Development of the Comfort with Sexual Behaviors Scale

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Cover Page Footnote
The authors would like to acknowledge Governors State University's financial support of this study. People with any questions may contact the first author at sdermer@govst.edu.

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The purpose of this study was to develop a valid, reliable scale to assess people’s comfort with sexual behaviors. The Comfort with Sexual Behaviors Scale (CSBS) was developed through multiple administrations. One factor, general comfort talking about sexual behaviors, accounted for 65% of the variance. The 30-item CSBS was a valid and reliable measure of comfort with discussion sexual behaviors.

Keywords: Sexuality, Sexual Attitudes, Counselor Education, Comfort, Scale Development

Introduction

Sexuality is a core aspect of human development, but the ability to express one’s sexuality and exercise one’s sexual rights is influenced by societal values. Societies that embrace sexual pluralism are described as sex positive, and those that restrict and/or hold an undesirable view of sexual diversity are described as sex negative (Bullough, 1980). This same idea can be applied to individuals, couples, families, and other systems (Burnes, Singh, & Witherspoon, 2017; Bhugra, Popelyuk, & McMullen, 2010; Ivanski & Kohut, 2017). Being a sex positive individual means accepting and encouraging all types of sexuality, including those who choose to abstain from sexual activity and those who choose to engage in numerous, diverse sexual activities and express sexuality and gender in a variety of ways (Williams, Prior, & Wegner, 2013). Sex positive people acknowledge the possible problematic aspects of sexuality and highlight the constructive aspects of sexuality (Harden, 2014). In the context of counseling, sex positive counselors normalize talking about sexuality (e.g. a continuum of sexual behaviors, sexual and gender expression, sexual pleasure), embrace sexual pluralism, utilize client language and definitions of sex/sexual pleasure, promote comfort and disclosure, focus on sexual health and wellness, and avoid shaming people (Kimmes, Mallory, Cameron, & Özlem Köse, 2015; Williams et al., 2013; Nodulman, 2012). In order to be sex positive, clinicians need to have sexual knowledge, be comfortable discussing sexual topics, understand how sexual pleasure and sexual wellness are related, and support sexual diversity. However, currently, there are no measurements that can measure people’s willingness and comfort discussing these topics.

Little has been written about what counselors and therapists are taught about human sexuality, and pertinent literature tends to be outdated (Jaramillo, 2018). The limited research on clinicians’ ability, willingness, and comfort with sexuality has suggested that clinicians are not, in general, sex positive (Ford & Hendrick, 2003; Hanzlik & Gaubatz, 2012; S. Miller & Byers, 2008; S. A. Miller & Byers, 2010; Schover, 1981). In a recent study of why clinicians do not address sexuality with clients, participants stated that sexuality was difficult to discuss and that they saw it as a peripheral issue (Urry, Chur-Hansen, & Khaw, 2019). Counselors justified not discussing sexuality because they believed it was not practical to address sexuality, addressing sexuality was outside of clinicians’ roles and/or skill set, and clients rarely brought it up (Urry et al., 2019).

This is consistent with other literature that pointed to a lack of training on sexuality, deficits in clinicians’ skills in addressing sexuality, a lack of clinician confidence in addressing client sexuality, and clinician discomfort with the topic of sexuality (Dermer & Bachenberg, 2015; Hanzlik & Gaubatz, 2012; S. Miller & Byers, 2008; S. A. Miller & Byers, 2010; Mollen, Burnes, Lee, & Abbott, 2018; Southern & Cade, 2011; Wilson, 2019). Programs are not preparing clinicians adequately to discuss these basic sexual topics, preparing them even less to discuss more “controversial” behaviors such as recreational swinging, group sex, and consensual sexual fetishistic behaviors (Ford & Hendrick, 2003; Mollen et al., 2018). There is a need for more comprehensive training to ensure clinicians are prepared, capable, and comfortable in addressing client concerns related to sexuality in general and specific sexual behaviors (Dermer & Bachen-
Clinicians, if they have the discussion at all, tend to focus on factual information about sexuality, rather than about people’s needs, wants, desires, and experiences (Hordern & Street, 2007). Although knowledge is a basic building block to having sex-positive discussions with clients, having knowledge does not mean that counselors will engage in sexual discussions (Harris & Hays, 2008; Hordern & Street, 2007). Miller and Byers (2012) proposed the concept of “sexual intervention self-efficacy” to discuss the training, comfort, and willingness of clinicians to work with sexuality. This conceptualization has several components: (a) the ability to appear comfortable discussing sexual issues, (b) the ability to keep personal biases from interfering with sexual interventions, (c) the ability to give clients accurate information about sexuality, and (d) the ability to be confident in their knowledge and utilize sex therapy techniques. Developing a strong sexual intervention self-efficacy may be an effective way to increase counselor comfort in discussing sexual topics as well as the likelihood that they will broach these topics in a sex positive manner (S. Miller & Byers, 2008; S. A. Miller & Byers, 2010). The literature supported the idea that clinicians are more likely to initiate sexual conversations if they are comfortable having sexual discussions with clients (Harris & Hays, 2008; S. Miller & Byers, 2008; S. A. Miller & Byers, 2010). Although not operationalized in a consistent manner across literature, comfort with sexuality and sexual topics can be defined as the ease in which people can hear, discuss, and acknowledge cognitive, emotional, and behavioral aspects of sexuality (Neaz-Nibur, 2017). In learning what would help clinicians be more comfortable and willing to have sex positive discussions with clients, it is helpful to have an appropriate instrument to measure their comfort discussing specific sexual activities.

