Causal theoretical model that favors the use of comprehensive sexuality education

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This theoretical review goes over the different theoretical variables and constructs that could condition teacher intervention in relation to CSE curricular contents, since teachers’ experiences affect the pedagogic decisions they make. The theoretical model includes the constructs of sexual conduct, teacher training, and teacher self-efficacy for sexual education. Sexual behavior is operationalized by the theoretical variables of sexual abuse, sexism, attitude toward sexuality, dogmatic and permissive religiousness, and social, pair and family constructions. Sexual education in teacher training includes the variables in elementary school, high school, university and any further training. The conclusion is that teachers must review their own sexual experiences to deconstruct their understanding and to become an appropriate model for the pedagogic praxis of CSE contents.

Key words: Teacher training, sexual behavior, self-efficacy, comprehensive sexual education, theoretical model.

INTRODUCTION

Today, UNESCO (2018) promotes the theoretical and methodological postulate of comprehensive sexuality education (CSE), as this curricular proposal has demonstrated that since their early ages students start experiencing their sexuality comprehensively and freely, with respect and responsibility toward others. This means that CSE is based on human rights, and it aims to empower people to break stigmas that have culturally oppressed and censored bodily sexual experiences, reducing it to intercourse, and surrounding it with myths and fears that are rarely or never based on the many contributions done by science in this field.

CSE has eight curricular points which interact with each other and include the topics of relationships, values – rights - culture and sexuality, understanding gender, violence and staying safe, skills for health and well-being, the human body and development, sexuality and sexual behavior and sexual and reproductive health (Herat et al., 2018).

CSE improves trust, self-esteem and the construction of self-efficacy in the students. Thus, the persons who have received this kind of education usually delay their first coital experiences, avoid teenage pregnancies, take voluntary AIDS tests, tend to practice safe sexual behaviors like the proper use of condoms, and have an attitude of empowerment that allows them to critically reflect upon their surroundings, which promotes gender equality (UNESCO, 2015; Rojas et al., 2017).
CSE has its own curriculum, but it is desirable the topics also be developed in a cross-disciplinary fashion with other curriculum areas and with different school activities. To implement the CSE proposal, it is important to have professionals in education who have been trained in this curricular discipline and who can become models for future generations; however, several studies (Aguilar, 2015; Bejarano and Mateos, 2016; Díaz and Anguita, 2017; Montero et al., 2017; Cordero and Dumrauf, 2017; Navarro et al., 2018; Manzano and Jerves, 2018) have made evident the fears professors in the West have when it comes to teaching sexuality, since they also represent the social constructions that impregnate sexuality, usually characterized by censorship, fear, and silence, which condition pedagogic guidance and hinder an opportune and precise communication of the points established by CSE. For example, Plaza et al. (2013) conclude that teachers need to participate in a meta-cognitive exercise of their own beliefs and behaviors and of the influence these have on their teaching practices. In sexual education it is paramount teachers value human sexuality as a space for creation and learning through the recognition of fears, ignorance, and resistance (González, 2015).

So, sexual education for teachers should invite them to review their own sexual history, to identify those aspects that, even unconsciously, generate anguish and keep them from feeling secure enough to teach the topics of CSE to the student population. In relation to this, this paper sets forth the theoretical constructs that condition sexual experiences from the Western cultural point of view; thus, the objectives of the theoretical review were to:

1. Establish the theoretical constructs that condition the use of CSE.
2. Operationalize each one of the constructs into theoretical variables.
3. Determine the possible causal relationship of the variables among the constructs.

For the theoretical construction, several data bases from the University of Costa Rica were consulted. They include complete scientific articles (full texts) which evidenced effects between the variables and the sexual behavior, starting in the year 2010 in adult populations. The primary sources were consulted when the community of researchers made references to relevant academics. The revision was done between March 2018 and August 2019.

**Theoretical support of the variables and causality included in the theoretical model**

According to the contributions of different authors, in the Western context there are at least three constructs that directly affect teaching CSE and that can be found in every teacher: personal sexual behavior, sexual education training, and self-efficacy to teach the topic of sexuality. Theoretical variables are explored around these three theoretical constructs that explain them.

