THE DEVELOPMENT OF THE SEXUAL SELF-CONCEPT INVENTORY FOR EARLY ADOLESCENT GIRLS

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The Sexual Self-Concept Inventory (SSCI) was developed to assess sexual self-concept in an ethnically diverse sample of urban early adolescent girls. Three scales (Sexual Arousability, Sexual Agency, and Negative Sexual Affect) were shown to be distinct and reliable dimensions of girls’ sexual self-concepts. Validity was established through comparisons with established instruments. Sexual Arousability and Sexual Agency were associated with positive sexual self-esteem, positive future orientation toward sex, intentions to engage in intercourse, and lower levels of sexual experience. Negative Sexual Affect was associated with stronger abstinence attitudes and lack of intentions or orientation toward sex in the near future. The results indicate that the SSCI constitutes a valid means of assessing early adolescent girls’ views of their sexuality and sexual behavior and may be of use in studies of health and risk-related decision making.

To understand adolescent sexual behavior, it is important to examine how adolescents construct a sense of themselves as sexual people. Most research on adolescent sexuality has focused on problem behavior outcomes, such as pregnancy and sexually transmitted infection among middle or late adolescent girls (Nicolai et al., 2004), resulting in a narrow perspective regarding the sexual lives of adolescents. This truncated view is particularly true of non-White adolescents who are often excluded from normative developmental analyses of sexuality, though not from studies of poor health and social outcomes related to sexual behavior (Tolman, Striepe, & O’Sullivan, 2003; O’Sullivan & Brooks-Gunn, 2005). Researchers have recently been challenged to take a broader perspective of sexual development (Bancroft, 2003) and to characterize the array of normative physical, psychological, and social changes that are fundamental to a developing sense of self.

Developmental Features of Relevance to Assessment

There are important changes in the lives of early adolescents pertinent to the assessment of sexual self-concept. Most notably, early adolescents begin to experience the dramatic physical changes of puberty, to become aware of sexual drive and erotic feelings, and to develop previously unfamiliar views of themselves as individuals capable of eliciting sexual interest in others. At this time, peers gain considerable social influence and frequently provide social contexts for early romantic and sexual encounters (O’Sullivan, 2005; O’Sullivan, Meyer-Bahlburg, & Watkins, 2000, 2001). Although most young people experience first intercourse during the middle to late adolescent years (i.e., 15 to 21 years), there is considerable sexual experience that precedes first intercourse but is often overlooked. Indeed, early adolescents (i.e., 12 to 14 years) are often considered to be sexually “nonactive” despite a range of “precoital” sexual experiences involving ever-increasing levels of exploration. In addition, early adolescence is a time when a primary developmental task is to integrate into a sense of self or identity those experiences associated with movement away from childhood (Erikson, 1950). Interpersonal attributes and social skills, as well as a particular sensitivity to social comparison information, are salient features of the psychology of...
early adolescence (Harter, 1999). The intersection of this central task with the onset of sexual and romantic experiences within relationships, as well as the salience of sexual development at puberty, renders early adolescence a key period for active construction of one's sexual self-concept (Longmore, 1998; Stein, Roeser, & Markus, 1998).

Assessment Issues in the Study of Sexual Self-Concept

Self-concept functions as an organizational framework for interpreting experiences and is modified when challenged with new information from the environment (Markus & Wurf, 1987). Self-concept is now commonly viewed as a multifaceted construct, and it represents an integration of dynamic core and peripheral concepts, as well as idealized “possible selves” (Markus & Nurius, 1986), such as academic self-concept or athletic self-concept (Byrne, 2002). Sexual self-concept is one such peripheral concept and refers to an individual's view of him- or herself as a sexual person.

A number of instruments that assess sexual self-concept have been developed for adults in recent years. The Women's Sexual Self-Schema Scale (Andersen & Cyranowski, 1994) comprises 26 self-descriptions of trait adjectives (e.g., romantic, outspoken, cautious) based on women's views of the traits of “sexual women.” This measure taps two positive dimensions, which are labeled romantic-passionate and open-direct, and a negative dimension capturing embarrassment-conservativism. The Sexual Self Awareness Questionnaire (Snell, Fisher, & Miller, 1991) was designed to measure four personality tendencies associated with sexual awareness for young adults: sexual consciousness, sexual monitoring, sexual preoccupation, and sexual assertiveness. Both questionnaires were developed for and validated using adult samples, with item content, format, and wording that is likely too advanced for younger samples.

