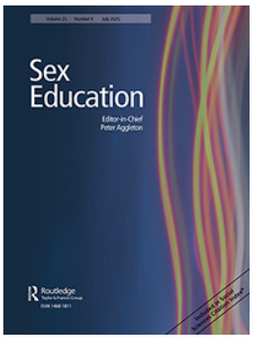

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Psychosocial determinants of parents' intention to support reproductive health education in Ghana

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ABSTRACT

Promoting sex education is key to addressing the adverse sexual health outcomes among adolescents. The successful adoption and implementation of Reproductive Health Education (RHE) in schools depends on the support of curriculum owners and other stakeholders such as parents. The study explored socio-demographic and psychosocial factors influencing parents' intentions to support the adoption and implementation of RHE in primary and high schools in Ghana. A cross-sectional survey was conducted with 387 *(Mean age* = 43.6 years) parents in the Upper East region of Ghana. Pearson's correlation and regression analyses were used to examine socio-demographic and psychosocial factors influencing the stated intention to support the adoption and implementation of RHE in schools. Parent's intention was best predicted by descriptive norms ($\beta = .24$, $p < .001$), and injunctive norms ($\beta = .20$, $p < .001$) towards supporting RHE. Other factors that predicted intention to support were beliefs about the outcomes of teaching both abstinence-only education and RHE. The findings point to the need to involve and gain support from religious leaders in the development and roll-out processes of RHE programmes. Moreover, they highlight the need for effective RHE programmes with the potential to yield positive sexual and reproductive health outcomes among adolescents and young people.

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Sex education; determinants; adolescent pregnancy; contraceptives; parental attitude

Introduction

Adolescence is a period of rapid physical, cognitive, and social change. It may be characterised by risky sexual behaviours resulting in adverse health outcomes such as unintended pregnancies, unsafe abortions, and sexually transmitted infections (STIs) (UNESCO 2018). Adolescent pregnancy remains an international challenge with dire health, social, and economic consequences. Sub-Saharan Africa is reported to have the highest adolescent birth rate. In 2021, 13.3 million babies were born to mothers under 20 years of age worldwide, with half occurring in sub-Saharan Africa (United Nations 2022). In

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Ghana, 14% of adolescent girls aged 15–19 years have begun childbearing and this is a result of the high unmet need for contraceptives among sexually active adolescent girls (Ghana Statistical Service 2018).

Adolescent pregnancy is associated with adverse health outcomes. Adolescent mothers aged 14 years and younger are more likely to give birth to underweight infants than mothers aged 20 years and older (WHO 2014). In addition, infants born to adolescent mothers are at risk of preterm delivery and severe neonatal conditions such as low birth weight, neonatal mortality, and low Apgar scores (Gurung et al. 2020; Yussif et al. 2017; WHO 2022). The social effects of adolescent pregnancy include isolation from parents and friends, stigma, poverty, unemployment, school disruption, and intimate partner violence (WHO 2012; Ahinkorah et al. 2019).

Comprehensive Sexuality Education (CSE) according to UNESCO (2018), is key to addressing adverse sexual health outcomes among adolescents as it helps children and young people develop safe, healthy, and positive relationships. (CSE) is a curriculum-based process of teaching and learning about the cognitive, emotional, physical and social aspects of sexuality. It aims to equip children and young people with knowledge, skills, attitudes and values that will empower them to: realise their health, well-being and dignity; develop respectful social and sexual relationships; consider how their choices affect their own well-being and that of others; and, understand and ensure the protection of their rights throughout their lives (UNESCO 2018).

Several studies have found a positive association between CSE and sexual behavioural outcomes such as delay in sexual initiation, number of sexual partners, and use of condoms and hormonal contraceptives among adolescents (Fonner et al. 2014; Sani et al. 2016; Kedzior et al. 2020; Haberland 2015). Yet conservative religious beliefs and cultural norms in some African countries including Ghana continue to hinder CSE (Fuller 2023). Issues related to sexuality in Ghana are shrouded in secrecy and not openly discussed by parents with adolescents, and when such communication occurs, it is often limited to a focus on puberty, menstruation, and abstinence from sex (Donkor 2017; Owusu, Jessica, and Osafo 2022; Agbeve, Fiaveh, and Anto-Ocrah 2022). This situation limits adolescents' access to information that can improve their sexual health and wellbeing.

