

Student teachers: are they willing to adopt a Comprehensive Sexuality Education approach?

Introduction and Background

The demands of contemporary society introduce challenges for teachers as key actors in formal educational systems. These challenges are at the centre of research focusing on the identification and definition of key competences that need to be developed in student teachers and fostered further during professional development (Vesely, Saklofske, & Nordstokke, 2014). This situation is especially true in the field of sexuality education (Goldman & Coleman, 2013). Available research shows that little is known about the position of sexuality education in student teachers' education (Martínez, Vicario-Molina, González, & Ilabaca, 2014). Moreover, research stresses how sexuality education is hardly part of the teacher education curriculum (Ollis, Harrison, & Maharaj, 2013). This is in sharp contrast to policy points of view that stress the strategic role of the school system in the implementation of sexuality education, especially when focusing on adolescents (Bay-Cheng, 2003; Thomas & Aggleton, 2016).

In terms of sexuality education implementation, Ecuador is one of the Andean countries reflecting a weak adoption of sexuality education in the educational system. In Ecuador, despite the societal interest in sexuality education during recent decades (Darré, Jerves, Castillo, & Enzlin, 2015), little information is available about the formal preparation of teachers to implement the main sexuality education policy directive. The scarcely available information suggests that sexuality education in Ecuadorean schools remains limited and seems insufficient (Palacios & Ortiz, 2009). This observation questions the position of teacher education to support any innovation process (Sharma, Simi, & Forlin, 2015), and to improve the knowledge, confidence and skills of future teachers (Mitchell et al., 2011). Moreover, it has been reported that addressing this 'sensitive topic' with student teachers can contribute to the promotion of democratic citizenship (Berger, Khzami, Jourdan, Bernard, & Carvalho, 2008; Chikoko, Gilmour, Harber, & Serf, 2011) which relates to children and adolescents sexual rights from a social science perspective (World Health

Organization, 2010). Therefore, teachers could boost sexual rights empowerment in adolescents (UNESCO, 2015) .

Preparing student teachers to address sexuality education entails some challenges: First, it requires a clearly-defined sexuality education approach, with a clear link with the school curriculum and a team of trained teacher educators (Ollis et al., 2013). Second, student teachers' perspectives about sexuality and about teachers' roles in sexuality education (Beijaard, Verloop, & Vermunt, 2000) need to be taken into account. The former refers to controversial topics that touch upon student teachers' own beliefs (Chikoko et al., 2011), including the way they deal with their own sexuality (Nuncio, Márquez, Alonso, & González, 2012). According to Gursimsek (2010), both teachers and students approach sexuality education with predefined attitudes, knowledge, familiar and cultural values, prejudices, related experiences and fears. Last, studies suggest that developing teachers into sexuality educators is not easy, because it is often not considered being part of their professional task (Vavrus, 2009).

In recent years, approaches towards pre-service teacher education growingly incorporates student teachers perspectives (Beijaard et al., 2000). This involves that their personal frameworks are considered as guiding future actions, through a process of 'reflection' on earlier experiences and practice (F. A. Korthagen & Kessels, 1999). This puts student teachers cognitions (e.g., attitudes, beliefs, self-efficacy, knowledge) at the centre of teacher education and thus as a key aspect when explaining the way teachers implement teaching and learning practices (Borg, 1999). Complementary, since research stresses that the initiatives to prepare teachers for sexuality education do not always directly translate into implementation in the classroom (Talavera, 2004), more attention needs to be paid to precursors of actual classroom behaviour. This introduces a focus on student teachers behavioural intentions to forecast successful integration of sexuality education. Previous studies considered precursors of "intentions to" implement single aspects related to sexuality education, such as attitudes (Gursimsek, 2010; Smith & Harrison, 2013; Manzano Pauta & Jerves Hermida, 2015) ; knowledge (Ramírez, 2000; Fallas Vargas, 2010); self-efficacy (Barr et al., 2014) etc. Yet, so far precursors have been hardly considered the

mentioned aspects from a more integrated perspective. The Theory of Planned Behaviour (TPB, Ajzen, 1991) offers a theoretical framework to integrate these variables.

The main objective of the present study is therefore to examine the interrelated effects of student teachers cognitions (i.e., attitudes, self-efficacy beliefs and knowledge) towards Comprehensive Sexuality Education (CSE) on their behavioural intentions to implement CSE. We hereby examine the impact of particular background variables, such as gender, previous training in sexuality education and educational subject/discipline.