Sexual Scales

The authors reviewed available scales related to sexual attitudes, comfort with sexuality, and comfort with specific sexual behaviors to see if any could be used to measure willingness and comfort to discuss specific sexual behaviors. Many of the scales assessed the attitudes, behaviors, and comfort with one’s own sexuality and sexual behaviors, assessed general attitudes, or assessed one specific topic (e.g. attitudes toward abortion or attitudes toward homosexuality). For instance, the Sexual Anxiety Scale (Fallis, Gordon, Purdon, & Kirby, 2020) and the Sexual Opinion Survey (W. A. Fisher, White, Byrne, & Kelley, 1988; Rye & Fisher, 2020) assess people’s affective responses (extremely pleasurable to extreme discomfort) related to one’s own sexual behaviors, attitudes, and activities. The Mathtech Questionnaires: Sexuality Questionnaires for Adolescents (Kirby, 1984, 2011, 2020) had subscales to measure comfort with talking to parents and partners about sex and birth control. The Measure of Internalized Sexual Stigma for Lesbians and Gay Men (Lingiardi, Baiocco, & Nardelli, 2012) looked at internalized homonegativity. The Knowledge, Comfort, Approach and Attitudes towards Sexuality Scale (Kendall, 2003) measured medical professional’s knowledge and comfort toward asking questions about functioning after a spinal cord injury. Additionally, the Multidimensional Measure of Comfort with Sexuality (Tromovitch, 2011) was a 32-item measure with four subscales: comfort discussing sexuality, comfort with one’s own sexual life, and comfort with the sexual activities of others. Again, these tended to be more general questions such as, “I can freely discuss sexual topics in a small group of peers,” or were about attitude toward some specific acts for others such as, “It would not bother me if I knew that a good friend enjoys anal stimulation during masturbation.” There were also some questionnaires that asked about specific sexual behaviors. For example, in the Attraction to Sexual Aggression Scale (Kingston & Malamuth, 2011; N. Malamuth, 1989; N. M. Malamuth, 1989) participants indicated how often they thought about particular sexual activities such as: necking (deep kissing), petting, oral sex, anal intercourse, bondage sex, group sex, raping a woman, and sex with children. However, the main construct assessed was attraction to sexual aggression, not comfort with a range of specific sexual behaviors.

There were other instruments that measured attitudes toward particular sexual topics and acceptance of sexuality for self and others: (a) The Attitudes Toward Sexuality Scale (T. D. Fisher, Davis, & Yarber, 2011); (b) Trueblood Sexual Attitudes Questionnaire (TSAQ) (Hannon, Hall, Gonzalez, & Cacciapaglia, 1999; Trueblood & Hall, 1998); (c) The Sexual Attitudes Scale (S. S. Hendrick & Hendrick, 1987); (d) Brief Sexual Attitudes Scale (C. Hendrick, Hendrick, & Reich, 2006); Scale of Knowledge, Comfort and Attitudes of Physiotherapy Students Towards Human Sexuality (Wittkopf, Cardoso, & Sperandio, 2015), and; (f) Revised Attitudes Toward Sexuality Inventory (Patton & Mannison, 1995). All instruments measured various attitudes toward sexuality, sexual values, and some sexual behaviors. They focused on attitudes toward things such as masturbation, sexual coercion, gender roles, contraception, homosexuality, infidelity, and other topics.

In addition, there were some scales that measured attitudes toward different types of sex and specific sexual experiences. Again, none of these scales could be used to assess comfort with a wide range of specific psychosocial behaviors, nor could a single scale be easily revised to do so. For instance, the Attitudes Toward Unconventional Sex Scale (Wenner & McNulty, 2011), was developed to assess people’s general disposition to engage in what some consider unconventional sex and contained five global questions to assess general attitude toward “out-of-the-ordinary sex.”
The Cowart-Pollack Scale of Sexual Experience (Cowart-Steckler, 2011) was a checklist of sexual experiences meant to assess the heterosexual experiences of an individual or group.

**Scales Assessing Clinical Self-Efficacy**

There are a few scales specifically addressing clinical self-efficacy or comfort with sexuality. For example, The Lesbian, Gay, and Bisexual Affirmative Counseling Self-Efficacy Inventory (Dillon & Worthington, 2003) measured people’s confidence in their ability to serve LGB clients and provide LGB-affirmative counseling that include: advocacy skills, application of LGB knowledge, self-awareness of one’s own and others’ attitudes toward sexuality, assessment skills, and relationship-building skills. This scale focused specifically on confidence in one’s skills in each of the areas comprising affirmative counseling; it did not, however, assess one’s comfort discussing sexual behaviors. For instance, clinicians were asked to rate how confident they were in their ability to “Recognize when my own potential heterosexist biases may suggest the need to refer an LGB client to an LGB-affirmative counselor” and “Identify my own feelings about my own sexual orientation and how it may influence a client.”

Harris and Hays (2008), while not exploring comfort with specific sexual behaviors, operationalized the concept of “sexuality comfort.” In their study they explored therapist comfort with sexual issues and created a sexuality comfort scale. Since they could find no suitable measure to assess the comfort level of therapist sexuality-related discussions, they created a 15 question scale to operationalize the concept of sexuality comfort. They based this off of a qualitative study of “32 sexuality educators who unanimously agreed that sexual knowledge does not ensure comfort with that knowledge” (Harris & Hays, 2008, p. 243). Again, though, this scale measured general attitudes and comfort, it did not measure comfort with a range of sexual behaviors.

As discussed earlier, Miller and Buyers (S. Miller & By- ers, 2008, 2020) wrote extensively on the topic of clinicians’ ability to display openness and comfort discussing sexual issues with clients and created the Sexual Intervention Self-Efficacy Scale to measure clinician confidence in their competency to address sexual issues. Their 19-item scale consisted of three subscales: sex therapy skills (skills self-efficacy), relaying sexual information (information self-efficacy), and sexual comfort/bias (comfort bias self-efficacy). Although this scale focused specifically on clinicians’ perceptions of their own comfort and perceived knowledge and ability to discuss sexual issues, the statements were about general comfort. There are a few statements about comfort with specific behaviors such as, “I worry that I would seem uncomfortable if a client talked about masturbation;” most statements were more general: “I don’t necessarily agree with their decisions and actions.”

While there were quite a few scales available on sexual topics, there were no instruments available to assess people’s level of comfort discussing a range of specific sexual behaviors. The purpose of the current study was to develop and validate a scale to measure comfort discussing specific sexual behaviors. The Comfort with Sexual Behaviors Scale (CSBS) was created and validated utilizing DeVellis’ (2017) four-stage model of scale development.

**Development of CSBS**

DeVellis (2017) suggested a four stage model of scale development: (1) item development, (2) administration, (3) evaluation, and (4) finalization. The scale was administered several times to reduce length and determine validity and reliability. The first administration was a pilot study to reduce length. The second administration was given to a large group of participants, used to determine discriminant validity, and used perform an exploratory factor analysis (EFA). The third, and final administration, was to establish convergent validity.