Notwithstanding conservative attitudes towards issues related to sexuality in Ghana, several policies and initiatives have been put in place since the 1970s to provide adolescents with information on their sexual and reproductive health (Awusabo-Asare et al. 2017). These policies include the Adolescent Reproductive Health Policy, 2000, the National HIV and AIDS, STI Policy, 2013, and the Sexual and Reproductive Health Policy for Young People in Ghana, 2015. A cross-curricular approach has been adopted by the Ghana Education Services in which certain topics related to sexual and reproductive health and rights have been integrated into other subjects such as Integrated Science, Our World Our Future, and Religious and Moral Education for pre-tertiary students (Ocran, Talboys, and Shoaf 2022; Ocran 2021). The information about sex, sexuality and reproductive health provided to adolescents in the curricula, however, is far from comprehensive, as it focuses on an abstinence-only approach while excluding topics like contraceptives and building and maintaining healthy sexual relationships (Awusabo-Asare et al. 2017). Abstinence-only education in Ghana has been shown to threaten young

people's sexual health as it provokes unfavourable attitudes towards issues such as sexual pleasure and provides support for gender-based violations such as female genital mutilation (Ocran and Agot Atiigah 2022).To complement the gaps in the pre-tertiary school curricula, various non-governmental organisations (NGOs) implement different sexuality education programmes. However, the standard/quality of such programmes remains variable as the country's misaligned policies give room to different approaches to teaching sexuality education resulting in mixed messages to adolescents and hostile attitudes towards comprehensive sexuality education (Ocran, Talboys, and Shoaf 2022). While the Ghana Education Service (GES) emphasises abstinence education, the Ghana Health Service (GHS) supports the implementation of CSE in some schools to provide access to accurate information about human sexuality; and an opportunity for young people to develop values, attitudes, and beliefs about sexuality and responsibility regarding the use of contraceptives (GHS 2016).

To align sexuality education with international standards, in 2018 the Ministry of Education (MoE), the National Population Council (NPC), and the GHS, together with development partners, developed national age-appropriate CSE guidelines to inform a new curriculum and programme content. However, in October 2019, public resistance to introducing CSE into the education curricula of primary and high schools initiated by anti-sexual reproductive health and rights (SRHR) actors resulted in the termination of decades of efforts towards introducing CSE in Ghanaian schools. The backlash resulted in a review of the CSE guidelines in 2020, with their name being changed to "Reproductive Health Education (RHE) guidelines (GES 2020). The new RHE guidelines include a range of topics such as body anatomy, reproduction, STIs and pregnancy prevention, communication and negotiation skills. The implementation of the new guidelines will however not depend on policymakers alone but will require the support of parents, who as primary custodians of children do not only play a significant role in sexuality discussions with children but also influence school-based sexuality education programmes (Baku et al. 2018; Azira et al. 2020; Owusu, Jessica, and Osafo 2022).

Findings from some studies in Sub-Saharan Africa have indicated favourable parental attitudes towards school-based sexuality education (Asuquo et al. 2019; Mkumbo and Ingham 2010; Orji and Esimai 2003). In Ghana, there is a paucity of evidence on parents' support for sexuality education in schools (Nyarko et al. 2014). Given the influential role of parents in sexuality education programmes, this study sought to fill this knowledge gap by exploring the underlying determinants of parents' intentions to support the adoption and implementation of RHE programme in primary, junior and secondary high schools in Ghana. The pre-tertiary basic education system provided by the GES runs from pre-school to primary year six. From the basic school level, children proceed to junior high school for three years. Pupils who pass the Basic Education Certificate Examinations (BECE) after junior high school then proceed to senior high school for another three years.

This study was conducted in Bolgatanga Municipal and Nabdam district in the Upper East region. The region was selected for the study due to its proximity to the research team and financial constraints. The findings from the study could contribute to existing knowledge on parents' support for sexuality education in Ghana and also provide preliminary evidence to inform future research and implementation of RHE programmes.