Conceptual and Theoretical Framework

Comprehensive Sexuality Education (CSE)

A comprehensive approach towards sexuality education (CSE) reflects a holistic view on human sexuality, and is based upon a rights-based and gender-focused approach to sexuality education as also advocated for by the UNESCO (2009) and the UNFPA (2014). CSE must be age-appropriate and thus consistent with young people's evolving capacities, needs to be culturally relevant and scientifically accurate, and should provide realistic and non-judgemental information. On top, CSE should not only pass information, but needs to raise opportunities to explore one's own values and attitudes and to build decision-making, communication and risk reduction skills about sexuality. Different dimensions need to be tackled, including family life, relationships, culture, gender roles and sexual violence. These aspects are reflected in the definition of CSE(IPPF, 2006 p.6): "*Comprehensive **sexuality** education seeks to equip young people with the knowledge, skills, attitudes and values they need to determine and enjoy their sexuality – physically and emotionally, individually and in relationships. It views sexuality **holistically** and within the context of emotional and social development. It recognizes that information alone is not enough. Young people need to be given the opportunity to acquire essential life skills and develop positive attitudes and values. CSE must help young people to acquire accurate information, develop life skills and nurture positive attitudes and values.*"

Sexuality education thus stress sexuality as being different from sex or sex education:

“Sexuality is a central aspect of being human throughout life and encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviours, practices, roles and relationships. (...) Sexuality is influenced by the interaction of biological, psychological, social, economic, political, ethical, legal, historical, religious and spiritual factors” (World Health Organization, 2006 p.5).

Since the Ecuadorian policy on the implementation of sexuality education is aligned to this definition, this will be the framework of the current study.

Comprehensive sexuality education in the Ecuadorean context

In Ecuador, there has been continuous modifications of the educational proposal about sexuality education (Educativo, 2012). In the latest years, the central educational authorities have embraced a Comprehensive Sexuality Education approach (CSE) which should be a compulsory part of the mainstream school curriculum. CSE is expected to developing knowledge, skills and attitudes, at all educational levels, in both public and private schools (EDUCATIVO, 2012). CSE has hereto been defined as a transversal axis within the school curriculum, which implies that every teacher, at any educational level and responsible for whatever subject, must be able to address sexuality education in his/her classroom. Despite this policy regulations, there is a lack of systematic program implementation and assessment. Furthermore, hardly empirical evidence is available about the nature and impact of initiatives about sexuality education programs in Ecuadorian schools (e.g. Matilde, Acero, Alexandra, & Lema Zárate, 2012; Sinchi & Elena, 2015). Available data reflect a mismatch between national regulations supporting a CSE approach in schools and the actual provisions in schools (Palacios & Ortiz, 2009). The latter is alarming, given the fact that Ecuador has one of the highest rates of early pregnancy in Latin-America (Lora, Castro, & Salinas, 2009; Ministry of Health of Ecuador, 2012).

Student teachers' cognitions

Educational research emphasizes the central role of teachers' cognitions in their instructional decisions (Shahzad, 2016). Teachers' cognitions are defined as the store of beliefs, knowledge, assumptions, theories and attitudes about all aspects of their work which teachers hold and impact their classroom practices (Borg, 1999). Student teachers' cognitions that are considered in this study are self-efficacy beliefs, attitudes and knowledge in relation to CSE.

Self-efficacy beliefs related to CSE

Bandura (1993, 1997) defines self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p.3). These beliefs envisage abilities to cope with different situations and influence the intrinsic motivation to perform tasks (Bandura, 1977). Authors state that self-efficacy beliefs impact subsequent behaviour (Canrinus, 2011) or at least mediate in adopting behaviours (Sang, Valcke, van Braak, & Tondeur, 2009).

Looking at teachers, Friedman and Kass (2002, p. 684) define teacher self-efficacy as “their perception of his or her ability to (a) perform required professional tasks and to regulate relations involved in the process of teaching and educating students and (b) perform organizational tasks, become part of the organization and its political and social processes.” Consistent with this general definition, Tschannen-Moran & Hoy (2001, p.783) defined teacher self-efficacy as “a teacher’s judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated.” Research suggest that higher self-efficacy beliefs are associated with the improvement of teaching practices (Lin & Gorrell, 2001). If a person believes s/he is capable to attain a positive result, it will be more likely s/he continues adopting that behaviour (Canrinus, 2011). Literature reveals that self-efficacy beliefs push teachers to adopt specific didactical strategies, such as collaborative learning and peer tutoring (Guskey, 1988; Jungert & Rosander, 2010; Klassen & Tze, 2014). To date, research has not yet investigated teachers' self-efficacy in relation to sexuality education.

Attitudes towards CSE

Attitudes refer to behavioural predispositions that lead to avoiding or adopting certain behaviour, and/or to respond (un)favourably to an object, person or event (Krosnick et al., 2005). This explains why, according to Ajzen & Fishbein (1977), attitudes refer to the ability to predict a person's behaviour toward certain targets.

