended condom use is significant in the sense that on a broader level, it could demonstrate that adolescents and young adults in Ghana are becoming more assertive in negotiating sexual behaviours than found in some earlier studies [26]. As Ghana's HIV prevalence rate reduces, this finding becomes a potential issue that can be incorporated into health education program in sexual behaviours among adolescents and young adults in the country. Therefore, education on self-efficacy of condom use should be highlighted to improve adolescents and young adults' skills, for example, on the ability to put on a condom or on their partners, and convincing the sexual partner to use a condom.

Pleasure and intoxication is another important dimension of self-efficacy in sexual behaviour that has often been linked to risky sexual behaviour among young adults in their sexual behaviour [35, 36]. It measures the ability to use condoms while under the influence of alcohol or drugs without feeling a reduction in sexual sensation. It is synonymous to the emotion control component on the Global Condom Use Self-efficacy scale [37], which assesses the extent to which strong emotions and intoxicants might interfere with condom use with a new partner [23]. Strong emotions can be provoked under the influence of intoxicants such as alcohol and psychoactive drugs (e.g. marijuana) and studies have established a positive relationship between reported substance use and risky sexual behaviour [38, 39]. In such situations, condom use might not be considered [23], or may be misconstrued as hampering the

pleasure of the strong emotions being felt. For instance, a study has indicated that university students in Ghana who do not intend to use condom in sexual unions were more likely to agree with the belief that condom use ruins the moment and reduces sexual pleasure than those who intend to use it [26]. Among university students in Madagascar, one reason for non-use of condom is the belief that it decreases pleasure [40]. The indication in the present study that students expressed efficacy in the use of condoms even under the influence of intoxicants presents good news, but also a potential challenge. On the positive aspect, it shows that they might be in control of making good sexual decisions. However, the indications that a good number of them have not used condom in their last sexual encounter presents a picture of risky sexual behaviours with potential consequences for STIs. This presents opportunity for health education on the dangers of intoxicants in sexual decision making.

STDs dimension of the CUSES-G, which essentially assesses the perception of condom users' confidence of negotiating condom use with new a sexual partner, also predicted condom use behaviour in both actual and future sexual relationships. This therefore suggest that young adults do not appear to have anxieties negotiating the use of condom with new sexual partners, and might not be afraid doing so in future sexual relations. In South Africa, higher self-efficacy of condom use was strongly associated with university students' perception of their ability to convince a partner to use condom and to suggest to a partner to use and discuss condom use with partner [25]. One factor associated with low self-efficacy for condom use in South African youth is the belief that condom use implies distrust in one's partner [27]. In Burkina Faso, more than 80 % of adolescents hold the belief that the use of condom during sex is a sign of distrust in your partner [41]. These findings clearly diverges from some of those indicated above, suggesting that university students in Ghana are assertive in negotiating for condom use in their sexual relations than their counterparts in other countries in Sub-Saharan Africa.

Additionally, a major interesting finding in this study is that although over 97 % of the students identified themselves as Christians and over 89 % were unmarried, a significant percent of them reported having been sexually active (84 %) from which 48 % reported using condom during their last sexual encounter. Religion (as Christianity) establishes a moral system, and in Ghana studies have showed that religion exercises a strong regulatory system in socializing young people's sexual behaviours [42, 43]. As social settings in which people evaluate each other's behavior in light of strong norms [44], religious communities might censure those who are perceived to have failed to uphold the religious norms of sexual chastity. In this regard in several churches, adolescents who engage in premarital sex might be disciplined [45] and

anecdotal evidence of this abounds in Ghana. The indications that these young people are sexually active indicate that religious control over their sexual behaviours might be minimal. Furthermore, the use of condom by a considerable number of students might be instrumental in avoiding pregnancy for example, that would have revealed sexual activity. This finding can be utilized for a tailored HIV prevention programs in the churches. The paradox is that although these young adults identify themselves as Christians, their reported behaviour in this study showed an active sexual group. The traditional view that religion is protective of young people's risky sexual behaviour [45, 46] might have to be looked again. At least to some extent the finding showed that the link between religion and actual sexual behaviour among young people is not a simple one [47].

A further important issue of concern here is that however self-efficacious these respondents appear to be in their use of condom, only 48 % have used condom in their last sexual encounter. There is therefore quite huge room for condom use education in universities in Ghana. A major strength of the study is that it contributes to the sparse literature especially in Sub-Saharan Africa about the condom use self-efficacy predicting actual condom use and intention to use among university students. Additionally, this study focused on young adults, an age-group at greater risk for HIV infection.

This study has some limitations. One of these is that only full-time undergraduate students at one university were included and therefore caution should be taken when interpreting the findings and generalizing them. Also, the study relied on self-report which could have been the result of desired participants' responses, especially with regards to reported condom use among young adults [48, 49]. This has the potential of affecting the interpretation of the results. The cross-sectional nature of the research means that cause-and-effect relationship cannot readily be established. A further limitation was that certain variables such as number of multiple sexual partners, and access to condoms could have been considered in the study. Despite these limitations, this study was the first of its kind to be conducted among private university students in Ghana. Although there are over 30 private universities in Accra alone [50], the sexual behaviours, including condom use and its associated factors, of students in such institutions of higher education have not been explored. This study therefore fills an important gap in literature and provides useful piece of information for sexual health promotion among university students in Accra, Ghana.

## Conclusion

Although the over 84 % were sexually active, less than half of the sample (48 %) reported to have used condom during their last sexual intercourse. More female students used

condom in their last sexual encounters than male students. The result further showed that the Condom Use Self-Efficacy Scale (CUESE-G) is an appropriate measure, and can be used to assess and predict condom use among young university students within the Ghanaian context. The findings also add to the existing literature on the ability of self-efficacy of condom predicting actual condom use and intentions to use condom. This study underscore the need for behavioural change campaigns targeting university students to encourage condom use-efficacy, as this would strengthen condom use, which is economically cheap and practically effective means of preventing STIs including HIV.

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