**Item Development**

First, an item pool was developed based on a literature review and review of instruments related to sexuality. The most comprehensive collection of instruments that focused on sexual issues was the Handbook of Sexuality-Related Measures (T. D. Fisher et al., 2011). Various items from the various scales in this book, and other relevant literature, were reviewed as possible inclusions. Many of the scales that were reviewed related to assessing sexual history, sexual satisfaction, and attitudes toward sexual and gender orientation, while others included questions about specific sexual behaviors.

Based on the review of existing sexual instruments, literature, and the authors’ clinical, teaching, and supervisory experience, an initial pool of 82 items was created. Items were designed as declarative statements and the directions stated, “If it was part of your job and/or career, how comfortable would you be discussing the following sexual activities with others? Please rate your comfort level for each of the items below.” Respondents could rate their comfort level from 1 to 7, with 1 being completely uncomfortable and 7 being completely uncomfortable. The items utilized were categorized theoretically into seven primary subscales:

1. Non-Penetrative Partnered Sexual Behaviors (NPPB)—Activities between two people that are meant to result in arousal and/or result in sexual pleasure.
2. Masturbatory Behaviors (MB)—Activities an individual does only to oneself in order to arouse oneself and/or result in sexual pleasure.
3. Heterosexual Behavior (HB)—Activities between men and women meant to result in sexual arousal and/or sexual pleasure.

4. Homosexual/Bisexual Behaviors (HBB)—Activities between two men or two women that are meant to result in arousal and/or sexual behavior.

5. Fetishistic (F)—The need for an inanimate object to be used as part of sexual behaviors in order to have sexual arousal and/or sexual pleasure.

6. BDSM—The use of bondage, dominance, causing pain, or receiving pain as a part of sexual arousal and/or sexual pleasure.

7. Partner Configurations (PC)—Arrangements made for sexual arousal and/or sexual pleasure that involve three or more people and/or are sought out under unique circumstances.

In line with the recommendations of Rubio et al. (2003), content validity of the scale was assessed by a panel of seven content area experts comprised of licensed counselors, counselors specialized in sexuality and/or couple counseling, and university psychology professors. They were asked to evaluate whether the statement fit with the purpose of the instrument and the hypothesized subscale. A second panel of six university instructors and students was established to determine clarity of the language used in each statement. Using initial feedback from the panels, the questionnaire was refined and revised for clarity. A rule was established that any items having less than 75% consensus for fitting the purpose of the instrument were to be removed; no items were removed based on this pre-established rule.

**Administration of Pilot Study**

A small pilot study (n = 78) was conducted to evaluate whether modifications were required and to reduce the overall length of the measure. An online survey was created using the SurveyMonkey™ online data collection system. The online survey included an informed consent and the Comfort with Sexual Behaviors Scale (CSBS) Pilot Version. The link to the survey was sent to potential participants via an online learning management system to undergraduate students enrolled in several psychology courses and graduate counseling students enrolled in a Sex Therapy course. In addition, people were invited to participate via Facebook. No demographic questionnaire was included so that participants could only focus on the item pool.

The goal of the pilot study was to reduce the overall length of the measure to create a shorter, more practical, and psychometrically sound CSBS measure. To accomplish this goal, item analyses were conducted to understand the item distribution characteristics, with a primary focus on determining whether there was sufficient item variability to retain a given item. Several items needed to be removed to make the measure more practical and to reduce the interfactor correlations. Nearly everyone was comfortable with the behaviors that were part of the NPPB subscale, so this subscale was deleted because it did not differentiate between people who would be likely to discuss sexuality and those who would not be likely to discuss sexuality. The remaining six subscales were reduced to five items each based on the following changes. First, extremely skewed items with limited variability were removed (i.e., everyone tended to be likely to discuss the topic or everyone would not be likely to discuss the topic). Second, items that were highly correlated and contained nearly identical item content (e.g., “A woman using erotica [sexually explicit books, movies, or internet sites] as part of sexual arousal with another person” and “A man using erotica [sexually explicit books, movies, or internet sites] as part of sexual arousal with another person”) were combined to create a single item (e.g., “A person using erotica [sexually explicit books, movies, or internet sites] as part of sexual arousal with another person”). After these criteria a 30-item scale remained (see Table 1). Thus, new items were less redundant, and the length of the overall scale was more practical.

**Full Administration for Exploratory Study**

Next the 30-item CSBS was accessed by a new sample of 702 participants. Included in this administration was a demographic questionnaire and The Brief Social Desirability Scale (BSDS; Haghighat, 2007). The BSDS was used to look at social desirability and to look at discriminant validity. After administration, an exploratory factor analysis was performed on the CSBS.

**Participants.** Of the 702 participants who accessed the instrument online, 134 people did not complete any of the survey items. Of the remaining 568 participants, 84 did not appear to have valid responses based on the BSDS (i.e., provided a response of “Yes” on all four social desirability questions). Therefore, the final sample used for all the analyses was 484 (see Table 2). Eighty-four percent of the participants identified as female, 15% identified as male, and less than 1% identified as transgender. The largest group of participants was Caucasian (50%), followed by African American (38%), and Latino (6%). Thirty-seven percent of participants had completed some college or an associate’s degree, 35% were college graduates, and 29% had completed a masters or doctoral degree. Forty-six percent of participants made less than $30,000, 35% made between $31,000 and $70,000, and 19% made $71,000 or more.