In the field of sexuality education, attitudes towards sexuality play a vital role (Martínez et al., 2014). López (2005 p. 86) defines attitudes towards sexuality as “a willingness to give opinions, to feel and to act in relation to sexual objects, situations, persons, social norms and customs, and sexual behaviour.” These attitudes may be expressed through cognitive (opinions and ideas about situations, habits, behaviours about sexuality), emotional (reactions in terms of feelings, sensations and emotional responses to a particular sexual stimulus) and behavioural (dispositions to behave in certain way) dimensions. Attitudes towards sexuality could be defined considering an evaluative component with two poles (W. A. Fisher, White, Byrne, & Kelley, 1988) positioned on a continuum from favourable, positive attitudes (‘erotophilia’ pole) to unfavourable, negative ones (‘erotophobia’ pole), which are activated automatically when people are faced with the object in question (Reis & Vilar, 2006).

Scholars suggest that teacher's attitudes towards sexuality and sexuality education is an important predictor of its implementation (Wight & Buston, 2003; Ramiro & Matos, 2008; Gursimsek, 2010; Fallas Vargas, 2010). Although teacher-related studies are scarce, the latter seems also applicable to student teachers (Ollis et al., 2013). More positive attitudes may enable teachers to interact in a professional way with the different sexual biographies presented by students (López, 2005; Reis & Vilar, 2006; Fallas Vargas, 2010).

Knowledge in relation to CSE

Knowledge is referred to the domain of the scientific knowledge regarding a specific subject (Davey, 2013) implying a deep and full understanding of the subject area. This understanding is characterized by knowledge of concepts and their relationships (Beijaard et al., 2000). Mastery of subject matter knowledge allows teachers to adapt, adopt, curricula, invoke effective learning and adopt high level instructional strategies.

Within the context of CSE, knowledge is understood as the possibility to offer scientific, and accurate information, about the bio-psycho-social dimensions of human sexuality (Fallas Vargas, 2010). This information tackles empowerment and sexual rights of children. It must be balanced, comprehensive, age appropriate and not scary or judgmental (World Health Organization, 2010). From this perspective, teacher understanding of his/her own sexual biography is fundamental to avoid the imposition of biased point of views (Fallas Vargas, 2010).

Behavioural intentions to teach CSE: Theory of Planned Behaviour

The behavioural intentions to teach CSE can be linked to the Theory of Planned Behaviour (TPB) (Ajzen, 1991). This widely accepted theory helps predicting behavioural intentions in a wide variety of fields, such as using computers in the classroom (Teo & Beng Lee, 2010), integrating physical activities (Martin, Kulinna, Eklund, & Reed, 2001) and adopting collaborative learning strategies (Lumpe, Haney, & Czerniak, 1998) and teachers attitudes toward inclusion (MacFarlane & Woolfson, 2013). According to this theory, the intention to perform behaviour is dependent on three precursors: attitudes toward this behaviour, the subjective norms surrounding this behaviour, and the perceived behavioural control of this behaviour. More positive attitudes, more favourable subjective norms and a higher level of perceived behavioural control are associated with higher intentions to enact the behaviour (Ajzen, 1991).

The TPB guides the conceptual framework of the present study. The focus is on looking at variables associated with student teachers' intentions to adopt a CSE approach in

Ecuadorian schools. As precursors of their intentions, we look at their CSE attitudes, their CSE self-efficacy beliefs and their CSE-related knowledge. The latter is included in the framework since research stresses how adequate mastery of knowledge about sexuality education is strongly associated with related values and beliefs (Ramírez, 2000; Fallas Vargas, 2010). TPB further emphasizes how subjective norms are at stake. Yet, incorporating this variable is somewhat problematic for student teachers, since they are not yet included into a peer network of teachers in a school setting. Incorporating subjective norms by building on their student peer network cannot be considered a proxy of subjective norms as experienced by peer teachers working in the same school context. This is why this variable is not considered in the present study.

Additional background variables

In general terms, there is evidence about the differences in student teachers gender and their cognitions (İpek & Camadan, 2012). Considering sexuality education, gender differences with regard to student teachers' attitudes, self-efficacy beliefs and behaviours toward this subject matter represent an important variable to take into consideration. Available literature on sexuality education evidence diverging outcomes about the influence of teachers and student teachers gender. For instance Gursimsek (2010) found that men teachers adopt more conservative attitudes and reflect a higher tendency to develop prejudice attitudes towards certain topics of sexuality education. The implementation of sexuality education is considered a female domain (Ollis et al., 2013), and, in turn, it has been reported that male teachers are more reluctant to teach sexuality education and that they feel under threat about their professional identity affecting their involvement in teaching this subject matter and lacking on involvement in whole schools sexuality education and sexual health promotion (McNamara, Geary, & Jourdan, 2010).

