

Knowledge and Teaching Confidence of Educators about Sexual Health Topics

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ABSTRACT

The purpose of this study was to determine if current and future professionals in the fields of health and physical education know the facts about sexual health and are comfortable teaching sexual health topics. Over 300 participants completed the Sex Education Confidence Survey (SECS). Results suggested that lack of knowledge and confidence were not issues of concern for health and physical educators in training, K-12 schools, and the university setting.

Comprehensive sex education in schools may have an indelible impact on a young person's ability to weather the peer pressure of having sex too soon and act responsibly when becoming sexually active (Boonstra, 2010). About 13% of teenagers have been sexually active by age 15; by age 19, 7 out of 10 have. Many challenges face adolescents concerning human sexuality such as pregnancy and STDs. Eighty-six percent of the reduced pregnancy rate in teens from 1995 to 2002 was due to increases and improvements in contraceptive use. The other 14% was due to a decline in sexual activity. In 2006, the adolescent birth rate rose (to 22 births per 1,000 young women ages 15-17) for the first time since 1990, after dropping sharply for several years. These statistics dropped again during 2009 (to 20.1 per 1,000) (National Institute of Child Health & Human Development, NICHD, 2011, p. 1). Of the estimated 19 million new cases of STD's that occur each year in the U. S., almost half occur in teens and young adults (Centers for Disease Control, CDC, 2011).

While parents have been the preferred source of sex education, school and peers have been identified as secondary sources. Gonzalez-Acquaro (2009) stated that sex education today is designed to complement or augment what students are learning at home. Media, siblings, and self generally have not been identified as preferred sources of sex education (Somers & Surmann, 2004). Sex education may be hindered in that many teachers “struggle with the transfer of sexual reproductive knowledge and facilitative teaching methods into the classroom context” (Ahmed et al., 2006, p. 621). In order for classroom teachers to be effective in teach HIV/AIDS prevention, they must have excellent knowledge of the subject area themselves, “including teaching experience, comfort with their own sexuality, control of the class(s), and social skills with students” (Helleve, Flisher, Onya, Mukoma, & Klepp, 2009, p. 55).

Teachers, future teachers, and medical professionals’ confidence in teaching and dealing with sexual health might help them or prevent them from communicating with students, clients, and patients effectively about sexual health. Medical students who participated in a peer education project felt more confident discussing sexual health issues than those who did not, and all medical students involved felt more confident dealing with sexual health issues with patients of the same sex as themselves (Faulder, Riley, Stone, & Glasier, 2004). Sulak, Herbelin, Kuehl, and Kuehl (2005) reported only moderate knowledge of sexually-related material for a group of medical professionals surveyed before and after an educational presentation on adolescent sexual activity. Pre-surveys revealed a lack of knowledge; specifically, health professionals answered 38% of knowledge questions correctly, and other adults answered 30% correctly. Kuan (2001) reported that elementary special education teachers were knowledgeable about HIV/AIDS and were willing to educate children. The special education teachers also felt confident in their knowledge about HIV/AIDS.

Educators must be comfortable and knowledgeable teaching sexual health topics if society is to impart correct sex information to future generations (Berger, Bernard, Khzami, Selmaoui, & Carvalho, 2008). Teachers of health and physical education should be the resident experts on matters related to the body at any school. Two questions that remain unanswered are “Are current and future teachers of health and/or physical education knowledgeable and confident about sexual health topics, and are the university faculty who are training them knowledgeable and confident?” The purpose of this study was to determine if professionals and future professionals in the fields of health and physical education a) know the facts about sexually transmitted infections and other sexual health topics, and b) are comfortable teaching a variety of topics within the general boundaries of sexual health.

Methods

Participants

Participants were 325 volunteer adults from the United States. Males comprised of 35.2% ($n=155$) of participants, while females comprised of 63.9% ($n=209$) of the participants. Three participants did not identify their sex, and two surveys were not usable. Additional data was collected on job categories (see Table 1).