Theoretical background

The Theory of Planned Behaviour (TPB) (Ajzen 1991) was used as a guide in our investigation of the determinants of parents' intentions to support the implementation of RHE in Ghana. The TPB is a social cognitive model that predicts and explains human behaviour and has been widely used in different populations and contexts on a variety of health, safety and environmental behaviours (Hagger, Polet, and Lintunen 2018; St Quinton 2023; Paulussen, Kok, and Schaalma 1994; Wiefferink et al. 2005; Sanne Van et al. 2017).

Intention, which is a central construct in the TPB reflects the extent to which individuals are motivated to perform a given behaviour and is the most proximal antecedent of behaviour. Intention is influenced by three belief-based constructs: attitude, subjective norms, and perceived behavioural control. Attitude relates to an individual's assessment of the consequences of engaging in the behaviour. Attitude in this study related to respondents' beliefs regarding the consequences of RHE on the sexual behaviours of adolescents and young people. Subjective norms reflect the individual's beliefs that significant others want them to perform a particular behaviour. Subjective norms in this study refer to the influence of important referents such as spouses, friends, community leaders, and religious leaders on parent's intention to support RHE in schools. The latest formulation of the TBP (Fishbein and Ajzen 2010) as the Reasoned Action Approch (RAA) categorises subjective norms into two types, injunctive and descriptive norms. Here, injunctive norms refers to parents' belief that important reference groups would approve or not approve of them supporting RHE implementation. Descriptive norm refers to the beliefs that these same reference groups would or would not support RHE implementation. Perceived behavioural control reflects the extent to which a behaviour is under the individual's control.

Although primarily focusing on psychological determinants directly associated with intention to perform a behaviour, the TPB also recognises the influence of social factors such as age, religion, sex and environmental influence on intention indirectly through attitudes, subjective norms, and perceived behavioural control.

Materials and methods

Design and sample

We conducted a cross-sectional survey among 387 parents and guardians of school-going children aged 10 to 19 years in Bolgatanga Municipality and Nabdam District in the Upper East Region of Ghana. A cross-sectional design was used given its appropriateness for exploring relationship between the independent variables (attitude, perceived norms, age, and religion) and the dependent variable (intention to support RHE implementation), especially in situations when one does not know the relationships to expect between them and the time frame for cause-and-effect (Spector 2019). The design was also a suitable choice as it allowed for data collection from the study population within a relatively short time frame in the face of financial limitations.

Study settings

Bolgatanga municipality

Bolgatanga Municipality has a total population of 139,864, with girls/women and boys/men constituting 52.4% and 47.6% of the population respectively. In the municipality, 61.3% of the population is between the ages 15–64 years, 34.4% is between the ages 0–14 years, and 4.3% is 65 years and above. The major ethnic group in the Municipality is the Mole-Dagbani ethnic group (87%), with the Gurune tribe being the major sub-group. Similar to the housing structure in other urban cities of Ghana, compound houses[1] are common in Bolgatanga Municipality.

Nabdam district

According to the 2021 population and housing census, the population of Nabdam was 51,861 with 50.7% being girls/women and 49.3% being boys/men. A significant percentage of the population fall between the ages 15–64 years (59.8%), with 34.9% of the population being between 0–14 years, and 5.3% being 65 years and above. The majority (96.6%) of the population are from Mole-Dagbani ethnic group who speak the Nabt language, a dialect of Gurune. The most common forms of housing structure in the district are extended family houses which are mostly considered as a household.[2]

Sampling procedure

A four-stage simple random sampling procedure was used in selecting respondents for the study. In the first stage, 2 districts, Nabdam district and Bolgatanga Municipal were randomly selected from the 15 regions in the Upper East region of the country. In the second stage, 8 educational circuits, 5 from Bolgatanga and 3 from Nabdam were selected using proportionate to size sampling technique.[3] In the third stage, from a list of all communities in the 8 selected circuits, 9 communities from Nabdam and 15 communities from Bolgatanga were randomly selected using lottery method. The final stage involved the selection of households, and this was undertaken by first creating a list of all houses in the selected communities after which the required number of houses were then randomly selected, again by the lottery method.