There is evidence supporting the notion that previous training, understood as student teachers preparation in the field of sexuality education through workshop, courses, or specific unit/topics within a course, is a key aspect in actual sexuality education implementation (Hedrich, 1998; Francis, 2016). Given the sensitive and controversial nature of sexuality education, it has been shown that its implementation can be stressful for teachers and student teachers generating resistances, and lacking their teaching practices (Harrison & Ollis, 2015). A number of researches argue that teachers and student teachers

have to first understand themselves as sexual beings, their tribulations about sex and sexuality before dealing with sexuality education (Ollis et al., 2013; Francis, 2016; Goldman & Grimbeek, 2016). Therefore, as Levenson-Gingiss & Hamilton (1989) indicate, previous training helps improving feelings of potential inadequacy, negative attitudes, self-doubts about the knowledge and skill required and uncertainty about the situation they will have to face.

Available literature about sexuality education also points out the importance of the subject/discipline –and its teacher– incorporating sexuality education. In most cases, sexuality education can be allocated few hours as stand-alone subject or as a unit/topic incorporate in a biological, or health course implying one teacher responsible of the topic (World Health Organization, 2010; Ollis et al., 2013). However, current debates about how sexuality education should be nested in the school acknowledge its implementation as a transversal axis within the curriculum, meaning that sexuality education should be embedded in every subject. Consequently, all school teachers should be able to address it within their subjects (Martín, 2007). The national policy in Ecuador about sexuality education is in line with this view (EDUCATIVO, 2012). As Aggleton, Dennison, & Warwick (2010) argues, sexuality education is shifting toward a more holistic ‘whole school’ approach, which requires the involvement of the all staff to attain an effective incorporation of all themes related with sexuality education.

3. Method

Sample characteristics

Participants were student teachers enrolled in a secondary education teaching degree in the Faculty of Philosophy, Letters and Educational Sciences of the University of Cuenca (Ecuador), the largest public university in the southern part of Ecuador. Respondents were senior students enrolled for their last semester before their graduation. Since a variety of secondary education tracks are offered, depending on the subject/discipline specialisation of the student, students from each program were considered. In total 141 students were invited to participate in the study and all completed the survey. Respondents were enrolled

in social sciences (n=63, 44.7%) which encompasses students of Languages, History and Philosophy, Physical Culture (20, 14.2%), English (20; 14.2%), Maths and Physics (19; 13.5%) and Basic Education¹ (17; 12.1%) . Some followed two programs simultaneously (2; 1.4%). Considering previous training in the field, most respondents (60; 42.6%) reported having attended prior training/workshops in sexuality education. From the total group of participants, 28 respondents (19.9%) reported they had tackled sexuality education in the context of their undergraduate program, 12 (8.5%) indicated they received sexuality education at more than one occasion, and 1 (0,7%) reported having been trained through the Ministry of Education. In terms of gender, the majority (54.6%) of the respondents were female, mirroring the predominance of female teachers in Ecuador (68%) (Ministerio Educacion, 2013).

Procedure

In view of the purpose of the study, a survey was set up. Authorization to administrate the survey was obtained from the faculty authorities. The researcher administrated the survey during a regular classroom session for each group of respondents. Survey administration started by explaining the participants about the study aims and conditions (voluntary participation, the right to withdraw from participation at any time, confidentiality and anonymity), and all were invited to sign an informed consent. Participants completed the survey individually in the presence of their peers and the researcher. Administration took on average twenty-five minutes. After administration, a card with the researcher's contact details was provided in case participants had further questions.

Research instruments

A survey consisting of four subscales was designed, assessing student teachers' intentions to teach CSE, their CSE self-efficacy beliefs, their CSE attitudes, and CSE knowledge. The

¹ This program trains future teachers to work in all levels of basic education in the Ecuadorian education system. Basic Education encompasses students between 6 to 15 years old. This program had just four promotions, but it was running at the moment the data was collected.

IPPF framework on CSE guided the scale design (International Planned Parenthood Federation, 2009).

-Student teachers' behavioural intentions to teach sexuality education were measured with the scale adopted from Meyer, Allen, & Smith (1993) and Lee, Carswell, & Allen (2000). The scale assesses occupational commitment for a job, and the intention to engage regularly in relevant professional activities (Lee et al., 2000). Commitment has been previously studied as a significant indicator of potential teacher behaviour (see e.g., Canrinus, 2011) and is used as a proxy for the intentions to be engaged in teaching CSE. Five items, focusing on the affective component of job commitment, were included, each stated in the first person (I, My) (Meyer et al., 1993) (e.g., "It is my role as a teacher working sexuality education with my students", "I will be willing to work sexuality education within my classes if I have to do it). Participants were asked to rate their level of agreement with a statement following a 6-point Likert scale (from 1 – strongly agree to 6 – strongly disagree). High internal consistency was observed (Cronbach's $\alpha=0.85$).