**Instrument.** The Brief Social Desirability Scale (BSDS) was developed to be a brief, simple assessment of the social desirability of answers (Haghighat, 2007).
Table 1
CSBS Items

| Item Number and Wording                                                                 |
|----------------------------------------------------------------------------------------|
| 1. Someone using erotica (sexually explicit books, movies, or internet sites) to arouse oneself |
| 2. Anal fisting (inserting a hand into the rectum) between a man and a woman              |
| 3. A woman using a vibrator or dildo for vaginal penetration with a female partner       |
| 4. A man cross-dressing (dressing in female clothing) as a part of sexual arousal with a partner |
| 5. Being tied down during sex                                                            |
| 6. Non-monogamous (no committed partners involved) group sex (3 or more people)          |
| 7. A woman stimulating her vagina with her hand                                           |
| 8. Using a vibrator or dildo for anal penetration of a partner                           |
| 9. Someone engaging in sexual behaviors with both men and women                          |
| 10. Sexual arousal from inanimate objects (silk, leather, shoes, etc.)                   |
| 11. Punishing a partner during sex                                                      |
| 12. Committed female couple involving a third person (threesome) for sexual pleasure    |
| 13. Stimulation of one’s own anus with hand                                               |
| 14. Vaginal fisting (inserting a hand into the vagina) between a man and a woman         |
| 15. Using a vibrator or dildo for anal penetration between two people of the same sex     |
| 16. A female cross-dressing (dressing in male clothing) as part of sexual arousal with a partner |
| 17. Sexual arousal from pain                                                             |
| 18. Committed heterosexual couple involving a third person (threesome) for sexual pleasure |
| 19. Masturbation (stimulating one’s own genitals) with a sex toy                          |
| 20. Anal intercourse between a man and woman                                              |
| 21. Vaginal fisting (inserting a hand into the vagina) between two women                 |
| 22. Defecating on a partner for sexual pleasure                                          |
| 23. Sexual coercion role play (forced sex/rape fantasy)                                  |
| 24. Committed male couple involving a third person (threesome) for sexual pleasure       |
| 25. A male masturbating by penetrating a non-human object (e.g. a blow up doll, a masturbatory sex toy, a suction device) |
| 26. A man using a vibrator or dildo for vaginal penetration of his partner                |
| 27. Anal fisting (inserting a hand into the rectum) between two people of the same sex    |
| 28. Being asphyxiated (cutting off air supply) in order to enhance orgasm                |
| 29. Being dominated (told what to do) during sex                                          |
| 30. Committed couples swapping partners with other committed couples for sexual pleasure |

Given the length of the CSBS, a shorter social desirability measure was preferred. The four questions validated in the BSDS include: “Would you smile at people every time you meet them?”, “Do you always practice what you preach to people?”, “If you say to people that you will do something, do you always keep your promise no matter how inconvenient it might be?,” and “Would you ever lie to people?” (Haghighat, 2007). The BSDS was found to be valid and reliable with a Cronbach Alpha Coefficient of 0.6 and free from gender specificity (Haghighat, 2007). The four social desirability questions were determined to measure social desirability ($p < 0.0005$).

Procedures. After receiving permission from an Institutional Review Board, participants were recruited using convenience sampling. The link was sent out to (a) various department chairs of accredited counseling, psychology, marriage and family therapy, and social work programs around the country, asking them to disseminate the link to their students, (b) to sexual minority listservs compiled from http://www.lgbtcenters.org/Centers/find-a-center.aspx, (c) to undergraduate and graduate level students at a small Midwestern University to be completed either via a mass email sent to students or through a class they are taking, and (d) via Facebook.

Participants were directed to the SurveyMonkey™ online data collection system and received an electronic informed consent, a demographic questionnaire, the CSBS, and the social desirability questions. In order to encourage student participation, a small extra credit incentive was offered to those enrolled at the university. Participants were under no obligation to participate, and could discontinue participation at any time without repercussion.

A detailed demographic questionnaire was included with the full administration. Participants were asked about their race/ethnicity, religion, political affiliation, relationship status, sexual orientation, highest education level, income, zip code (to determine area of the country participants lived in), age, and gender. In addition, if they reported postsecondary
education they were asked their occupation and if their field of study was in a mental health field.

Table 2
Demographic Percentages of Participants

| Category                        | %   |
|---------------------------------|-----|
| **Race/Ethnicity**              |     |
| African American                | 38.4|
| Caucasian                       | 50.4|
| Hispanic/Latino                 | 5.8 |
| **Religion and/or Spirituality**|     |
| Agnostic or Atheist             | 15.1|
| Catholic                        | 14.8|
| Christian                       | 44.3|
| Spiritual                       | 15.6|
| **Relationship Status**         |     |
| Married Opposite Sex            | 36.5|
| Married Same Sex                | 1.9 |
| Committed Partner Opposite Sex  | 24.0|
| Committed Partner Same Sex      | 4.0 |
| Single                          | 26.9|
| **Sexual/Affectional Orientation**|    |
| Heterosexual                    | 82.3|
| Gay                             | 2.1 |
| Lesbian                         | 3.3 |
| Bisexual                        | 9.6 |
| **Education Level Completed**   |     |
| Some College or less            | 20.6|
| Associate’s Degree              | 16.3|
| College Graduate                | 34.6|
| Master’s Degree                 | 24.0|
| Doctoral Degree                 | 4.6 |
| **Income**                      |     |
| Below $30,000                   | 46  |
| $31,000-$50,000                 | 22.9|
| $51,000-$70,000                 | 11.7|
| $71,000-$90,000                 | 7.8 |
| $91,000-$130,000                | 7.8 |
| Above $131,000                  | 3.8 |
| **Gender**                      |     |
| Male                            | 15.1|
| Female                          | 84.1|
| Transgender                     | .8  |

Note: Some categories may not equal 100%; reporting of small groups deleted in some areas

Discriminant Validity

The BSDS and the CSBS do not measure theoretically related constructs, therefore, the BSDS was also used as a measure of discriminant validity. Upon analysis the CSBS and the BSDS were found to be significantly correlated (-.09). Although a significant correlation was observed, it was quite small and likely the result of a large sample size (n =484). Therefore, preset criteria were met, and discriminant validity was assumed.

Exploratory Factor Analysis. Exploratory factor analysis (EFA) is appropriate when analyzing new scales (McCoach, 2013), and the general rule is to have 5 to 10 participants per variable and a sample size of at least 300 (Comrey, 1992; Tabachnick, 2001). There 484 total participants, which is equal to 16 participants per item. In addition, Bartlett’s Test of Sphericity was significant. Zwick and Velicer (1986) argue that the K1 rule as the only means of factor determination is problematic. The difference between a “major” factor loading of 1.03 and .98, for example, is arbitrary. Additionally, this criterion often overestimates the number of factors (Zwick & Velicer, 1986).