**Sexual behavior**

When studying this construct there are many references from the scientific community about the related variables; Dr. Alfred Kinsey explained it in 1948 as a wide spectrum of behaviors, from homosexuality to heterosexuality, with bisexuality in the middle of the spectrum (Brown and Fee, 2003).

Rodríguez et al. (2013) include in the definition of sexual behavior aspects with which the person interacts be it individually or with others, like procreation, pleasure and intimacy. This group of researchers also explains that the beliefs a person has about sexuality, and the judgments they make about themselves and others condition their behaviors.

Sexual behavior is constructed through vicarious learning and models (Bandura, 1989; Bandura and Walters, 1974) through the triad of reciprocal determinism. It states that the behavior, the environment, and cognition help the person embrace social constructs about what is allowed and what is censored in sexuality for each sex and for each age, as well as the parts of the body that should be hidden and not touched. In most cases, this is given through imaginative information about human sexuality. Furthermore, the family avoids becoming a model for sexual behavior, unlike other cultures where older members of the family do help shape the younger ones in matters of proper sexual behavior (Bandura and Walters, 1974). This is why people who come from families with higher levels of sexual anxiety also display deep feelings of inhibition, guilt and anxiety (Barra, 2002; López, 2015).

Aside from family, vicarious learning is also built through the relationship with pairs and by the messages and structures from educational and religious institutions and the media (Foucault, 2002; Moral, 2010; Cantón et al., 2014; Boone, 2015; López, 2015; McNamara et al., 2015; Luquis et al., 2015). This paper shares the findings by López (2015) and Graziano et al. (1998), who say that a group of epistemic theories are constructed by the vicarious experiences combined with the direct and symbolic experiences, which predict the professors’ behaviors.

Eysenck (1979) quoted by Barra (2002) says the operationalization of sexual behaviors should be grouped into three factors: one of preliminary caresses, one of sexual relations, and the third of advanced or less conventional practices (for example mouth-genital contact). The research studied was carried out in the United States, Bolivia, Peru, Uruguay, Spain and Mexico.
The researchers measured sexual behaviors to establish relationships or associations with other phenomena like risky sexual behaviors, sexual health, preference between sex with men or women, among others. The group of researchers reviewed worked with populations of young adults or adults, generally university students between the ages of 18 and 32. The reviewed articles included meta-analyses (Petersen and Shibley, 2011; Coyne et al., 2018), longitudinal studies (Ulloa et al., 2016; Haydon, Herring and Tucker, 2012; Monto and Carey, 2014) and cross-disciplinary studies (Jinchuña, 2010; Bahamón et al., 2014; Bagnato et al., 2014; Maas and Lefkowitz, 2015; Folch et al., 2015; Mueses-Marin et al., 2018; Hurtado et al., 2017; Valdez-Montero et al., 2018; Moussa and Cliff, 2018), and they all had a positivist approach to reality. Most of the researches used the concepts of conducts, behaviors or sexual practices as synonyms. In this document, sexual behaviors are defined as the learned practices that people engage in for their sexual experiences, which can be liberal or conservative and traditional. The theoretical variables selected have at least the consensus of two researchers or research groups and have been organized according to the factors pointed out by Eysenck.

Preliminary caress factor: Practice and frequency of sexual caresses (includes hugs, kisses, erotic games), masturbation and erotic dreams.

Sexual and coital relationship factor: Age of the first coital relationship, average number of sexual partners after 18 years of age or in life, average number of sexual partners in the last 12 months, frequency of sexual relations during the past 12 months, romantic attraction toward a man or a woman at present or in the past, practice and frequency of sexual vaginal relations, of sexual anal relations as giver or receptor, active or passive oral sex, premarital sexual relations, sexual relations with occasional or casual partners, homosexual and heterosexual coitus, use and frequency of use of condom in sexual relations in the past 12 months and other birth control methods.