-Student teachers' CSE self-efficacy beliefs were assessed building on a scale of Pajares (1996), Zimmerman & Bandura (1995) Bandura (1993, 2006) and (Friedman & Kass, 2002). A 31 items scale was developed (e.g., "Get to feel confident in dealing issues related to pleasure with my students", "To achieve design strategies to introduce sexuality education within my classes"), and participants were asked to rate their level of perceived self-efficacy towards a specific statement regarding the possibility of working sexuality education. We applied a 10-point Likert scale (from 1 – 'I Could not do it' to 10 – 'Definitely I could do it'). High internal consistency was observed (Cronbach's $\alpha=0.97$).

-Student teachers' CSE attitudes were measured with a 15 items scale derived from Fallas (2010) and Smith et al. (2011). Participants were asked to rate their level of agreement with a specific statement on a 6-point Likert scale (from 1 – strongly agree to 6 – strongly disagree). Calculation of initial internal consistency revealed a Cronbach's α of 0.40. The low overall internal consistency pushed carrying out a principal axis factor analysis with the 15 items and using a varimax rotation. Kayser-Meyer-Olkin calculation reveals

sampling in view of the analysis (KMO=0.794). Analysis helped identifying three factors, though only two factors were considered meaningful: (a) 'Favourable attitudes towards CSE': items 1,5,6,7,12,15; Cronbach's alpha=0.78; item examples "Sexual orientation should be included in sexual education in schools", "Information about birth control should be given to adolescents regardless they are sexually active or not"; (b) 'Unfavourable attitudes towards CSE': items 4,8,11,13; internal consistency Cronbach's alpha=0.60; item examples "It is appropriate to teach adolescents that sex before marriage is unacceptable", "Addressing issues of sexual violence in the classroom encourage violent practices". As stated above, a third factor could not be labelled in a meaningful way, resulting in five items being removed. These items reflected low structure coefficients (<.30).

-A 20-item scale to measure student teachers' knowledge about CSE was based on Fallas Vargas (2010), the WHO (2/009) and Smith et al. (2011). Respondents were asked to answer with true/false/unknown when judging a specific statement (e.g., "Gender identity matches with sexual orientation", "Sexuality education based on rights promotes the abstinence"). Correct answers resulted in a score of 1; wrong or unknown resulted in a score of 0.

Data analysis

After a descriptive analysis of the variables, bivariate correlations were calculated to explore the interrelations between the research variables. Next, enter multiple linear regression was carried out to study possible associations between the predictor variables self-efficacy beliefs, favourable attitudes to CSE, unfavourable attitudes to CSE and knowledge and as outcome variable we entered behavioural intentions to teach. In a next phase, background variables were added to the regression. Ordinal data were entered as dummies. A significance value of $p < .01$ was put forward. Statistical analyses were performed using SPSS 19.0.

4. Results

Descriptive

Teachers tend to express high positive responses as to their behavioural intentions to teach CSE, high self-efficacy beliefs and high positive attitudes towards CSE; CSE knowledge

scores were average (table 1).

Table 1. Descriptive results (N=141)

Variables	M(SD)	Minimum	Maximum
Behavioural intention to teach (max. 6)	4.62 (1.01)	1.4	6
Knowledge (max.20)	10.25(3.12)	1	17
Self-Efficacy beliefs (max. 10)	7.75 (1.32)	2.71	10
Favourable attitudes towards CSE (max. 6)	5.23 (0.87)	1,17	6
Unfavourable attitudes towards CSE (max. 6)	2.44 (0.98)	1	5.4

4.2 Correlation analysis

The Pearson correlation analysis provides a first picture of the nature of the relationships between the research variables (Table 2). In view of the current study, correlations with behavioural intention to teach are of primary interest. The results indicate significant interrelations between behavioural intention to teach and the other research variables: self-efficacy ($r=.357$; $p=.002$), favourable attitudes ($r=.487$; $p=.003$), unfavourable attitudes ($r=-.262$; $p=.002$) and knowledge ($r=.203$; $p=.016$), suggesting that a regression analysis is adequate. No significant correlations were found considering the background variables gender ($r=.10$; $p=.207$), previous training in Sexuality Education ($r=-.01$; $p=.826$) and subject/discipline of study ($r=.081$; $p=.340$). No indicators for multicollinearity were found.