In Nabdam, 24 houses were randomly selected from each of the 9 communities, and in Bolgatanga, 14 houses were selected from each of the 15 communities. In all 426 houses were sampled. Where a house consisted of multiple households, as in the case of a compound house, one household was randomly selected. In each selected household, both mother and father were eligible to respond to the survey. However, only one parent or guardian could respond to the survey if both were available.

To be considered eligible for inclusion in the study, a parent or guardian needed to have a child between the ages of 10–19 years under their care and attending school at the time of the study. A parent in this study was considered as a child's biological mother or father or a male or female guardian who was not the biological parent of a child but provided for the child's welfare in terms of shelter, food, clothing, education and health.

Data collection tool

A structured, interviewer-assisted, pre-tested questionnaire was used to collect data from the parents. The development of the questionnaire was informed by the RAA and TPB as well as by reviews of the literature included in similar studies (Paulussen, Kok, and Schaalma 1994; Wiefferink et al. 2005; Sanne Van et al. 2017) and advice gained from pre-testing the questionnaire. The questionnaire was pretested with 25 parents from the Yikene community in Bolgatanga in both English and the Gurune languages to assess how research assistants could explain questions in Gurune to parents who could not understand English, how easy it would be for respondents to understand the questions, and whether the questions measured the right constructs. The pre-test resulted in minor changes, such as the rephrasing of some questions to clarify their meaning. Pre-test data are not included in the final analysis.

The questionnaire included items assessing socio-demographic variables, family experience of teenage pregnancy, sources of information on sexual and reproductive health, understandings of reproductive health education, the class level at which reproductive health education topics should first be introduced, and the RAA and TPB's constructs in the form of attitudes, descriptive and injunctive norms, and outcome beliefs about RHE. Socio-demographics included age, religious affiliation, marital status (married, single parent, widowed, and divorced), occupation (unemployed, trader/artisan, farmer, civil servant, public servant, other), number of children who were aged 10–19 years, and family experience of teenage pregnancy (0 = no, 1 = yes). An open question ('How old are you?') required participants to provide their age. Participants were asked to select the option – mother, father or guardian – to indicate the category of parent they fell within. Regarding religion, participants were asked to select from traditional worship, Islam, Christianity, or other. Participants' understanding of RHE was assessed by the question 'What is your understanding of RHE' and was measured using 12 items on a three-point scale (1 = True, 2 = False, 3 = Do not know). Questions related to psychological constructs (attitudes, injunctive and descriptive norms) were measured on five-point Likert scales.

Data collection

Data collection was interviewer-assisted and took place in both English and the local languages with the assistance of 6 trained research assistants who spoke these languages fluently and also had prior experience in data collection in the study areas. Data was collected electronically using Kobo collect software. Prior to data collection, eligible respondents were approached and informed that the study aimed to understand their views about reproductive health education and their intentions to support its implementation in schools. All eligible respondents approached agreed to participate in the study. Respondents were assured of anonymity and confidentiality of the collected data as well as the freedom to decline to participate at any time during data collection. Written informed consent was obtained from all respondents. Respondents consented by signing or thumb-printing written consent forms. The signed/thumb-printed forms were completed, and copies given to participants interested in keeping a copy. For parents who could not speak English, research assistants translated the questionnaires into the relevant local dialect or language.

Data analysis

Data analysis was performed using SPSS Version 26.0. Before data analysis, recoding and reliability analysis were done for some variables. For the construct 'understanding of RHE', true was coded as 1 and false and don't know as 0. The participant's total score was then calculated by counting the number of correct answers and resulted in a score ranging from 0 to 12. For the Likert scales, items were recoded such that higher scores reflected a stronger presence of the dependent variable (intention to support RHE). The reliability of the psychological constructs measured with more than two items was assessed using Cronbach's alpha (Table 1). Items with the same underlying construct (e.g attitudes, injunctive norms) were averaged into a composite score when the internal consistency was sufficiently high to do this(Cronbach's alpha > 0.60).

Mean scores, frequencies, and descriptive analyses were computed as the first step of the analysis. Bivariate associations between age, psychological variables (attitude, subjective norms, and outcome beliefs) and intention measures were then computed using Pearson's product-moment correlation coefficients. Multivariate regression analysis was used to determine the amount of variance explained in the intention to support RHE implementation in schools based on the sociodemographic, psychological, and distal factors identified as significant univariate correlates of intention (Crutzen and Ygram Peters 2023).