In fact, few researchers have assessed sexual self-concept among adolescents at all, despite its clear relevance to understanding adolescent sexual behavior or motivations. Those that have studied adolescents tend to focus on adolescents 15 years or older, who are at distinctively different phases of development than early adolescents (Breakwell & Millward, 1997; Buzwell & Rosenthal, 1996; Winter, 1988). At the very least, older groups are likely to have a wider repertoire of sexual experiences to which they can refer. For example, the Sexual Self-Concept Scale (Winter, 1988) assessed adolescents’ intercourse attitudes, feelings about obtaining and using contraceptives, and past discussions about sex and contraception.

Buzwell and Rosenthal (1996), expanding upon the work of Goggin (1989), theorized that there are four key dimensions of sexual self-concepts that are important to the study of adolescents’ perceptions of their sexuality: sexual exploration or externalization of desire, sexual anxiety or negative reactions to sexual cues, relationship commitment, and sexual arousal, which includes perceptions of physiological responses to sexual cues. These dimensions were related to the onset of sexual intercourse, and all but relationship commitment were related to higher sexual risk taking. It is unclear whether these domains will relate to the experiences of early adolescents, who often have extremely limited sexual contact with partners and are only beginning to acknowledge sexual interest and curiosity.

Even so, there are important lessons that can be gleaned from work using older samples of adolescents and adults. In particular, researchers have demonstrated that there is some overlap in male and female sexual self-concepts (Andersen, Cyranowski, & Espindle, 1999; Breakwell & Millard, 1997). Furthermore, feminist theory (e.g., Bem, 1993) reinforces the importance of taking a gendered perspective. Girls and boys are taught radically different lessons about the sexual experiences that they can have (Tolman, 2002). For example, girls’ sexual self-concepts likely incorporate the importance of interpersonal relationships (Breakwell & Millward, 1997), in line with the emphasis on relationship skills in girls' socialization (Maccoby, 1998) and romantic partnerships as the contexts for sexual expression (Fine, 1988; Thompson, 1994, 1995).

The Current Study

The goals of the current study were to develop and refine an instrument to assess the sexual self-concepts of ethnically diverse early adolescent girls. We first conducted extensive formative research, as so little was known about the sexual self-concepts of early adolescent girls. The formative research was used to develop the item pool and refine a preliminary version of a self-concept instrument. Data were then obtained from a sample of 180 girls to develop and validate the scales of the resulting instrument, the SSC1. A premise of this research is that self-concept is not only reflected by ongoing behavior, but mediates and regulates future behavior (Longmore, 1998; Markus & Wurf, 1987; Stein et al., 1998). The dynamic nature of self-concepts implies that self-concepts tap working models of the self (Markus & Wurf, 1987), which would be expected to change over time as new social experiences are perceived, interpreted, and assimilated. As such, we expected that sexual self-concept would be related to reports of past sexual behaviors, even to the relatively low levels of intimacy expected among early adolescent girls. In addition, we predicted that changes in self-concept would be noted over time with increasing levels of sexual experience. To test these predictions, we readministered the final measure of sexual self-concept 1 year later to the same sample of adolescent girls to assess the extent to which sexual self-concept changed within this diverse sample. We
also assessed strength of associations between our measure of sexual self-concept and key sexual experiences that took place between assessments to determine the predictive utility of the instrument.

**METHOD**

**Measure Development**

Formative research using focus groups and individual interviews was conducted with 68 girls, 12 to 14 years of age, who were recruited from community agencies offering after-school programs in New York City. The girls represented a range of ethnicities in line with our objectives: African American (26%), Latina (49%), White or other (25%). The data were used to generate an item pool using the exact phrasing of statements from the transcripts to improve item comprehension and authenticity amongst the target population. A few items referred to experiences of kissing, flirting, and touching, which are common experiences for most girls in this age range (O’Sullivan & Meyer-Bahlburg, 2003), but none presumed sexual experience involving genital contact of some form. Modifications were made to reduce ambiguity in wording, adjust language difficulty level, and ensure balance in positively and negatively worded items. Words that were similar in meaning replaced or joined some slang words or jargon used by the girls to improve comprehension. Preliminary versions of the questionnaire were administered orally and in written form to obtain complete feedback regarding clarity, meaning, and appropriateness of wording. The final preliminary version consisted of 66 items, with 11 filler items to reduce response set.