Table 2. Correlation analysis (n=141)

Variables	B.I. Teach	Self-Efficacy	Fav. Attitud	Unfav. Attitud	Knowledge	Gender	Prev. Training	Subject/Disciplin
B.I.Teach	1 ^a	.357**	.487**	-.262**	.203*	.107	-.019	.081
Self-Efficacy	.357**	1	.288**	-.172*	.289**	.092	.042	.041
Fav. Attitud	.487**	.288**	1	-.353**	.210*	-.083	-.018	.064
Unfav. Attitud	-.262**	-.172*	-.353**	1	-.275**	-.117	-.079	-.045
Knowledge	.203*	.289**	.210*	-.275**	1	.070	.088	.093
Gender	.107	.092	-.083	-.117	.070	1	-.058	.130
Prev. Training	-.019	.042	-.018	-.079	.088	-.058	1	-.204*
Subject/Discipli	.081	.041	.064	-.045	.093	.130	-.204*	1

^a Pearson correlation. Sig. (2-tailed) * $p<.05$; ** $p<.01$

4.3. Multiple Linear Regression

The results are summarized in table 3. The regression output shows how the favourable attitudes towards CSE ($b=0.47$, $p<.01$) and self-efficacy beliefs ($b=0.16$, $p<.01$) are significantly associated with Behavioural Intention to Teach CSE (BIT) (Table 3). These variables explain 26.7% of the variance in BIT. The regression model is significant ($p<.001$; $R^2=.309$) with a standard error of 0.87 and a Durbin-Watson value of $d=1.92$, suggesting no first order linear autocorrelation is observed in the multiple linear regression data.

The b -values indicate that the relationship between behavioural intention to teach CSE and each independent variable is positive for five study variables and negative for two study variables.

The positive relationships show that the b -value for favourable attitudes ($b= 0.47$) indicates that as the student teachers rate in one unit higher in the favourable attitudes scale, the BIT scale increase by 0.47 unit. Likewise, the b -value for self-efficacy beliefs ($b= 0.16$) indicates that as the student teachers rate in one unit higher self-efficacy scale, the BIT scale increase by 0.16 unit. These variables showed significant association with BIT. The b -values also indicate that as the knowledge scale rate in one unit higher, BIT scale increase by 0.01 unit; as the gender change from female to men, BIT scale increase by 0.21 unit and; as the subject/discipline of the student teachers change, BIT scale increase by 0.01 unit.

The negative relationships indicate that as the student teachers rate in one unit higher in the unfavourable attitudes scale, there is a decrease in BIT of 0.06 units; and as the student teachers had different previous training in sexuality education, there is a decrease in BIT of 0.01 units. Each interpretation is true only if the effects of the other independent variables are held constant.

Table 3. Linear Model of predictors of Behavioural Intention to Teach (BIT)

	b^a	SE B	β^b
Constant	0.78 (-0.93-2.18)	1.03	
Favourable Attitudes CSE	0.47 (0.28-0.65)	0.09	.40***
Self-Efficacy	0.16 (0.04-0.28)	0.06	.20**
Knowledge	0.01 (-0.04-0.06)	0.02	.03
Unfavourable Attitudes CSE	-0.06 (-0.22-0.10)	0.08	-.05
Gender	0.21 (-0.08-0.52)	0.15	.10
Previous Training	-0.01 (-0.14-0.11)	0.06	-.01
Subject/Discipline	0.01 (-0.06-0.09)	0.04	.02

Note^a Beta values and confidence interval. ^b Standardized beta values. * p<.05 ** p<.01 *** p<.001cn

5. Discussion

The current study explored the association between student teachers cognitions (attitudes, self-efficacy beliefs, knowledge) about Comprehensive Sexuality Education, background characteristics (gender, previous training in sexuality education and subject/discipline of study) and their behavioural intention to teach CSE in the future. By examining these associations, a more in-depth idea of what and how preparing future teachers to integrate CSE is provided.

Our results offer evidence to argue that student teachers holding strong self-efficacy beliefs and favourable attitudes towards CSE are more likely to integrate/teach CSE into their future teaching practices. Unfavourable attitudes towards CSE and knowledge are not associated with student teachers intention to teach CSE into their future teaching practices. Of all teacher cognitions, favourable attitudes toward Comprehensive Sexuality Education (CSE) seems to be most strongly associated with intention to teach CSE.