Table 1

Descriptive Statistics for Knowledge Items Based on Educational Categories

Job	Mean	SD	N
Knowledge Items			
K-12	25.47	3.23	94
Undergrad	22.35	3.9	174
Grad	24.19	3.61	27
Professor	28.63	2.45	27
Total	23.94	4.08	322
Knowledge and Relationships			
K-12	6.92	1.33	94
Undergrad	6.77	1.24	175
Grad	6.95	1.18	27
Professor	6.99	1.39	27
Total	6.85	1.27	323
Controversial Topics			
K-12	5.05	1.4	94
Undergrad	5.35	1.25	175
Grad	5.53	1.07	27
Professor	5.37	1.3	27
Total	5.28	1.29	323
Other Sexual Activity			
Undergrad	5.29	1.51	175
Grad	5.56	1.5	27
Professor	5.44	1.67	27
Total	5.31	1.54	323

Note: K-12 denotes kindergarten through 12th grade

The intent was to solicit responses primarily from university faculty, undergraduate students, and teachers whose job or education focuses on health, physical education, or a closely related field. Therefore, responses were solicited via a website visited primarily by physical education and health teachers (PECentral.org) and a link was provided via e-mail to members of the Texas Association for Health, Physical Education, Recreation, Dance (TAHPERD); a link to the survey was also placed on TAHPERD's website, which is open to non-members as well. Participation in the study was voluntary, and the appropriate institution review board approved the protocol.

Instrumentation

The SECS contained 3 broad sections: demographic information; true/false and multiple-choice questions designed to assess knowledge about sexual health issues; and question regarding confidence in teaching confidence in teaching sexual health topics (Tietjen-Smith, Balkin, & Kimbrough, 2008). The knowledge questions covered 3 broad areas: sexually transmitted infections/diseases (STI) (18 question), birth control (BC) (11 questions) and anatomy/ physiology (AP) (3 questions). The SECS has shown strong estimates of reliability and validity (Tietjen-Smith et al., 2008).

The confidence section contained 22 topics related to sexual health. Participants were asked to respond to each item regarding their confidence in their own ability to talk about the topic in the context of classroom teaching, using the following scale: 7-very confident, including leading discussion and answering questions; 6-confident, may need to used lecture style; 5-confident with a little time for preparation; 4- not sure I could do it; 3- would not want to teach it; 2- do not think it is an appropriate topic; and 1- prefer not to answer.

Procedures

The survey was created in SurveyMonkey.com, a website designed to collect information via survey and questionnaire. All data was collected anonymously and all responses were recorded in a database, with the research downloaded for data analysis using SPSS Version 13.0 (2004) at the end of the collection period. Once the website links were in place and the e-mail invitation was sent, the online survey remained open to collect responses for 12 weeks.

Results

To identify differences in knowledge among those that teach sex education courses, a one-way analysis of variance (ANOVA) was conducted on the educational job categories: (a) kindergarten through 12th grade (K-12) teachers; (b) undergraduate students; (c) graduate students; and (d) professors. Also, a one-way ANOVA at the .05 level of significance level was conducted on knowledge items across the educational categories. There was a statically significant difference among the educational categories with a moderate to large effect size, $F(3, 318) = 32.501, p < .001, \eta^2 = .235$. A Tukey post hoc analysis yielded significant differences with moderate degrees of practical significance between each of the following: (a) K-12 teachers and undergraduate students; (b) the K-12 teachers and professors; (c) undergraduate students and professors; and (d) graduate students and professors (see Table 2).

Table 2

Multiple Comparisons Across Educational Categories

Category	Category	Mean Difference	<i>p</i>	<i>d</i>
K-12	Undergrad*	3.12	<.001	0.55
	Grad	1.28	0.36	0.22
	Professor*	-3.16	<.001	0.55
Undergraduate	Grad	-1.83	0.07	0.32
	Professor*	-6.28	<.001	1.10
Graduate	Professor*	-4.44	<.001	0.78

Note. * $p < .05$

The 20 confidence items of the SECS were divided into three areas: Other Sexual Activity (OSA) (5 items), Knowledge and Relationships (KR) (11 items), and Controversial Topics (CT) (4 items). Three multivariate analyses of variance (MANOVA) were conducted to determine significant differences in scores on the three subscales of the SECS as it relates to occupational data, gender, and number of children at home. There was not a statistically significant difference in occupational data, $F(12, 839) = 1.38, p = .168$. Strength of association was small, $\Lambda = .95$. There was not a statistically significant difference between males and females, $F(3, 320) = 1.66, p = .177$. Strength of association was small, $\Lambda = .99$. There was not a statistically significant difference in data related to children at home, $F(6, 638) = 1.34, p = .236$. Strength of association was small, $\Lambda = .98$. Overall, all participants were confident in their knowledge and ability to teach about the identified sexual health topics. The three subscales (OSA, KR, and CT) were all highly positively correlated--high scores on one subscale yielded high scores on the other subscales. See Tables 3 and 4 for confidence and correlation data.