**Participants**

Girls for the current study were recruited from community agencies around New York City offering after-school programs in conjunction with local schools. Participants were 180 girls: 41 were 12 years old, 82 were 13 years old, and 57 were 14 years old. A diverse sample was again recruited: Over half (61%) indicated that they were Latina, primarily Dominican and Puerto Rican whereas the remaining girls reported being African American (33%), White/non-Hispanic (3%), or other (3%). Almost all girls (92%) were living with at least one parent; the remainder were living with other family members. Their primary language in the home was only or mostly English (84%), followed by English and Spanish equally (12%), or mostly Spanish (4%). In terms of pubertal development, all but 15 of the 180 girls reported that they had experienced at least the beginning of a growth spurt in height, all but 5 reported growth of body hair, and all but 8 had experienced breast growth. Most (82.8%) had begun to menstruate, the majority (86.6%) within the preceding 3 years.

Because most girls this age are unable to report family income accurately, each girl was asked to report her mother’s education level to provide a proxy measure of socioeconomic status. Over one third (35%) of their mothers had not finished high school, 15% had finished high school, 26% had post-high school training or education of some type, and 21% of the girls did not know their mothers’ education history. With regard to employment status, 50 (44%) girls reported that their mothers were employed full-time, 38 (31%) part-time, and 50 (28%) reported that their mothers were not working for pay at that time. Twelve girls (7%) did not report or did not know this information. Based on ZIP codes of girls’ home addresses and Census 2000 data, 83% of the participants lived in areas with a household median income of less than $27,000, and all but 18 girls lived in areas in which at least 25% of the households had children 18 years of age or younger living below the poverty level.

**Measures**

Participants completed a battery of questionnaires, including the preliminary version of the SSCI and a range of sociosexual cognition and sexual behavior instruments. All girls chose to complete the questionnaires in English, including 7 girls whose primarily language in the home was Spanish. Interviewers ascertained fluency in English prior to conducting the interviews.

**Sexual self-concept.** Our preliminary instrument assessing sexual self-concept consisted of the 66 items and the 11 filler items with a 6-point Likert response scale ranging from 1 (strongly disagree) to 6 (strongly agree).

**Sexual self-esteem.** Sexual self-esteem was measured by a modification of the instrument by Rosenthal, Moore, and Flynn (1991). Specifically, we developed a new scale using 7 of the original 18 items, which captured girls’ regarding their ability to attract a sexual partner. Respondents indicated their agreement on a 4-point scale ranging from 1 (strongly disagree) to 4 (strongly agree), with higher scores indicating stronger self-esteem. Examples of the items are “I am proud of my body” and “I feel comfortable with my sexuality.” The Cronbach alpha for this modified version was .71.

**Self-esteem.** The 10-item Rosenberg (1965) Self-Esteem Scale was used to assess global self-esteem. Participants responded to items on a scale that ranged from 1 (strongly agree) to 4 (strongly disagree). High scores indicated higher self-regard and feelings of self-worth. A sample item is “I feel I have a number of good qualities.” This is a well-established instrument, with strong validity and reliability (Rosenberg, 1965), and has been used successfully with other samples of early adolescent urban ethnically diverse girls (Tolman & Porche, 2000). The Cronbach alpha for the current study was .78.

**Abstinence values (Miller, Norton, Fan, & Christopherson, 1998).** Abstinence values were assessed using this 10-item questionnaire of the appropriateness of adolescents’
participation in sexual intercourse. Scores range from 1 (strongly disagree) to 5 (strongly agree) with higher scores representing stronger belief in sexual abstinence for adolescents. An example of these items includes “It is against my values for me to have sexual intercourse while I am an unmarried teenager.” In a previous study, scores were strongly negatively correlated with reported intentions to engage in intercourse and a range of sexual behaviors (Miller et al., 1998). The alpha coefficient for the current study was .80.

Perceived peer and maternal approval. A modification of two instruments from Treboux and Busch-Rosnagel (1990) was used to assess girls’ perceptions of approval of sexual activity. Respondents indicated how their mother or mother figure would react if she knew the respondent was engaging in light petting, which was defined as “touching breasts, chest, private parts above clothes;” heavy petting, which was defined as “touching and stimulating private parts beneath clothes;” or sexual intercourse. The partner in each case was described as someone with whom the girl was in love. Responses ranged from 1 (strong disapproval) to 4 (strong approval). The three items were summed to derive a perceived maternal approval score with high scores indicating greater approval/less disapproval. Parallel items assessed adolescents’ perceptions of their female friends’ approval for the respondents’ participation in sexual activities with someone with whom they were in love. In a previous study, perceived maternal and peer approval predicted related sexual attitudes among high school students (Treboux & Busch-Rosnagel, 1990). The coefficient alphas for the current study were .80 and .90, respectively.