Our finding about positive attitudes is in line with what has been found in previous studies but involving in-service teachers (Ramiro & Matos, 2008; Martínez, Vicario-Molina, González, & Ilabaca, 2014; Manzano Pauta & Jerves Hermida, 2015). Yet, the current results highlight the importance of the students teachers favourable attitudes towards the different dimensions of CSE approach in view of its future implementation and; in turn, its potential limitation due to their unfavourable attitudes. Indeed, earlier studies have pointed out the difficulties associated with negative attitudes of teachers toward sexuality and sexuality education on prospective teaching (Fallas Vargas, 2010; Gursimsek, 2010), particularly by avoiding addressing it (Martínez et al., 2014). This implies that the more favourable attitudes of student teachers towards CSE dimensions, the more likely they are to accept this sexuality education approach as something important to address in the future. Given that the nature of the attitudes is something deeply rooted the cultural context (Sharma et al., 2015), and given that teachers attitudes are much more difficult to be affected after training in sexuality education -in comparison with knowledge for instance- (Fallas Vargas, 2010; Abad et al., 2017) boosting positive attitudes towards CSE is a clear challenge, and a priority in terms of student teachers preparation.

Unlike attitudes, to date, self-efficacy beliefs in relation to teach sexuality education are less reviewed in the academic field and even less in student teachers preparation. However, according to our findings, this variable is strongly associated with CSE integration into future practices of student teachers. This finding is in line with previous studies that stress the importance of feeling confident and prepared to teaching sexuality education topics on teachers' practices and behaviours (Fisher & Cummings, 2016; Goldman & Grimbeek, 2016). This hints that as the student teachers are more self-confident about their capacity to address the different topics of CSE with their future students, they will be more interested and even motivated in incorporate CSE in their daily practices. This is coherent with Bandura (1993) in the sense that a strong sense of self efficacy enhances personal accomplishment that guides effective and decided performance.

Interestingly, knowledge about CSE is not significantly linked to student teachers' behavioural intention to teach CSE. This result is in contrast with findings of Sinkinson (2009) who revealed how student teachers' perceived knowledge about sexuality and

sexuality education was very strongly linked to the teaching of this subject matter. At first sight, our findings might be unforeseen, but, as it can be derived from our descriptive results, the knowledge score of respondents about CSE is rather average. Maybe a threshold mastery level should be attained before it affects intentions to teach. Mastery of a scientific domain has been found important in view of their future teaching practice (Evans & Tribble, 1986). Insufficient mastery might therefore put intentions “on hold”. The results at least underscore the need to increase CSE related knowledge in student teachers. The latter was also reported in the study of Cohen, Byers, Sears, & Weaver (2004).

The results from our study about the background characteristics disclose that gender, previous training in sexuality education and area/subject of study of the student teachers’ participants are not significantly associated with prospective teaching of CSE.

In terms of gender, our findings are in line with earlier studies reporting non-significant gender differences in student teachers willingness to provide sexual health at school (Ramírez, 2000; Gunay, Cavas, & Hamurcu, 2015). Though, on the other hand, there is evidence supporting the notion that teachers’ gender plays a role in sexuality education prospective integration. Specifically, it has been found that personal perspectives around masculinity including views of men as less able to talk about emotional issues, and cultural influences embracing the idea of schools as feminised environments and teaching as a feminine profession are constraints on the willingness of male teachers to teach sexuality education in schools (McNamara et al., 2010).

This often generates an imbalance in the number of male and female student teachers and teachers, and imbalance towards certain subjects, as well. Thus, there are “masculine” subject areas as science majority in charge of male, while other areas seen as “feminine” has paucity of male participation and sexuality education is one of this areas with a significant bias towards female involvement (Ollis et al., 2013). As Martínez et al. (2014) postulates, gender stereotypes may enable that men show less interest than women in learning and teaching about sexuality education. In the case of our findings, we not only found not significant differences, but we had a rather balance number of male and female students (54.6% of the respondents were female). Therefore, we can postulate that the

above-mentioned differences are not affecting our participants intention to further integrate sexuality education. This situation is absolutely remarkable given that machismo –an its relationship to traditional gender roles- is a strong cultural factor functioning in the Ecuadorian society (Jerves et al., 2014).

Findings regarding the subject/discipline area of the student teachers also calls for special attention. Traditionally, biological sciences, and teachers of these areas, encompass issues related with the anatomical and physiological side of sexuality with a focus on sexual health with topics like pregnancy, contraceptives, safe sex and sexually transmitted diseases (Berger et al., 2008; García, Gonzáles, Forero, & Buitrago, 2010; World Health Organization, 2010). This situation and the intervention of a medical doctor or psychologist has been reported in the Ecuadorian educational system (Palacios & Ortiz, 2009). Whilst, other scholars assert that subjects rooted in social domains seems to be more favourable to reflect and deal with other topics of sexuality and sexuality education as gender, relationships, sexual rights, pleasure, diversities, etc. (Hiriart Riedemann & Riedemann, 1999; World Health Organization, 2010) and deal with cultural burden about dominant views of sexuality through a multi and transdisciplinary gaze (García et al., 2010; Jerves et al., 2014; Thomas & Aggleton, 2016). Our findings reflect that there is not effect of this variable in student teachers' intentions to further address or not CSE within their future teaching practices. These results are in line with Gotuzzo Herencia, Peinado, Tijero, Mayorca, & Badajos, (2001). A possible explanation is in line with Martínez et al. (2014) in the sense that student teachers from different subject/disciplines have less possibilities of learning about sexuality education as part/content of their preparation.