Table 1. Psychosocial measures, number of items used for each construct, an example of an item used, scales used, and the reliability of each construct.

Variable	Number of items	Reliability	Example question or statement (answer scale)
Intention	1	NA	(1) I am willing to support the introduction of RHE if GES brings it up. (*1= strongly disagree, 5 = Strongly agree*)
Attitude towards RHE in school implementation	3	α = 0.90	I think teaching pupils in basic schools RHE is (1) (*1=very unimportant, 5= very important)* (2) *(1 = very unnecessary, 5 = very necessary)* (3) *(1 = very unpleasant, 5 = very pleasant*)
Outcome belief of RHE	9	α = 0.75	(1) Teaching adolescents RHE will help my child(ren) abstain from sexual activities till they marry. (2) Teaching adolescents RHE will help my child(ren) to use contraceptives if they have sex. (*1= strongly disagree, 5 = strongly agree*)
Injunctive Norms to support RHE implementation	4	α = 0.93	(1) I will support RHE in basic and high schools if my Pastor/Priest is supportive of it. (2) I will support RHE in basic and high schools if my Chief is supportive of it. (1= *strongly disagree, 5 = strongly agree*)
Descriptive Norms to support RHE implementation	6	α = 0.90	(1) My Pastor/Priest will support RHE implementation in primary and high schools. (2) My Chief will support RHE implementation in basic and high schools. *(1= strongly disagree, 5 = strongly agree)*
Understanding of RHE	9	α = 0.74	(1) Reproductive Health education is about sex STIs and pregnancy (2) Reproductive Health education is about communication refusal and negotiation skills. (*1= true, 2= false, 3 = don't know*)

Ethical approval

The study was approved by the ethics review board of the Ghana Health Services in Navrongo Health Research Centre (NHRCIRB439) and the Psychology and Neuroscience (ERCPN) Ethics Review Committee at Maastricht University (ERCPN code 188_10_02_2018_S58) in the Netherlands.

Results

The socio-demographic characteristics of respondents are presented in Table 2. The mean age of participants was 43.6 years ($SD = 9.96$) years.

Parents' intention to support RHE in schools

To explore the determinants of parents' intention to support RHE in schools, bivariate analysis was used to identify the association between psychological, demographic characteristics, and intentions to support RHE implementation in basic and high schools. Variables that showed significant univariate associations with intention to support RHE implementation ($p < .01$) and ($p < .05$) were included in a subsequent multivariate regression analysis.

Table 2. Participants' demographic characteristics.

Variable	N (387)	%
Category of parent		
Father	218	56.3
Mother	152	39.3
Guardian	17	4.4
Religion		
Traditionalist	94	24.3
Muslim	30	7.8
Christian	260	67.2
Other	3	0.8
Educational level		
Primary	81	20.9
Secondary	75	19.4
Diploma	26	6.7
Undergraduate	34	8.8
Masters degree level	4	1.0
Not educated	167	43.2
Marital status		
Married	306	79.1
Single Parent	17	4.4
Widowed	56	14.5
Divorced	8	2.1
Occupation		
Unemployed	21	5.4
Trader/Artisan	138	35.7
Farmer	150	38.8
Civil Servant	22	5.7
Public Servant	46	11.9
Other	10	2.6
Experience of teenage pregnancy in family		
Yes	85	22
No	302	78
Age of Child (ren)		
Children aged 10–14	291	75.2
Children aged 15–19	96	24.8

Bivariate analysis

Pearson correlation coefficients were assessed as significant at the ($p < .01$) and ($p < .05$) levels. Except for age and understanding of RHE, all variables were significantly correlated with intention to support RHE implementation in schools, with $r = .10–.23$ indicating a small effect size, $r = .24$ to .36 indicating a moderate effect size, and $r \geq .37$ a large effect (Cohen 1988). Both injunctive and descriptive norms correlated strongly with intention to support RHE implementation. Attitude towards in-school RHE implementation, and outcome belief in RHE, correlated moderately with intention to support RHE implementation, while a small effect size was found for outcome belief in abstinence-only sex education. Table 3 presents the bivariate significant associations found between psychosocial and demographic variables using Pearson's r correlations.