Parenting attitudes. Respondents indicated their agreement on a 5-point scale ranging from 1 (disagree strongly) to 5 (agree strongly) to five items assessing value of motherhood. An example of these items is “Having a child makes you an important person.” (Unger, Molina, & Teran, 2000). The Cronbach alpha coefficient for the current study was .86.

Measures of intention and future orientation to sexual experience. To assess intentions to engage in sexual intercourse, participants responded Yes, No, Unsure, or Other to the statement “Do you intend to have sexual intercourse next year?” Future orientation was assessed by combining responses to three items: “How sure are you that you are ready to have sexual intercourse?” on a scale from 1 (very unsure) to 4 (very sure), “How likely is it that you will have sexual intercourse in the next year?” on a scale from 1 (very unlikely) to 4 (very likely), and “How would you feel if you were to have sexual intercourse in the next year?” from 1 (very bad) to 4 (very good). The Cronbach alpha coefficient was .82.

Perceived peer norms. Respondents rated the item “How many of your friends (who are the same age as you) have ever had sexual intercourse?” using the following options: 1 (none), 2 (25%; some of them), 3 (50%; half of them), 4 (75%; most of them), and 5 (100%; all of them). This item was derived from Gibson and Kempf (1990), who have used it successfully to study perceived peer sexual norms.

Psychosocial Development Interview—Child Version for Sexual Risk Behavior (Meyer-Bahlburg, Dugan, & Ehrhardt, 1998). This measure is an interview protocol for children of prepubertal age. A female version of this instrument was used in the current study. This instrument covers pubertal development, developmental milestones of sexual behavior, and for sexually experienced adolescents only, a detailed sexual history covering all sexual partners and significant sexual practices. Administration is arranged in such a way that the interviewer reads aloud the questions and related instructions, while the adolescent reads along with her copy of the interview and checks off or writes in the answers without necessarily speaking to the interviewer. The instrument showed excellent reliability in a pilot study of similar girls, especially regarding ages of first romantic and sexual experiences (Hearn, O’Sullivan, & Dudley, 2003). Girls were asked parallel questions regarding both male and female sexual partners; however, no girls reported same-sex experience.

Procedure
After parental consent was obtained, girls provided assent to participate in the study. They were then interviewed by female interviewers of similar ethnic background and in their language of choice, which was English in every case. All girls were interviewed in locations of convenience, typically in the community agency where they were recruited and where privacy could be assured. Interviewers administered the complete battery of questionnaires. Fifty girls completed the battery of questionnaires 3 weeks later to establish the reliability of the questionnaires. Girls received monetary compensation in the amount of $25 for participating in the study. One year later, girls were recontacted and invited to complete the 1-year follow-up administration of the questionnaire battery. We obtained 90% follow-up (n = 162) in this sample.

RESULTS

Descriptive Statistics
Most girls reported a crush on a boy or man in the past (93.3%) or had a boyfriend in the past (79.4%), although fewer reported that they had ever been in love (30.6%). Almost all (92.2%) had kissed or hugged a boy or man romantically. As expected, far fewer reported more advanced sexual activities: breast fondling (17.8%), stimulating male partner (16.1%), stimulated by male partner (11.1%), oral sex (fellatio 2.8%; cunnilingus 5.6%), penile-vaginal intercourse (7.2%), or anal intercourse (1.1%).
When asked whether they intended to have sexual intercourse in the next year, most girls reported that they did not (No, 78.3%; Yes, 4.4%; or Unsure, 17.2%). Their average future orientation score (combining the items relating to perceived readiness, likelihood of sex, and related emotions) was 3.3 on a scale ranging from 1 (negative) to 4 (positive), indicating a moderately positive orientation. One-third (35%) reported that none of their friends had ever engaged in sexual intercourse, 41% believed that some had this experience, and the remaining 24% indicated half to all had engaged in intercourse. Peers were seen as somewhat disapproving (M = 6.8) and mothers as strongly disapproving (M = 3.9) of sexual experience for girls on a scale ranging from 3 (strong disapproval) to 12 (strong approval).