Factor 1 explained 64.5% of the variance; Factor 2 explained an additional 7%, Factor 3 just over 4.5%, and Factor 4 an additional 3.5%. While Factor 2 did explain over 7% of the variance, its inclusion in the model as a separate factor is problematic for a variety of reasons. Primarily, this factor did not load independently. Using Principle Axis Factoring as the extraction method, the largest loading for Factor 2 was .516. However, that item loaded primarily on Factor 1 (.791). In addition, although Factors 3 and 4 explain some of the variance, it is not substantially more than other factors that were not identified as primary by the K1 rule. For example, the “fifth factor” was not included as its Eigen value was .72. This factor accounted for 2.4% of the total variance, not much less than that accounted for by either Factor 3 or 4. In summary, there were three factors (19.60, 1.81, 1.25) according to the Eigen-value rule. (This states that the Eigen value must be greater than 1). However, Eigen value is the least conservative of all factor tests. The next step is a parallel analysis, commonly called Monte Carlo method. This method is used to look for Eigen values that are smaller than the Eigen values first received in SPSS. The only one that was smaller than the initial value was the first factor. This lends additional support for the idea of only one factor.

Taken together, examination of the EFA suggests a one factor model as most appropriate for the data. Further, a visual inspection of the Scree plot (based on Cattell, 1966) shows a significant drop after the first factor and a near leveling of points beginning with factor two, further indicating a one factor model. While the Scree test is subjective and interpretation often depends on the training of the statistician, it is not prone to appreciable affect like the K1 method is (Zwick & Velicer, 1986). As indicated, a variety of methods, both statistical and theoretical, were employed to best understand the data and model fit. Because the best fit was a one-factor model, a confirmatory factor analysis was not used.

Convergent Validity

Next, the 30-item CSBS was administered to a new sample of participants. Included in this administration was a
demographic questionnaire and an additional measure, the Sexual Opinions Survey (SOS), to aid in further validating the CSBS. The demographic questionnaire and CSBS were administered identically to the first full administration of the CSBS, and will not be described below. Again, online snowball sampling method was utilized.

Participants. Although 227 people submitted the survey, some participants did not answer all items, including some demographic items. However, examination of the data indicated no pattern of missing data and little missing data total. Only two cases were removed for a final sample of 225 participants. In this administration, participants were 78.9% female, 19.4% male, and less than 1.5% identified as transgender. The largest group of participants was Caucasian (63.9%), followed by African American (17.2%), and Latino (7.5%). Nearly 28% had completed some college or an associate’s degree, 34.4% were college graduates, and 35.7% had completed a masters or doctoral degree. Forty-one percent of participants made less than $30,000, 29.1% made between $31,000 and $70,000, and 27.3% made $71,000 or more.

Instrument. The Sexual Opinions Survey (SOS) was developed to measure erotophobia (negative views and responses to aspects of sexuality) and erotophilia (positive views and responses to aspects of sexuality) (W. A. Fisher et al., 1988). This scale consists of 21 items that measure affective response toward different types of sexual stimuli (heterosexual, homosexual, autoerotic behavior, sexual fantasies and sexual stimuli), rated from 1 (strongly agree) to 7 (strongly disagree). Specifically, the scale consists of 10 erotophobia items assessing negative affective responses to sex (e.g., “I do not enjoy daydreaming about sexual matters”) and 11 erotophilia items assessing positive affective responses to sex (e.g., “Seeing a pornographic movie would be sexually arousing to me”). Some items are reverse coded Respondent scores on the SOS are obtained by subtracting the sum of the erotophobia items from the sum of the erotophilia items, and a constant of 67 is added to the difference. Possible scores on the scale range from 0 (most erotophobic) to 136 (most erotophilic). The Chronbach’s alpha of the SOS in Fisher et al.’s (1988) study was .79, suggesting adequate internal consistency.

Results. Assumptions of normality tests were conducted on 225 complete cases. Visual inspection of the frequency distribution and box plot of the data do not indicate normal distribution, whereas visual inspection of the Q-Q plot indicates probable normal distribution, with some skewing. As visual inspection can be unreliable, normality tests were then performed. Both the Kolmogorov-Smirnov test and Shapiro-Wilk test demonstrate that this data does violate the assumption of normality. General practice for larger sample sizes (>30 or 40) uses and interprets parametric procedures on data without normal distribution (Elliott, 2007; Pallant, 2007), as true normality is somewhat rare in social sciences data. Because the sample is large enough, violation of normality is not a significant concern.

Internal Consistency. Cronbach’s alpha is a measure of internal consistency most commonly used for Likert items in a survey. For the final administration of the CSBS the α = .98 with a possible range 1-7 and a variance .48, indicating that the CSBS had high internal consistency. According to Colliver, Conlee, Verhulst, and Dorsey (2010) using sums (rather than mean or composite scores) “reflect both the ratings and the number of items, which magnifies differences between scores and makes differences appear more important than they are” (p. 591). Therefore, composite (or mean) scores were created for the CSBS, BDS, and SOS. Composite scores “make it clear how big (or small) measured differences really are when comparing individuals or groups” (Artino, Rochelle, Dezee, & Gehlbach, 2014, p. 472). These composite rather than sums scores were utilized in the analyses of convergent and discriminant validity of the CSBS.

Convergent Validity. From a theoretical perspective, individuals scoring high on the SOS should also indicate more comfort with sexual behaviors on the CSBS, and individuals scoring low on the SOS should demonstrate less comfort with sexual behaviors. For this reason, the revised SOS was used as a measure of concurrent validity. The majority of items were significantly correlated, and the overall scales were significantly correlated at .58 (p < .01). As such, criterion for convergent validity was established.

Discussion

The primary purpose of the present study was to develop and validate a scale to investigate the level of comfort clinicians have with sexual topics and categories of sexual behaviors. The CSBS was developed based on literature, reviewed by an expert panel, and validated by a pilot study that reduced the number of items, and established both discriminatory and convergent validity. In addition, the scale was shown to be reliable.

In the full administration of the scale there were six subscales representing, theoretically, six factors. Each of these factors was highly correlated, and it raised the concern that there were not six separate factors. One factor, general comfort with the topic of talking about sexual behaviors, accounted for most of the differences in scores on subscales. The author assumed that participants would be more comfortable with particular subscales. However, those who were comfortable overall tended to show comfort across all of the subscales. Those who were less comfortable with sexuality overall, tended to have lower levels of comfort across the subscales.