Table 3. Means, standard deviations and correlations of determinants of intention to support RHE implementation in schools.

Variable	Mean (SD)	1	2	3	4	5	6	7	8
Intention to support RHE	4.04 (0.64)								
Attitude towards RHE	4.19 (0.59)	.29**							
Outcome belief of RHE	3.75 (0.53)	.25**	.30**						
Injunctive norm	3.88 (0.68)	.41**	.21**	.11*					
Descriptive norms	4.18 (0.66)	.41**	.25**	.17**	.39**				
Outcome belief of Abstinence RHE	4.11 (0.73)	.23**	.21**	0.03	.18**	0.05			
Understanding of RHE	1.33 (0.32)	0.02	−0.07	−.23**	0.04	0.04	.10*		
Age	4.60 (9.95)	−.11*	−0.06	−.16**	.10*	0	0.05	0.06	

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Multivariate analyses

Hierarchical multiple regression analysis was conducted to investigate the variance in the intention to support RHE implementation in schools explained by the RAA constructs that showed a significant bivariate association with intention. In the first step of hierarchical multiple regression, the five psychological predictors that showed significant univariate associations with intention (attitude towards in-school RHE, outcome beliefs of Abstinence-only RHE, outcome beliefs of RHE, injunctive norms towards supporting RHE and descriptive norms towards supporting RHE) were entered into the model. This model was statistically significant [$F (6, 377) = 27.630$], $p < .001$ and explained 30% of the variance in intention to support RHE. All five psychological predictors made a significant unique contribution to the prediction of intention to support.

According to TPB, socio-demographic variables exert an influence on intention through other psychosocial variables. We therefore added the socio-demographic variables to subsequent steps to test whether there was a direct influence of socio-demographic measures on intention to support RHE. Demographic variables with more than 2 categories were entered using dummy coding. Adding family experience with teenage pregnancy and class level accounted for an additional 1% of the variance in intention to support. The change in explained variance of intention was however not significant [$F (4, 373) = 1.294$, $p = .27$].

Adding in the other demographic variables (age, marital status, category of parent, occupation, religion and educational level) resulted in a total explained variance of 35% in

intention to support (Table 4). Again, the change in variance was not significant [F (15, 358) = 1.358, $p = .17$]. The final regression model showed unique significant contributions to the prediction of intention to support RHE implementation in schools for descriptive norms towards supporting RHE (β = .24, $p < .001$), injunctive norms to support RHE (β = .20, $p < .001$), outcome beliefs for Abstinence-only RHE (β = .16, $p < .001$), and outcome beliefs for RHE (β = .15, $p < .01$). The RAA constructs, descriptive norms, injunctive norms, outcome beliefs towards Abstinence-only RHE and outcome beliefs towards RHE (instrumental attitude) significantly predicted parents' intention to support RHE implementation.

Table 4. Multiple regression analysis with parents' intention to support RHE implementation as the outcome measure.

	Model 1[a]			Model 2[b]			Model 3[c]		
Predictors	B	SE	β	B	SE	β	B	SE	β
Constant	.37	.33		.73	.40		.61	.45	
Predictor variables									
Attitude towards in-school RHE	.11	.05	.10*	.10	.05	.09	.09	.05	.09
Outcome belief of RHE	.19	.06	.16**	.17	.06	.14*	.18	06	.15**
Descriptive norm towards supporting RHE	.25	.05	.26***	.24	.05	.25**	.24	05	.24***
Injunctive norm towards supporting RHE	.23	.06	.24***	.21	.05	.22***	.19	.05	.20***
Outcome belief of abstinence-only RHE	.12	.04	.14**	.12	.04	.14*	.14	.04	.16***
Family experience of teenage pregnancy				.001	.07	.003	.00	.07	.00
Class level for introducing RHE									
Lower primary				−.09	.15	−.07	−.07	.15	−.05
Upper primary				−.14	.16	−.12	−.11	.16	−.08
JHS				−.45	−.45	−.12	−.54	.23	−.14*
Category of parent									
Father							−.01	.16	−.08
Mother							−.18	.15	−.14
Marital Status									
Single							−.08	.14	−.03
Married							.02	.09	.01
Religion									
Christian							−.01	.08	−.01
Muslim							−.24	.12	−.10
Educational level									
Upper primary							.07	.08	.05
Secondary school							.13	.08	.08
Diploma							−.07	.17	−.03
Undergraduate							−.03	.16	−.01
Occupation									
Civil Servant							.01	.22	.01
Trader/Artisan							.27	.19	.20
Public Servant							.32	.22	.16
Farmer							.01	.19	.08
Unemployed							.25	.22	.08
R^2			0.30			0.315		0.352	
R^2 change						0.010		0.037	
F change			27.630			1.294		1.353	