Data Preparation

No respondents omitted more than 9% of the 66 items on the preliminary sexual self-concept measure, which is a sufficiently low rate for inclusion (DeVellis, 1991). Therefore, all 180 girls were included in the analyses. Missing cases were excluded on a listwise basis. The 11 filler items were omitted from the analyses. The performance of each of the remaining items on the instrument was evaluated. Two of the items were dropped because they were unanswered by more than 5% of the respondents. Three items had truncated variance with scores piling on one or two values, indicating that the item was worded too strongly so that few either agreed or disagreed with it. Specifically, for these three items, the degree of skewness exceeded 2.0 or the degree of kurtosis exceeded 5.0. Therefore, these items were dropped. Item means for the remaining variables were close to the center of the range of possible scores for an item, leaving a final item pool of 50.

Preliminary Estimation of the Factor Structure

To ascertain the instrument’s factor structure, two principal components analytic procedures were conducted. The original unrotated principal components analysis was used to estimate the number of factors, presence of outliers, and absence of multicollinearity (Tabachnick & Fidell, 1989). Examination of the eigenvalues for the 50 items revealed 16 factors with a value greater than 1.0. Examination of scree plots revealed a three-factor solution to be appropriate. A second principal components analysis with varimax rotation specifying a three-factor solution was more easily interpretable and more closely matched the intended design in differentiating aspects of sexual self-concept. Table 1 displays each of the 50 items and their rotated factor loadings that emerged in this second analysis. No item generated two or more coefficients of 0.45 (20% of the variance) or higher in the pattern matrix. Items that yielded no coefficients at or above 0.40 were not included in the final matrix (Tabachnick & Fidell, 1989). A total of 13 of the 50 (26%) variables did not load on one of the three final factors.

Table 1 displays the items that did not load on the factors for comparative purposes.

Final Factor Structure

The first of three factors that emerged in the second principal components analysis reflected sexual responsiveness, which we labeled Sexual Arousability. The second factor was labeled Sexual Agency, which also incorporated items relating to sexual curiosity, and the third reflected sexual anxiety and included some items relating to sexual monitoring. We labeled this factor Negative Sexual Affect. The Sexual Arousability factor accounted for approximately 20.0% of the variance, the Sexual Agency factor accounted for 7.1%, and the Negative Sexual Affect factor accounted for 5.0%. Taken together, the three factors explained 32.1% of the variance.

Scale Definition

We named the resulting instrument the SSCI, which consisted of three scales assessing girls’ sexual self-concepts: Sexual Arousability, Sexual Agency, and Negative Sexual Affect. Scales comprised only those items with coefficients of 0.40 or higher. Two items that were generated as part of the Sexual Arousability factor were permanently deleted (see Table 1) from the scale because they seemed conceptually different from the majority of items. These were “I’m the type of girl who would wonder if I’m good enough for my boyfriend” and “I feel like I would have to have sex with a guy if I had sex with him before.” The factor coefficients for these items were .47 and .49, respectively. One item from the Sexual Agency factor was deleted, as noted, for a similar reason. One item that loaded slightly more strongly on the Sexual Arousability scale was included in the Sexual Agency scale after examination of item contributions to the respective Cronbach alpha coefficients and in accordance with the underlying constructs tapped by the respective scales.

A total of 34 items were retained. The Sexual Arousability scale comprised 17 items in total, the Sexual Agency scale comprised 10 items, and the Negative Sexual Affect scale comprised 7 items. Subscale scores were derived by summing participants’ responses to items within the subscales. The psychometric properties of the three subscales are reported below. Sexual Arousability and Sexual Agency scores were significantly correlated (r = .51, p < .001). Sexual Arousability and Negative Sexual Affect were significantly negatively correlated (r = −.19, p < .05), and Sexual Agency and Negative Sexual Affect were not significantly correlated (r = .03, p > .05). When the 34 items were included in a final factor analysis, the total variance accounted for by the three factors was 40.2%.

Reliability of the SSCI

Coefficient alphas were .91, .76, and .67 for the Sexual Arousability (17 items), Sexual Agency (10 items), and
Table 1

Factor Loadings of the Principal Components Analysis of the Sexual Self-Concept Inventory (SSCI)