The result in terms of previous training is surprising since more than half of participants reported having received training about sexuality education and, as found, having prior training in the topic, positively predicts future delivery of sexuality education. However, it has also been reported that even with training, teachers may not feel comfortable or motivated to address sexuality education (Coyle, Anderson, & Laris, 2015). It has been argued that there is a significant association between previous training and knowledge in terms of sexuality education (Carrera, 1972) and that training correlates to individual conceptions on sex education (Berger et al., 2008). Taking into consideration our results in

knowledge, this lead us to hypothesize that previous training needs particular features to really contribute to student teachers' preparation in order to accomplish an effective future integration.

Overall, our findings about the background characteristics imply that whether the student teachers are female or men, are students of literature, history, mathematics, etc. or having receive some training in sexuality education or not, do not play a key role in their intention to address sexuality education in their future teaching practices. On the contrary, it might suggest that there is certain homogeneity in their views about sexuality and sexuality education. This can be attributable to another variable as the same pedagogical curriculum they share-which includes sexual education within one unit of the course of developmental psychology-. Further, because of the condition of student teachers, they have yet not been involved in an actual professional teaching position therefore they have yet not interacted with adolescents and parents, and have not faced certain curriculum topics. As such, student teachers may not know in "real life" what is teaching a controversial topic that has barely tacked in their preparation (Ollis et al., 2013), and that is hardly even an exam subject (Hiriart Riedemann & Riedemann, 1999; World Health Organization, 2010) as they tend to reproduce how they were pedagogically prepared in their future educative practices (Korthagen, 2001).

Our findings have some implications for research, school practice and teacher education. First, from a theoretical perspective, the findings help develop a better understanding of what student teacher cognitions help shaping future teaching practices. Thus far, the literature mainly stressed how sexuality education generates anxiety, fear, concerns in student teachers (Sinkinson, 2009). From a teaching practice perspective, our findings confirm that pre-service teachers embrace a comprehensive sexuality education approach and envision they play a role in the teaching of this approach. This is promising to improve sexuality education of future adolescents and the fact the Ecuadorian context rather reflected a weak tradition in embracing CSE. In relation to teacher education, the results highlight the importance of reviewing student teachers' CSE training (see also Sharma et al., 2015).. A stronger investment in developing knowledge about CSE seems needed. The latter should consider student teachers' cognitions, such as their self-efficacy and attitudes

(Martínez et al., 2014) and identify potential weaknesses that could be addressed at the time of teacher preparation

Limitations of the present study should be considered. Our results are linked to the particular Ecuadorian context, and based on data from one public University. A replication of the present study, involving other universities from other regions seems critical. Second, although we considered a limited number of student teacher cognitions. Research points at emotional variables affecting behavioural intentions in future teachers (Zembylas, 2005; O'Connor, 2008). Also, study teacher cognitions on the base of quantitative scales can be limiting to uncover the actual impact of these cognitions. A qualitative study, building on alternative approaches that put students in touch with real-life classroom practices, future colleagues could enhance the current approach (see e.g., the use of clinical simulations, video-vignettes). Lastly, the current group of student teachers were not involved in an actual specific CSE course within their curriculum. Linking the actual study to an intervention with a focus on CSE teaching approaches would be helpful to identify in a better way the relationship between CSE knowledge and behavioural intentions to teach sexuality education.

6. Conclusion

Our study has provided insight into the associated nature of student teachers cognitions and background variables on the potential implementation of sexuality education from a Comprehensive approach in the Ecuadorian context. The findings lead to conclude that independently of student teachers gender, previous training, subject/discipline area, and even knowledge, is their positive attitudes and self-efficacy beliefs in the field of comprehensive sexuality education what robust predict an intention to teach it. The results underpin the importance of understanding teachers cognitions in view of their future practices. The study also suggests that in order to improve the implementation of sexuality education, student teachers training should be challenged. The results of this study can add to the current body of literature, more effective ways to prepare sexuality educators that can face the challenges of this subject matter in the Latin America and Ecuadorian context.

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