Advanced or less conventional practices factor: Coital relations with prostitutes, group sex, sex with technology resources; phones, chat, video.

In the study of sexual behaviors other theoretical variables were found which determine sexual behaviors, like sexual abuse, sexism, attitude toward sexuality, and religious practices.

Sexual abuse: When people face situations of sexual abuse they display a series of difficulties that condition their harmonious experiences with sexuality because this event has multiple consequences on them, like a higher predisposition to the use and abuse of drugs, the practice of risky sexual behaviors with the consequent possibility of getting a sexually transmitted disease like human papillomavirus, participating in delinquent acts, and mental diseases like depression, which in some cases could lead to suicide attempts (WHO, 2010; De Jong et al., 2015).

The theoretical variable of sexual abuse is very complex, but different researches confirm adults experience the consequences by rejecting sexuality and by changing their psycho-sexual behaviors, displaying erotophobic attitudes; but this event also affects the roles they take on in their work lives, their couples' relationships, their upbringing patterns and some people can even perpetuate the cycle of sexual abuse with other victims (WHO, 2010; Easton et al., 2011; De Jong et al., 2015; Llabaca et al., 2015; Loinaz et al., 2019).

Loinaz et al. (2019) recognize how important it is for professors and educational communities to develop protocols to identify, report and follow-up on the population that has been victim to sexual abuse; however, the teachers can be a part of the silence that characterizes this phenomenon in culture, by avoiding it because of their own traumatizing experiences; increasing with this the possibility that the situation of abuse will keep on occurring to the victim.

Sexism: Social constructs that provide content to sexual behaviors, gender and equality elements interact here, they establish defined standards of behavior for men and women, where the latter is assessed as a person of lower status according to the dominating male vision (Pacheco, 2004; Graña, 2006; Pena, 2012).

Corrales et al. (2005) and Graña (2006) point out that this unequal and asymmetrical relationship between men and women has been present in the development of human history and in every society, justified even in the cosmovisions like religion, to the point that is has been naturalized and perceived as normal.

In the particular case of the teaching and learning processes of the teachers, the bibliographic review makes evident that sexual inequalities still remain and are being reproduced starting with the early training of future teachers and up until their professional practice with a differentiated treatment between girls and boys, educational materials, and invisibilization of women's contributions through history (Corrales et al., 2005; Viotti and Del Valle, 2013; Aguilar, 2015; Bejarano and Mateos, 2016; Hidalgo, 2017; Navarro et al., 2018; Almeida, 2018).

Religion: Religion encompasses a behavioral framework (Foucault, 2001) with a prohibitive moral code in the search for holiness (Runkel, 1998; Foucault, 2001, 2002; Rigo et al., 2016; Monroe and Plant, 2018; González-Rivera et al., 2018; Marco, 2018) which leads people to develop conservative, fanatical, literary and dogmatic interpretations of sexual experiences (Runkel, 1998; Ferreira et al., 2017; Cense et al., 2018; Baron and Jost, 2019; Mcmillen et al., 2011; Tukker, 2013; Rigo et al., 2016; Monroe and Plant, 2018).
Monroe and Plant (2018) explain that the values related to the search for holiness could have a dehumanizing effect because they involve judging other people's behaviors; both researchers report in their findings the existence of neurological stimulation zones linked to disgust that is activated when the person observes other people being socially condemned for their behavior.

On his studies of sexual behavior on German people in the decade of 1980, Runkel (1998) discovered that those who claimed to be non-religious had an average of 3.1 sexual encounters per week, protesters averaged 2.57 and Catholics 2.27; with this evidence, this researcher affirms there is a negative correlation between sexual pleasure and religious affiliation, just as McNamara et al. (2015) and Moral (2010) state.