While general level of comfort with sexual issues was expected to be a big part of whether people rated being more or less comfortable with discussing sexual issues, it was unexpected that there was not more variation of comfort based on
the type of sexual behaviors (fetishistic, masturbatory behaviors, partner configurations, BDSM, heterosexual behaviors, homosexual behaviors). One’s overall level of comfort with sexuality seemed to be more influential than the specificity of behavior. There were two small factors associated with partner configuration and BDSM that were not explored because they accounted for a small amount of the variance, but it implies that there is something else other than just general comfort for these two subscales. Perhaps these two subscales are seen as more “atypical” or “abnormal.” Previous research has supported that there is less acceptance of atypical and abnormal sexual behaviors (Stockwell, Walker, & Eshleman, 2010).

Limitations

There were several limitations of the present study. Some of the limitations related to the form of the scale (online), sampling procedures, and the social desirability scale. For example, one of the limitations was the number of people excluded from the first full administration of the 30-item instrument. Although 702 people who accessed and completed the demographic questionnaire, 134 of those people did not complete any of the survey items. Part of this could have been the length of the demographic questionnaire. Although not part of the main purpose of the study, ad hoc Analysis of Variance revealed that some groups tended to be more comfortable discussing sexuality: people with graduate degrees, those who identified as gay/lesbian or bisexual, male participants, Caucasian participants were more comfortable than African American and Hispanic participants, and (compared to Christians) Atheist, Agnostic, and Spiritual participants tended to be more comfortable. Based on these analyses, some of the questions (e.g. region and political affiliation) did not yield any significant relationship to how the scale questions were answered and could be eliminated in order to shorten the demographic questionnaire. In addition, people with very low comfort levels could have self-selected out once they saw some of the survey questions.

The Brief Social Desirability Scale (BSDS) had four questions and can be used as part of an attitudinal scale (Haghighat, 2007). In retrospect, different social desirability questions should have been utilized. Although the scale had some validity and reliability information to support it, the number of participants that answered one to four questions in a socially desirable way calls into question the utility of the BSDS. It is possible that the BSDS was accurately assessing social desirability, but more support is needed for the use of these questions.

Furthermore, a web-survey comes with advantages and disadvantages. It helps reduce geographic limitations, increases participants’ sense of anonymity (which is important when assessing sexual comfort), but it also involves sampling bias to those with internet access and low response rates. In addition, recruiting from a university, Facebook, and listservs may have created an overrepresentation of certain groups. Online surveys can negate some of the social desirability effects present when an interviewer is present with paper-and-pencil surveys (Duffy, Smith, Terhanian, & Bremer, 2005). This is of particular importance where large social desirability effects may be present, as in questions about sexual attitudes and behaviors. It has also been suggested that one may get more representative samples in some ways because people can respond at their convenience. However, research suggests that online respondents tend to be more educated. Nevertheless, some research has supported the idea that measuring values through paper-and-pencil or online is invariant (Davidov & Depner, 2009).

Future Research

The idea of general comfort level influencing one’s willingness to discuss sexual behaviors is consistent with the available literature on health professionals’ likelihood of addressing sexual issues with patients or clients (Harris & Hays, 2008; S. A. Miller & Byers, 2009; Træen & Schaller, 2013). Medical and mental health professionals, in particular, are less likely to discuss sex with clients if they feel uncomfortable (Haboubi & Lincoln, 2003; Træen & Schaller, 2013). If health professionals discuss sexual issues, they are more likely to do so only if the client/patient brings up the topic first (Haboubi & Lincoln, 2003). In addition, they are more likely to discuss sex if they have had more than just classroom training in exploring and/or discussing these topics. For example, clinicians who had more clinical experience, direct supervision, and continuing education related to sexual topics reported more willingness to directly ask about and treat sexual issues and concerns (Harris & Hays, 2008; S. A. Miller & Byers, 2009; Træen & Schaller, 2013).

While level of sexual knowledge may be easy for training programs to address, a clinician’s sexual values are a more complex issue. Having a scale that can measure the comfort level of clinicians in discussing specific sexual activities can help explore interventions effective in increasing clinician-comfort and increasing sexual intervention self-efficacy (S. A. Miller & Byers, 2012). The lack of research in the area of clinician comfort with sexuality leaves the door open for many questions to be answered. Why is there not a greater emphasis in training on discussing sexual issues? Why are some people more comfortable discussing sexual issues than others? Even for those who are more sex-positive, are there particular psychosexual behaviors they are likely to be less comfortable discussing? There are a broad range of questions, and the answers would most likely be beneficial to clients, the mental health professions, and training programs.

Clients expect that clinicians are knowledgeable and willing to discuss sexual issues. However, the scant research available on clinician comfort with discussing client sex-
ual behaviors does not support this assumption. Specialized training and supervision may be needed in order to assist clinicians in identifying, assessing, and discussing sexual issues. A scale is needed to assess clinician comfort with specific sexual behaviors in order to facilitate future training that will increase clinician comfort and the likelihood of discussing sexuality.

References

Artino, A. R., Rochelle, J. S. L., Dezee, K. J., & Gehlbach, H. (2014). Developing questionnaires for educational research: AMEE guide no. 87. Medical Teacher, 36(6), 463–474. doi:10.3109/0142159x.2014.889814

Bhugra, D., Popelyuk, D., & McMullen, I. (2010). Paraphilias across cultures: Contexts and controversies. Journal of Sex Research, 47(2-3), 242–256. doi:10.1080/00224491003699833

Bullough, V. (1980). Sexual variance in society and history. Chicago: University of Chicago Press.

Burnes, T. R., Singh, A. A., & Witherspoon, R. G. (2017). Sex positivity and counseling psychology: An introduction to the major contributions. The Counseling Psychologist, 45(4), 470–486. doi:10.1177/0011000017710216

Cattell, R. B. (1966). The scree test for the number of factors. Multivariate behavioral research, 1(2), 245–276.

Colliver, J. A., Conlee, M. J., Verhulst, S. J., & Dorsey, J. K. (2010). Reports of the decline of empathy during medical education are greatly exaggerated: A reexamination of the research. Academic Medicine, 85(4), 588–593. doi:10.1097/acm.0b013e3181d281dc

Comrey, A. (1992). A first course in factor analysis. Hillsdale, NJ: L. Erlbaum Associates.