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Included in Subscales</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I sometimes think I’d like to try doing the sexual things my friends are doing with their boyfriends</td>
<td>.72</td>
<td>.06</td>
<td>−.09</td>
</tr>
<tr>
<td>When I kiss a guy, I get hot</td>
<td>.72</td>
<td>.06</td>
<td>−.03</td>
</tr>
<tr>
<td>I sometimes want to know how different types of sex feel</td>
<td>.70</td>
<td>.10</td>
<td>−.01</td>
</tr>
<tr>
<td>I would really want to touch a boyfriend if we were left alone together</td>
<td>.67</td>
<td>.24</td>
<td>−.25</td>
</tr>
<tr>
<td>If I’m going to see a guy I like, I like to dress sexy</td>
<td>.67</td>
<td>.14</td>
<td>−.04</td>
</tr>
<tr>
<td>If a guy kisses me, I also want him to touch my body</td>
<td>.64</td>
<td>.00</td>
<td>−.14</td>
</tr>
<tr>
<td>If I were to kiss a guy, I’d get really turned on</td>
<td>.64</td>
<td>−.02</td>
<td>.05</td>
</tr>
<tr>
<td>When I flirt with a guy, I like to feel him up</td>
<td>.62</td>
<td>.05</td>
<td>−.17</td>
</tr>
<tr>
<td>Sometimes I dress sexy to get attention from guys</td>
<td>.62</td>
<td>−.03</td>
<td>.03</td>
</tr>
<tr>
<td>If a boy kisses me, my body feels good</td>
<td>.61</td>
<td>.19</td>
<td>−.01</td>
</tr>
<tr>
<td>If I were kissing and touching a guy, I would get hyped, real excited</td>
<td>.59</td>
<td>.29</td>
<td>−.14</td>
</tr>
<tr>
<td>There are things about sex I want to try</td>
<td>.57</td>
<td>.13</td>
<td>−.32</td>
</tr>
<tr>
<td>I enjoy talking about sex or talking sexy with boys I know really well</td>
<td>.55</td>
<td>.29</td>
<td>−.23</td>
</tr>
<tr>
<td>I enjoy talking about sex with my girl friends</td>
<td>.49</td>
<td>.36</td>
<td>−.15</td>
</tr>
<tr>
<td>I feel like I would have to have sex with a guy if I had sex with him before</td>
<td>.49</td>
<td>−.01</td>
<td>−.07</td>
</tr>
<tr>
<td>I’m the type of girl who would wonder if I’m good enough for my boyfriend</td>
<td>.47</td>
<td>.21</td>
<td>.11</td>
</tr>
<tr>
<td>It’s okay to feel up on a guy</td>
<td>.47</td>
<td>.27</td>
<td>−.27</td>
</tr>
<tr>
<td>I like it when a guy tells me I look good</td>
<td>.43</td>
<td>.24</td>
<td>−.11</td>
</tr>
<tr>
<td>I think I’m ready to have sex</td>
<td>.42</td>
<td>.18</td>
<td>−.37</td>
</tr>
<tr>
<td>Girls always wonder what sex is going to be like the first time</td>
<td>.21</td>
<td>.65</td>
<td>.04</td>
</tr>
<tr>
<td>Girls sometimes have sex because they’re curious and want to see what it’s like</td>
<td>.17</td>
<td>.58</td>
<td>.03</td>
</tr>
<tr>
<td>I sometimes think about who I would want to have sex with</td>
<td>.38</td>
<td>.55</td>
<td>−.31</td>
</tr>
<tr>
<td>When I decide to have sex with a guy, it will be because I wanted to have sex and not because he really wanted me to have sex with him</td>
<td>.00</td>
<td>.53</td>
<td>−.13</td>
</tr>
<tr>
<td>Sex is best with a guy you love</td>
<td>.06</td>
<td>.51</td>
<td>−.18</td>
</tr>
<tr>
<td>I like to let a guy know when I like him</td>