Researchers report ambivalent results, on the one hand frequently participating in a religious practice increases the presence of sexual behaviors to prevent sexually transmitted diseases and decreases risky sexual behaviors (Lefkowitz et al., 2004; Bagnato et al., 2014; González-Rivera et al., 2018; Rosmarin and Pirutinsky, 2019). People believe those sexual behaviors that move away from religious impositions are sinful, anti-natural, taboo, and prejudiced (Foucault, 2002; Monroe and Plant, 2018; Huaracaya-Victoria et al., 2018), other researchers also make reference to criminalization and stigma (Cense et al., 2018).

However, Cense et al. (2018) assert there is no one single vision of religion and this is not a fixed entity; since it is a personal construction it allows some people to have a flexible attitude toward the religious mandates and other people to follow them in a more dogmatic fashion. Teachers who follow dogmatic practices could enforce partial or indifferent actions toward sexual education because of their own perception of the canons (Ferreira et al., 2017).

The literature has identified two positions to people's sexual behaviors and religion, one that is explained from the dogmatic interpretation and the other from a flexible attitude in regards to the same dogma for those declared as religious practitioners (Foucault, 2002; Mcmillen et al., 2011; McNamara et al., 2015; Luquis et al., 2015; Rigo et al., 2016). Thus, for example, a permissive religious practice could be explained when a person considers sexual intercourse should only happen in marriage, so they practice abstinence while single, but they also plan their number of descendants by using birth-control methods.

Attitudes toward sexuality: Another construct of interest that has been incorporated in the theoretical model is the attitude toward sexuality, because this conditions sexual behaviors. Attitudes have three components: cognitive aspects that explain how realities are comprised epistemically, behavior which is the reaction to objects and emotions, and sensations and assessments produced by realities (Solórzano, 2013).

In the case of sexuality, there are a series of attitudes that condition the full enjoyment of life due to multiple stereotypes, myths, and erroneous beliefs. Researchers consulted state that the attitude toward sexuality can be explained by the erotophilic and erotophobic attitudes (López, 2002; Fallas, 2009). Both explain the assessment people make of sexual signals from a positive or negative position, and condition in a robust manner sexual behavior (Fisher et al., 1988). Fallas (2009) states that people who display erotophobic attitudes have a more rigid sexual behavior, while the contrary is the case for people with an erotophilic attitude; they consider sexuality as pleasurable and positive.

Fisher et al. (1988) use empirical evidence from different researches in different cultures like India, Hong Kong, Canada and the U.S. to show the link between erotophilia and erotophobia with other personality dimensions; for example, people with erotophobic attitudes are authoritarian and need other people’s recognition, have orthodox religious affiliations, sex is aversive to them and they avoid it, women repress their sexual desires or adopt a traditional sexual role.

Erotophobic people display feelings of guilt, have negative reactions to masturbation and homosexuality. Their families were strict, rarely talked about sex or did not share honest answers. They also have difficulties to understand and receive information about sexuality and birth control methods, as well as their use. They cannot plan when they will have a sexual experience, so they have a higher probability to display risky behaviors, like not using protection. They feel stressed when discussing sex with their partners and reject the use of sexual fantasies or erotic products.

On the other hand, erotophilic people display behaviors of self-care and sexual health and can plan a sexual encounter, so they display self-protection behaviors. They are also more open to masturbation and are less likely to have homophobic behaviors. Sexuality is gratifying, and is not associated to punishment.

In the case of teachers, those who have high erotophilia scores are more likely to teach about birth control, abortion and other sexual alternatives to intercourse (Fisher et al., 1988). This means they have a more liberal perspective on sexuality.

Professional teacher training

The construction of the teacher's identity is articulated between the individual, the social, and the necessary teaching skills to face the new educational demands (Marcelo and Vaillant, 2011; Vaillant and Marcelo, 2015).

Professional training aims to promote the transformation of the person in its role as teacher and it enriches the pedagogic perspective the professional takes on during their practice; it can contribute to the containment of their own experiences: moving between the prescriptive and the propositional (Barrón, 2015).
Ávalos and Sotomayor (2012) state that both the initial and the continuous trainings are factors that help teachers improve their educational practice. Santos and Carvalho (2011) agree that during their training, teachers need tools to guide their future students and to rebuild the know-hows and the behavior patterns they have acquired from society, the media, and family. This is the reason why it is important for teachers provide new meanings to their own attitudes, reformulate erroneous concepts, and identify their own trajectories; this is why they recommend discussing and exchanging life experiences.