Cowart-Steckler, D. (2011). The cowart-pollack scale of sexual experience. In T. Fisher, C. Davis, W. Yarber, & S. Davis (Eds.), Handbook of sexuality-related measures (3rd ed., p. 93-94). Routledge.

Davidov, E., & Depner, F. (2009). Testing for measurement equivalence of human values across online and paper-and-pencil surveys. Quality & Quantity, 45(2), 375–390. doi:10.1007/s11135-009-9297-9

Dermer, S., & Bachenberg, M. (2015). The importance of training marital, couple, and family therapists in sexual health. Australian and New Zealand Journal of Family Therapy, 36(4), 492–503. doi: 10.1002/anzf.1122

DeVellis, R. (2017). Scale development: theory and applications. Los Angeles: SAGE.

Dillon, F., & Worthington, R. L. (2003). The lesbian, gay and bisexual affirmative counseling self-efficacy inventory (LGB-CSI): Development, validation, and training implications. Journal of Counseling Psychology, 50(2), 235.

Duffy, B., Smith, K., Terhanian, G., & Bremer, J. (2005). Comparing data from online and face-to-face surveys. International Journal of Market Research, 47(6), 615–639. doi:10.1177/147075530504700602

Elliott, A. (2007). Statistical analysis quick reference guidebook: with spss examples. Thousand Oaks, Calif: Sage Publications.

Fallis, E. E., Gordon, C., Purdon, C., & Kirby, D. (2020). Sexual anxiety scale. In R. Milhausen, J. Sakaluk, T. Fisher, C. Davis, & W. Yarber (Eds.), Handbook of sexuality-related measures (4th ed., p. 566-569). Routledge.

Fisher, T. D., Davis, C. M., & Yarber, W. L. (2011). Handbook of sexuality-related measures. New York: Routledge.

Fisher, W. A., White, L. A., Byrne, D., & Kelley, K. (1988). Erotophobia-erotophilia as a dimension of personality. Journal of Sex Research, 25(1), 123–151. doi:10.1080/00224498809551448

Ford, M. P., & Hendrick, S. S. (2003). Therapists’ sexual values for self and clients: Implications for practice and training. Professional Psychology: Research and Practice, 34(1), 80–87. doi:10.1037/0735-7028.34.1.80

Haboubi, N. H. J., & Lincoln, N. (2003). Views of health professionals on discussing sexual issues with patients. Disability and Rehabilitation, 25(6), 291–296. doi:10.1080/09638280210003188

Haghighat, R. (2007). The development of the brief social desirability scale (bds). Europe’s Journal of Psychology, 3(4). Retrieved from http://ejop.psychopen.eu/article/view/417

Hannon, R., Hall, D., Gonzalez, V., & Cacciapaglia, H. (1999). Revision and reliability of a measure of sexual attitudes. Electronic Journal of Human Sexuality, 2. Retrieved from http://mail.ejhs.org/volume2/hannon/attitudes.htm

Hanzlik, M. P., & Gaubatz, M. (2012). Clinical PsyD trainees’ comfort discussing sexual issues with clients. American Journal of Sexuality Education, 7(3), 219–236. doi:10.1080/15546128.2012.707080

Harden, K. P. (2014). A sex-positive framework for research on adolescent sexuality. Perspectives on Psychological Science, 9(5), 455–469. doi:10.1177/1745691614535934

Harris, S. M., & Hays, K. W. (2008). Family therapist comfort with and willingness to discuss client sexuality. Journal of Marital and Family Therapy, 34(2), 239–250. doi:10.1111/j.1752-0606.2008.00066.x

Hendrick, C., Hendrick, S. S., & Reich, D. A. (2006). The brief sexual attitudes scale. Journal of sex research, 43(1), 76–86.

Hendrick, S. S., & Hendrick, C. (1987). Love and sexual at-
titudes, self-disclosure and sensation seeking. *Journal of Social and Personal Relationships*, 4(3), 281–297. doi:10.1177/026540757800400303

Hordern, A. J., & Street, A. F. (2007). Communicating about patient sexuality and intimacy after cancer: mismatched expectations and unmet needs. *Medical Journal of Australia*, 186(5), 224–227.

Ivanski, C., & Kohut, T. (2017). Exploring definitions of sex positivity through thematic analysis. *The Canadian Journal of Human Sexuality*, 26(3), 216–225.

Jaramillo, A. (2018). *Counselor education trainees’ comfort and willingness to discuss sexuality issues with clients* (Doctoral dissertation, University of Florida). Retrieved from https://search.proquest.com/docview/1877645966

Kendall, M. (2003). The development of a scale to assess the training needs of professionals in providing sexuality rehabilitation following spinal cord injury. *Sexuality and Disability*, 21(1), 49–64. doi:10.1023/a:1023510925729

Kimmes, J. G., Mallory, A. B., Cameron, C., & Özlem Köse. (2015). A treatment model for anxiety-related sexual dysfunctions using mindfulness meditation within a sex-positive framework. *Sexual and Relationship Therapy*, 30(2), 286–296. doi:10.1080/14681994.2015.1013023

Kingston, D. A., & Malamuth, N. M. (2011). Problems with aggregate data and the importance of individual differences in the study of pornography and sexual aggression: Comment on diamond, jozifkova, and weiss (2010). *Archives of Sexual Behavior*, 40(5), 1045–1048. doi:10.1007/s10508-011-9743-3

Kirby, D. (1984). *Sexuality education: An evaluation of programs and their effects*. Network Publications. Retrieved from https://eric.ed.gov/?id=ED277955

Kirby, D. (2011). Mathtech questionnaire: Sexuality questionnaire for adolescents. In T. Fisher, C. Davis, W. Yarber, & S. Davis (Eds.), *Handbook of sexuality-related measures* (3rd ed., p. 18–29). Routledge.

Kirby, D. (2020). Mathtech questionnaire: Sexuality questionnaire for adolescents. In R. Milhausen, J. Sakaluk, T. Fisher, C. Davis, & W. Yarber (Eds.), *Handbook of sexuality-related measures* (4th ed., p. 14-28). Routledge.