Table 3

Confidence Levels of Participants for Other Sexual Activity (OSA) (5 items), Knowledge and Relationships (KR) (11 items), and Controversial Topics (CT) (4 items)

Items	Topic area	Group			
		Under-grad	Grad	K-12 HPE	Univ faculty
Anatomy and physiology of the sexual organs	KR	5.5	5.7	6.0	6.0
The basics of conception, pregnancy, and birth	KR	5.7	5.9	6.0	6.1
The importance of taking care of sexual health	KR	5.9	6.0	6.1	6.3
HIV/AIDS	KR	5.4	5.7	5.8	5.8
STIs and diseases other than HIV/AIDS	KR	5.3	5.5	5.6	5.8
Methods of preventing pregnancy	KR	5.9	6.0	5.9	6.1
How to use and where to get contraceptives	KR	5.8	6.0	5.6	5.7
Waiting to have sexual intercourse (abstinence)	KR	6.1	6.2	6.2	6.1
Getting tested for HIV and other STI's/STD's	KR	5.8	6.0	5.9	6.0
How to talk with a boyfriend/girlfriend about sex	KR	5.9	5.8	5.8	5.8
How to talk to parents about sex and relationships	KR	5.6	5.6	5.5	5.5
Abortion	CT	5.5	5.5	4.9	5.4
Adoption	CT	5.6	5.6	5.3	5.7
Homosexuality	CT	5.2	5.4	5.1	5.4
Sex in other cultures	CT	5.1	5.3	4.8	4.9
Masturbation	OSA	5.3	5.6	5.2	5.6
Anal sex	OSA	5.2	5.4	5.0	5.3

Heavy petting	OSA	5.0	5.2	4.9	5.1
Kissing	OSA	5.2	5.5	5.2	5.4
Values decisions and sex	OSA	5.6	5.6	5.6	5.7

Note: Confidence Rankings: 7-very confident, including leading discussion and answering questions, 6-confident, may need to use lecture style, 5-confident with a little time for preparation, 4-not sure I could do it, 3-would not want to teach it, 2-do not think it is an appropriate topic, 1-prefer not to answer.

Note: K-12 denotes kindergarten through 12th grade; STI = sexually transmitted infection

Table 4

Correlations Among Subscales of Confidence of the SECS

	OSA	KR	CT
OSA	----	0.724	0.647
KR		----	0.722
CT			----

Note: Other Sexual Activity (OSA), Knowledge and Relationships (KR), and Controversial Topics (CT)

To examine the relationship between self-confidence in teaching and comfort in talking about controversial sexual topics, as well as other sexual activity and content knowledge, a multiple regression was conducted at the .05 level of significance. A statistically significant relationship was evident, $F(3, 320) = 4.95, p = .002, R^2 = .044$. A small degree of practical significance was found with only 4.4% of the variance of knowledge content predicted by self-confidence subscales. While the model is statistically significant, a meaningful relationship between knowledge and self-confidence is not evident. Furthermore, to make sure that educational degree did not influence self-confidence, a multivariate analysis of variance (MANOVA) was conducted at the .05 level of significance between the educational categories and self-confidence scales. No statistically significant differences were identified between the educational categories and self-confidence scales, $F(9, 771.645) = 1.83, p = .059$. Strength of association was small, $\lambda = .95$.

Discussion

Analysis revealed that current health and physical educators, students preparing to teach those subjects, and university faculty who are training the future teachers are not only knowledgeable about sexual health, but are also confident in their abilities to teach sexual health topics. Specifically, university faculty were more knowledgeable than K-12 professionals; K-12 professionals were more knowledgeable than the graduate students; and graduate students were more knowledgeable than the undergraduate students. Thus, a higher level of education or

perhaps experience may be related to more knowledge of sexual health. This should not be surprising as many professionals continue to broaden their knowledge base as they enter into the teaching profession at any level. With a focus on wellness and holistic health, many teachers are being asked to teach sexual health topics. The participants in this study seemed prepared to do so, at least in terms of their knowledge and confidence. The graduate students and undergraduate students scored lower on the knowledge section, but knowledge was not related to gender or marital status for any of the occupations.

Interestingly, there were no differences in confidence among the occupational levels. Also, no differences existed related to gender, marital status, or number of children at home. All four occupational groups were confident in their ability to teach all 20 sexual health topics. Results suggested that lack of knowledge and confidence were not issues of concern for health and physical educators in training, K-12 schools, and the university setting.

Future research might include parents and diverse ethnic groups (as ethnicity data was not solicited in this study). Parental disapproval of adolescent girls having sex has been shown to be one of the most significant factors in delaying sexual activity (O'Donnell et al., 2008). Teens reveal that their parents influence their decisions about sex more than friends, siblings, or the media (NCPTP, 2012). One future area of interest might be the knowledge, confidence, and communication styles of parents as it relates to their influence on their children's sexual behavior.

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