Significance levels of regression model *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

[a]Model 1 refers to hierarchical multiple regression with the five psychological predictors, family experience of Teen pregnancy and class level for introducing RHE as predictors.

[b]Model 2 refers to Hierarchical multiple regression with the psychological variables, family experience of teenage pregnancy, and class level for introducing RHE as predictors.

[c]Model 3 Hierarchical multiple regression with the psychological variables, family experience of teenage pregnancy, class level for introducing RHE and demographic variables as predictors.

Discussion

Parents play an important role in children's education both at home and through the support they provide for school. Therefore, gaining an understanding of the determinants of parents intentions to support RHE adoption and implementation in schools is critical for developing and implementing RHE programmes successfully. This study investigated the determinants of parents' intention to support the adoption and implementation of RHE in primary and high schools in Ghana and used the RAA and TPB to explain intention to support RHE implementation in school. Bivariate analyses showed that injunctive and descriptive norms towards supporting RHE were the strongest correlates of parents' intentions to support RHE implementation in schools, followed by attitudes towards in-school RHE implementation and beliefs in the outcome of RHE. The regression analysis also showed that descriptive norms, injunctive norms and outcome beliefs towards abstinence-only RHE best predicted parents' intention to support RHE implementation. Overall, the results showed that interventions to influence parents to support RHE may not be successful if they fail to engage with social norms and beliefs regarding the importance of RHE for adolescents.

The prediction of parents' intentions to support RHE by descriptive and injunction norms aligns with reports in previous studies showing the powerful influence of religious and cultural beliefs on parents' decisions regarding the implementation of sexuality education in schools (Hurst et al. 2023; Zaabi et al. 2019; Kee-Jiar and Shih-Hui 2020). In many African countries, including Ghana, culture and religion play a significant role in shaping people's beliefs on individuals' decision-making regarding issues related to sexuality (Gyimah et al. 2010, 2014; Osafo et al. 2014; Somefun 2019). Given the influence of social norms on parents' intentions to support RHE implementation, sexuality education programme planners should consider consulting religious leaders in the development of future programmes. In addition, they should consider providing religious and other leaders with accurate information about what sexuality education is (and is not) about through the media, respectful and reflective dialogues about programme content and its positive impact on the sexual behaviours of adolescents, in order to gain support for successful implementation.

The TPB sees outcome beliefs as key determinants of an individual's intention to perform a particular behaviour. Our findings revealed that the outcome belief of abstinence-only RHE strongly predicted support for the implementation of RHE in schools. Parents who expressed positive outcomes beliefs in abstinence-only sexuality education showed strong intention to support RHE. The findings align with those from another study in Ghana by Kumi-Kyereme et al. (2014) which showed that parents' perceptions about sexuality education, as reflected in their fears and concerns about RHE, shaped their attitudes towards the subject. Although it is generally perceived that teaching abstinence-only education would lead to adolescents abstaining from sexual activities until marriage (Anarfi and Yaa Owusu 2011; van Duyvenbode 2010), empirical evidence shows that compared with CSE, abstinence-only programmes are ineffective in achieving positive sexual health outcomes (Santelli et al. 2017; Fonner et al. 2014; Erkut et al. 2013). To change false beliefs about the effectiveness of abstinence-only education, sexuality education developers such as GES and non-governmental organisations could consider educating parents on CSE to understand its benefits through television, radio, community

sensitisations, and associations such as the Village Saving and Loans Associations (VSLA), and women and men's fellowship within religious institutions.