Specifically, in the case of sexual education, Manzano and Jerves (2018), Navarro and Hernández (2012); Alexander (2017) recognize that the opinions of the teachers can be another socializing agent, since they are believed to have professional training, and thus, should master wider and deeper knowledge on the topic; however, for an appropriate teaching practice, it is necessary to recognize that they themselves have influences from the cultural constructs regarding sexuality. Santos and Carvalho (2011) and Navarro and Hernández (2012) state that the topic of education for sexuality implies an important challenge for professionals in education because of their perceptions, education, stereotypes, political influences and pressure from religious groups and families. Even if professional training usually happens in a context of higher education, as has been stated in this paper, teachers have a series of contextual and historical influences that define them, so it is important to incorporate the contributions of other educational experiences like the knowledge acquired in elementary school and high school, as well as other training sources.

Self-efficacy in teaching

In sexual education, the self-efficacy that allows teachers to control the group of beliefs related to human sexuality, and which condition actions is very relevant. Self-efficacy, as Bandura (1982, 1991) explains, refers to the way in which people inferentially judge their capacities in a prospective way (effects of behavior) and, from these self-perceptions, they adapt their behavior to the task at hand. Bandura (1993) adds that self-efficacy is the most penetrating mechanism in the personal agency because it conditions feelings, thoughts, self-motivations, and behaviors.

Contrary to this, when people feel inefficient in the face of an event they tend to believe they will not accomplish it or they will be censored, so they develop an anticipated anxiety and determine it as aversive; however, Bandura (1982) states that people can learn to feel effective in a task and they can develop skills and interests if they find appealing incentives and social rewards.

Self-efficacy is not global; it depends on the task or skill being carried out (Bandura, 1982; Prieto, 2016). This means a person can feel highly capable in some skills and could dedicate more time and effort to that task, but this will not be the case for those actions in which the person feels less capable. It is important to clarify by this point, as Bandura (1982; 1993) explains, that self-efficacy is independent from the real capacities of the person or efficacy itself (Velásquez, 2012). This is the reason why it is not considered as the genesis of the causal chain of the behavior because self-perceptions of efficacy can exceed, match, or remain under the real accomplishments. It all depends on how the person values this and is self-regulated (Bandura, 1991). Between self-efficacy and behavior there are four tightly interconnected psychological processes; as Bandura explains (1991, 1993), these have to deal with the cognitive, motivation, affective assessments, and the deliberate selection of the actions to execute.

In the case of teachers, Bandura (1993) explains that teachers who lack a safe sense of instructional efficacy display a weak commitment to teaching and dedicate less time to academic matters. At the same time he affirms the environments in the classroom are determined by self-efficacy of the teachers in their ways of teaching. Conscious and unconscious personal experiences and beliefs operate in the thoughts and subjectivity of the teachers, conditioning the decisions they make in their educational practice in regards to their didactics, contents, methodologies, and evaluation forms (Ávalos and Sotomayor, 2012).

Recent researches affirm that teachers who are about to graduate and those already practicing have gaps in their knowledge of basic contents for sexual education, and the sexual behaviors they assume show there are difficulties in the exercise of their own sexual rights. This could affect their self-efficacy to impart the topic of sexuality (Santos and Carvalho, 2011; Martínez et al., 2011, Preinfalk, 2014, 2015; López, 2015; Álvarez and Rodríguez, 2017).

Barrón (2015) explains that teachers are constant carriers and builders of their reality based on their own reading of the society they belong to, so it is necessary they critically analyze their conceptions so they can modify their own praxis.

In the case of sexual education, Manzano and Jerves (2018) state that teachers can feel insecure of their own knowledge, so they do not resort to it. This limits the possibilities of promoting a critical and responsible attitude on the students. This is the reason why some sort of affinity to teaching sexuality needs to be present in the teachers, because it is impossible to teach something you do not believe in (Montero et al., 2017).