Lingiardi, V., Baiocco, R., & Nardelli, N. (2012). Measure of internalized sexual stigma for lesbians and gay men: A new scale. *Journal of Homosexuality*, 59(8), 1191–1210. doi:10.1080/00918369.2012.712850

Malamuth, N. (1989). The attraction to sexual aggression scale: Part one. *Journal of Sex Research*, 26(1), 26–49. doi:10.1080/00224498909551491

Malamuth, N. M. (1989). The attraction to sexual aggression scale: Part two. *Journal of Sex Research*, 26(3), 324–354. doi:10.1080/00224498909551519

McCoach, D. (2013). Instrument development in the affective domain: school and corporate applications. New York, NY: Springer.

Miller, S., & Byers, E. (2008). An exploratory examination of the sexual intervention self-efficacy of clinical psychology graduate students. *Training and Education in Professional Psychology*, 2(3), 137–144. doi:10.1037/h0065852

Miller, S., & Byers, S. (2020). Sexual intervention self-efficacy. In R. Milhausen, J. Sakaluk, T. Fisher, C. Davis, & W. Yarber (Eds.), *Handbook of sexuality-related measures* (4th ed., p. 168-171). Routledge.

Miller, S. A., & Byers, E. S. (2009). Psychologists’ continuing education and training in sexuality. *Journal of Sex & Marital Therapy*, 35(3), 206–219. doi:10.1080/0992623082716336

Miller, S. A., & Byers, E. S. (2010). Psychologists’ sexual education and training in graduate school. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement*, 42(2), 93–100. doi:10.1037/a0018571

Miller, S. A., & Byers, E. S. (2012). Practicing psychologists’ sexual intervention self-efficacy and willingness to treat sexual issues. *Archives of Sexual Behavior*, 41(4), 1041–1050.

Mollen, D., Burnes, T., Lee, S., & Abbott, D. M. (2018). Sexuality training in counseling psychology. *Counselling Psychology Quarterly*, 1–18. doi:10.1080/09515070.2018.1553146

Neaz-Nibur, D. (2017). *Let’s talk about sex: Constructing a scale measuring comfort with sexual topics* (Doctoral dissertation, The Chicago School of Professional Psychology). Retrieved from https://search.proquest.com/docview/1832956426

Nodulman, J. A. (2012). Transcending traditional approaches to sexuality education: A case study in communicating, constructing, and defining sex-positive sexuality education. *University of New Mexico Digital Repository*. Retrieved from http://digitalrepository.umn.edu/cj_etds/32

Pullan, J. (2007). *Spss survival manual: a step by step guide to data analysis using spss for windows*. Maidenhead: Open University Press.

Patton, W., & Mannison, M. (1995). Sexuality attitudes: A review of the literature and refinement of a new measure. *Journal of Sex Education and Therapy*, 21(4), 268–295. doi:10.1080/01614576.1995.11074160

Rubio, D. M., Berg-Weger, M., Tebb, S. S., Lee, E. S., & Rauch, S. (2003). Objectifying content validity: Conducting a content validity study in social work research. *Social Work Research*, 27(2), 94–104.
doi:10.1093/swr27.2.94
Rye, B. J., & Fisher, W. A. (2020). Sexual opinion survey. In R. Milhausen, J. Sakaluk, T. Fisher, C. Davis, & W. Yarber (Eds.), *Handbook of sexuality-related measures* (4th ed., p. 570-572). Routledge.

Schover, L. R. (1981). Male and female therapists’ responses to male and female client sexual material: An analogue study. *Archives of Sexual Behavior, 10*(6), 477–492. doi:10.1007/bf01541584

Southern, S., & Cade, R. (2011). Sexuality counseling: A professional specialization comes of age. *The Family Journal, 19*(3), 246–262. doi:10.1177/1066480711408028

Stockwell, F. M. J., Walker, D. J., & Eshleman, J. W. (2010). Measures of implicit and explicit attitudes toward mainstream and BDSM sexual terms using the IRAP and questionnaire with BDSM/fetish and student participants. *The Psychological Record, 60*(2), 307–324. doi:10.1007/bf03395709

Tabachnick, B. (2001). *Using multivariate statistics*. Boston, MA: Allyn and Bacon.

Træen, B., & Schaller, S. (2013). Talking to patients about sexual issues: experiences of norwegian psychologists. *Sexual and Relationship Therapy, 28*(3), 281–291. doi:10.1080/14681994.2013.768338

Tromovitch, P. (2011). The multidimensional measure of comfort with sexuality (MMCS1). In T. Fisher, C. Davis, W. Yarber, & S. Davis (Eds.), *Handbook of sexuality-related measures* (3rd ed., p. 34-39). Routledge.

Trueblood, H. R. K., & Hall, D. S. (1998, June). Development and validation of a measure of sexual attitudes.

Urry, K., Chur-Hansen, A., & Khaw, C. (2019, July). ‘It’s just a peripheral issue’: A qualitative analysis of mental health clinicians’ accounts of (not) addressing sexuality in their work. *International Journal of Mental Health Nursing, 28*(6), 1278–1287. Retrieved from https://doi.org/10.1111/inm.12633 doi:10.1111/inm.12633

Wenner, R. V. M., C. A., & McNulty, J. K. (2011). Attitudes toward unconventional sex scale. In T. Fisher, C. Davis, W. Yarber, & S. Davis (Eds.), *Handbook of sexuality-related measures* (3rd ed., p. 80). Routledge.

Williams, D., Prior, E., & Wegner, J. (2013). Resolving social problems associated with sexuality: Can a “sex-positive” approach help? *Social work, 58*(3), 273–276.

Wilson, M. R. (2019). Too taboo?: Preliminary explorations of counselor experiences of client sexuality. *Journal of Counseling Sexology & Sexual Wellness: Research, Practice, and Education, 60–68*. doi:10.34296/01011010

Wittkopf, P. G., Cardoso, F. L., & Sperandio, F. F. (2015). Development and validation of the scale of knowledge, comfort and attitudes of physiotherapy students towards human sexuality (SKCAPS). *Fisioterapia em Movimento, 28*(2), 339–348. doi:10.1590/0103-5150.028.002.ao14

Zwick, W. R., & Velicer, W. F. (1986). Comparison of five rules for determining the number of components to retain. *Psychological Bulletin, 99*(3), 432–442. doi:10.1037/0033-2909.99.3.432