<td>.03</td>
<td>.49</td>
<td>.10</td>
</tr>
<tr>
<td>If I had sex with a guy, I would be running the risk of being played (taken advantage of)</td>
<td>.04</td>
<td>.48</td>
<td>.23</td>
</tr>
<tr>
<td>If I have sex, my friends will want to know all about it</td>
<td>.19</td>
<td>.47</td>
<td>.34</td>
</tr>
<tr>
<td>If I have sex with a guy, I would worry that I could get my feelings really hurt</td>
<td>.24</td>
<td>.46</td>
<td>.02</td>
</tr>
<tr>
<td>Guys can make good friends</td>
<td>−.04</td>
<td>.45</td>
<td>.09</td>
</tr>
<tr>
<td>Flirting is fun, and I am good at it</td>
<td>.43</td>
<td>.40</td>
<td>−.32</td>
</tr>
<tr>
<td>If I kiss a guy I don’t really know, I’m afraid of what people will think about me</td>
<td>.05</td>
<td>.05</td>
<td>.59</td>
</tr>
<tr>
<td>Sex is nasty</td>
<td>−.15</td>
<td>−.24</td>
<td>.56</td>
</tr>
<tr>
<td>Sex isn’t fun for girls my age</td>
<td>−.11</td>
<td>.14</td>
<td>.53</td>
</tr>
<tr>
<td>I would be scared to be really alone with a boyfriend</td>
<td>−.01</td>
<td>−.12</td>
<td>.53</td>
</tr>
<tr>
<td>I think I am too young to have sex</td>
<td>−.23</td>
<td>.15</td>
<td>.48</td>
</tr>
<tr>
<td>If I kiss a guy I don’t really know, I’m afraid of what he will try to make me do next</td>
<td>.16</td>
<td>.22</td>
<td>.44</td>
</tr>
<tr>
<td>Some girls have sex just to be accepted or popular</td>
<td>.15</td>
<td>.25</td>
<td>.40</td>
</tr>
<tr>
<td>Not Included in Subscales</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would worry that a boyfriend would leave me if I didn’t have sex with him</td>
<td>.31</td>
<td>.07</td>
<td>.18</td>
</tr>
<tr>
<td>I would feel left out if I didn’t have a boyfriend and the rest of my friends did</td>
<td>.38</td>
<td>.07</td>
<td>.26</td>
</tr>
<tr>
<td>I think I look good</td>
<td>−.03</td>
<td>.09</td>
<td>−.22</td>
</tr>
<tr>
<td>I know how to get a guy to like me</td>
<td>.25</td>
<td>.23</td>
<td>−.26</td>
</tr>
<tr>
<td>I never get horny</td>
<td>.07</td>
<td>.09</td>
<td>−.10</td>
</tr>
<tr>
<td>If I were to kiss a guy, he should become my boyfriend</td>
<td>.28</td>
<td>.06</td>
<td>.12</td>
</tr>
<tr>
<td>I would feel bad if my boyfriend wanted to have sex and I didn’t</td>
<td>.16</td>
<td>.28</td>
<td>.18</td>
</tr>
<tr>
<td>I wouldn’t have sex just for fun</td>
<td>−.12</td>
<td>.16</td>
<td>.38</td>
</tr>
<tr>
<td>I would never kiss a guy if I didn’t have feelings for him</td>
<td>−.16</td>
<td>.12</td>
<td>.38</td>
</tr>
<tr>
<td>The worst thing that could happen to me if I had sex is that the guy would leave me</td>
<td>.18</td>
<td>.27</td>
<td>.18</td>
</tr>
<tr>
<td>What my friends think of me is important</td>
<td>.34</td>
<td>−.04</td>
<td>.28</td>
</tr>
<tr>
<td>It’s okay to have sex even if you are not married</td>
<td>.33</td>
<td>.16</td>
<td>−.11</td>
</tr>
<tr>
<td>I’m the type of girl who would wonder if her boyfriend had better sex with other girls</td>
<td>.37</td>
<td>.17</td>
<td>.06</td>
</tr>
</tbody>
</table>