The moderate contribution of outcome belief of RHE in predicting intention to support its implementation also suggests that not all parents prefer abstinence-only sexuality education. The findings of this study align with previous research that has also reported parents' support for implementing sexuality education programmes that contain topics on contraceptives, communication, and negotiation skills recognised as important skills for preventing unintended pregnancies, STIs, and SGBV (Dent and Maloney 2017; Bweyale and Annette Sekaye 2023). In their review of the Ghanaian school curriculum conducted between 2015 and 2016, Awusabo-Asare et al. (2017), reported that sexual and reproductive health education in schools was primarily focused on abstinence, using a fear-based approach. Our results signal the need to expand the scope of future programmes beyond a focus on abstinence and also to include reference to contraceptives and life skills development. To generate positive beliefs about the effectiveness of comprehensive forms of RHE programmes in producing positive sexual health outcomes, intervention developers should consider using theory and evidence-based approaches such as intervention mapping (Bartholomew Eldredge et al. 2016).

Given that parents play an important role as gatekeepers for their children, a favourable parental attitude towards RHE is key to the successful implementation of reproductive health education programmes in schools. Although the results from the regression analysis showed that attitudes did not significantly predict parents' intention to support RHE implementation, the moderate correlation between attitudes and intentions in the bivariate analysis, indicates that attitudes plays an important role in determining parents' intentions to support RHE adoption and implementation in schools (Crutzen and Ygram Peters 2023). Interventions aimed at influencing parents' intentions to support RHE programmes should therefore consider influencing parents' attitudes towards RHE as well. The rejection of Ghana's national CSE guidelines in 2019 was largely based on hostile attitudes towards the subject, especially the words 'comprehensive' and 'sexuality'. Religious leaders viewed CSE as evil and nicknamed the guidelines 'Comprehensive Satanic Engagement'. The word comprehensive was misinterpreted to mean that children were going to be exposed to a wide range of issues related to sex, contraceptives and homosexuality which religious leaders believed would threaten social norms and religious beliefs (Kahiu 2019). However, although CSE was rejected, religious leaders affirmed their continued support for reproductive health education (Fuller 2023). The change of name in the national guidelines to RHE could therefore offer a possible explanation for the only moderate correlation between attitudes and intention to support its implementation.

Limitations

The generalisability of our findings is limited because the study was conducted in a small number of schools in only one of the 16 regions in Ghana. Replicating this research with a larger and more representative sample from different regions could elicit further insights into parents' intentions to support RHE in schools. Future research should also be conducted among teachers and pupils to elicit their views on RHE as presently conceived and future variants. Moreover, given that we were not able to explain fully 65% of the variance in intention, future research could

consider the inclusion of other variables like the place of residence, parent-child communication skills on sexuality, the importance of religion to parents' everyday lives, and household income. Notwithstanding these limitations, this study is the first to assess selected psychological determinants of parents' intentions to support reproductive health education in Ghana and therefore makes a useful contribution to the literature.

Conclusion

The findings from this study demonstrate that psychosocial variables such as descriptive and subjective norms, outcome beliefs about RHE, and outcome beliefs about abstinence-only education can explain parents' intention to support the adoption and implementation of RHE in Ghanaian basic education. The results of the study suggest the need to involve and gain support from important social reference groups such as religious and community leaders in the development and roll-out of RHE programmes. The results also point to the need to design and implement programmes that can yield positive behavioural outcomes among adolescents. Finally, programme and intervention designers need to consciously plan to communicate information about programme content to parents in advance of curricular change to increase their knowledge and understanding, as this is crucial for successful programme adoption and implementation.

Notes

1. Compound houses are mostly rented buildings, consisting of different households, mostly nuclear families. Compound houses constitute 20.9% of the housing stock in Ghana and are more predominant in urban areas than in rural areas (GSS 2022).
2. A household in this study was defined as 'a person or group of persons who live together in the same house or structure, share the same house-keeping arrangements, and are catered for as one unit' (GSS 2010). Members of an extended family in rural areas live in big rent-free family houses and form one household.
3. Primary and junior high schools in municipalities and districts are clustered into circuits and in most areas, a circuit covers several communities.

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Data availability statement

Data supporting the findings of this study are available from the corresponding author upon reasonable request.

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