Finally, it is good to highlight the interpersonal skills teachers need to have to approach sexuality, such as openness to any questions the students might have, a desire to learn new information, creativity, empathy, and good communication using simple language (Álexander,
Figure 1. Causal modeling of the theoretical variables and constructs that intervene so teachers can use CSE. Source: Own (2019).

Explanation of the composition of the proposed theoretical model

After the bibliographic review, as detailed in Figure 1, there are three theoretical constructs that can predict the use of CSE in a pertinent way by sexual education teachers. First, there are the personal sexual practices, which are going to be liberal if the person displays erotophilic attitudes. This person also displays flexible attitudes toward religiousness, does not have sexist behaviors, and the vicarious learning and modeling acquired from his family, his group of pairs and his social group have allowed him or her to build a comprehensive reference base of sexuality.

Based on the theory it could be deduced that some theoretical variables seem to be mutually excluding, such is the case of erotophobic attitudes and erotophilic attitudes, because the person would tend more toward one of the attitudes. The same is the case with dogmatic religious attitudes or flexible attitudes toward sexuality. Another theoretical construct involved is the teachers' training on the topic of sexual education, including every experience throughout their lives, since elementary
school, high school and university, as well as other training spaces, it is expected this training is given from a comprehensive perspective of human sexuality. Thus, the teacher is constructed and defined by his or her own experiences and, these interact comprehensively. The model defines a group of interrelated variables that serve as a guide to reflect and recognize in their own experiences the interpretations that condition their own perception of human sexuality. This in turn can introduce biases or facilitate the pedagogic decision, both in the educational approach to the topics and in the communication with students and their families. Reflecting on the above will also affect self-efficacy for CSE.

As the theory states, teachers with more self-efficacy also display high interest in being trained on this topic. Teachers’ self-efficacy is considered a theoretical construct. That is also an indicator of the relevance to properly teach CSE. This is because the positive beliefs of the teachers while teaching and guiding students promote learning spaces to build new understandings of human sexuality and to deconstruct their cultural content. At the same time, teachers’ self-efficacy with regard to sexual education also receives feedback from the personal experiences of sexuality, meaning their own practices, any formal education received on the subject, and the predominance of positive attitudes. All this allows the person to build meanings of human sexuality that step away from censorship, fear and silence.

CONCLUSIONS

Studying CSE makes evident the constant need for teachers to acknowledge in their own bodies their sexual experiences and the presence of their cultural and social heritage. What is most important of their understanding is to begin the exercise of personal reconstruction with the purpose of becoming a real model for new generations in terms of equality and respect for others, and to begin the critical analysis of the implications of sexuality in the comprehensive development of the person as a whole, and a person who is committed to his or her environment.

The proposed theoretical model does not intend to be exhaustive, but it is a possible reference to begin understanding the aspects that should be included in the training of teachers, which should really affect the way in which they value and analyze sexuality, starting with themselves. A limitation of this proposal is that there is no empirical evidence of causality, a task that is being developed in the framework of a doctoral dissertation.

However, it is important to mention that incorporated theoretical variables and constructs are specific to a historical moment. These could be modified, so their reading is not static, it is likely the reader will introduce many others. It is also interesting to reflect upon the complexity assumed when stating that teachers need to self-reflect on their own sexuality to be able to offer an appropriate CSE teaching. If the idea is to promote CSE in a cross-disciplinary fashion with other areas of the curriculum, every teacher working in an educational institution should review his own life experiences and consider himself as a sexual being to take on a positive attitude toward sexuality.

Finally, the theoretical model proposed can become a reference for teaching and help update teachers’ knowledge of CSE. This demands a comprehensive approach of the many and complex variables that intervene and are constructed throughout a person’s life. The challenge is to understand them from personal experience and find answers that will help overcome those that become obstacles for the pedagogic mediation of CSE.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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