Note. Bolded items indicate loading on factor. Items are rated on a scale ranging from 1 (strongly disagree) to 6 (strongly agree).

1 These items were ultimately dropped from the subscale.
Established Scales

Note

SSCI Factors
Measure 1 2 3 4 5 6 7 8 9 10 11

Sexual Self-Concept Inventory

1. Sexual Arousability – – – – – – – – – –
2. Sexual Agency .51*** – – – – – – – – –
3. Negative Sexual Affect – .19* .03 – – – – – – –

Established Scales

4. Sexual Self Esteem .37*** .43*** .18* – – – – – – –
5. Abstinence Attitudes – .44*** – .22*** .43*** .32*** – – – –
6. Parenting Attitudes .15 .03 .07 .05 .16* .18* .02 .07 – –
7. Global Self Esteem – .13 .01 .09 .24** .02 .07 – – –
8. Maternal Approval .23** .07 .20** .21*** .26** .12 .02 – – –
9. Peer Approval .32*** .31*** .05 .30*** .22*** .06 .07 .22** – –
10. Peer Norms .24** .33*** .07 .23** .14 .03 .01 .41*** .13 –
11. Future Orientation .45** .21** .26*** .28*** .42*** .15* .10 .27*** .29*** .26*** –

Table 2

Intercorrelations Among SSCI Subscale Scores, Demographics, and Scale Scores


*p < .05. **p < .01. ***p < .001.
correspond to a positive orientation toward oneself as a sexual person and toward sexual experience generally, as well as perceptions that one’s social environment is accepting and supportive of sexual development. Sexual Arousability, but not Sexual Agency, was positively correlated with ratings of perceived maternal approval of sexual activity, and Negative Sexual Affect was negatively correlated with these ratings. This pattern of correlations differed for perceived peer approval of participation in sexual intercourse: Girls with high Sexual Arousability and Sexual Agency perceived less disapproval/more approval from peers for sexual intercourse experience; Negative Sexual Affect was unrelated. In line with these findings, girls with higher Sexual Arousability and Sexual Agency perceived a greater proportion of their friends to have sexual intercourse experience. Interestingly, Negative Sexual Affect was unrelated to perceived peer norms for intercourse. Girls’ Sexual Arousability and Sexual Agency were positively correlated with future orientation, whereas Negative Sexual Affect was negatively correlated with this variable.

Finally, we expected that girls with more positive sexual self-concepts—higher Sexual Arousability and Sexual Agency and lower Negative Sexual Affect—would report greater sexual experience. Given that relatively few girls in this age range report sexual intercourse experience (Paikoff, 1995), we did not expect to find an association between scores and intercourse experience. However, we did expect that more positive sexual self-concepts would be associated with reported intentions to engage in intercourse in the near future. We tested associations between scores on the SSCI subscales and girls’ reports of a number of past romantic and sexual experiences. Specifically, we examined lifetime reports of having had a crush, having had a boyfriend, having been in love, having engaged in kissing, having engaged in breast fondling with a partner, having engaged in genital touching with a partner, having engaged in oral sex, and having engaged in vaginal intercourse. The matrix of age-corrected correlations can be found in Table 3. Sexual Arousability scores were positively correlated with romantic activities and the range of lower-level sexual activities. This was also true of Sexual Agency, although the associations were notably less strong and only significant for kissing and breast fondling. This pattern suggests that Sexual Arousability and Sexual Agency tap overlapping, but somewhat different, constructs. Interestingly, the correlations between Sexual Arousability and Sexual Agency and the higher level sexual activities, specifically oral sex and penile-vaginal intercourse, were weak. One exception was a moderate positive correlation between Sexual Arousability and vaginal intercourse. Girls with higher Sexual Arousability were more likely to report intercourse at least once in the past. A quite different pattern of results emerged for Negative Sexual Affect for lower-level sexual and romantic behaviors. Scores were only negatively and moderately correlated with histories of breast fondling, touching a penis, oral sex, and intercourse. It is important to recall that higher levels of sexual experiences were relatively uncommon among girls at these ages.

### Stability of Factors Over Time

Girls were readministered the SSCI approximately 1 year later (N = 162; 90%). No differences were found between girls who returned for this 1-year follow-up assessment and those who did not in terms of SSCI subscale scores, nor with regard to demographics, scale scores, or romantic/sexual history variables. Consistent with our theoretical perspective that changes in sexual self-concept would occur over time, we examined whether girls’ scores changed over the 1-year period. Because the scores were not normally distributed at both times, we conducted an empirical likelihood test instead of a repeated measures multivariate analysis of variance. This analysis involves a nonparametric test of the mean, specifically a \( -2 \times \log (\text{likelihood ratio}) \). The analysis indicated that the test was significant, \( \chi^2(3) = 10.59, p < .01 \). Thus, there was strong evidence of a change in mean scores. Sexual Arousability increased significantly from Time 1 (M = 2.51, SD = 1.00) to Time 2 (M = 2.69, SD = 1.04), \( \chi^2(1) = 8.36, p < .01 \), and Negative Sexual Affect among girls decreased significantly from Time 1 (M = 4.24, SD = 0.99) to Time 2 a year later (M = 4.09, SD = 1.01), \( \chi^2(1) = 5.29, p < .05 \). However, Sexual Agency did not change significantly from Time 1 (M = 4.50, SD = 0.94) to Time 2 (M = 4.51, SD = 0.87), \( \chi^2(1) = 0.58, p > .05 \).

Thus, it is likely that the SSCI captures normative developmental changes in this domain of sexuality in some respects. Test-retest coefficients for the 1-year period were \( r = .59 \).
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exploration and interest in sexual experiences. Thus, these subscales appear to be particular to the experience and expression of sexual feelings and behaviors rather than more general feelings of worth. Thus, these subscales appear to capture dimensions of girls’ sexual self-concepts related to exploration and interest in sexual experiences.

DISCUSSION

The purpose of this study was to develop and validate an instrument to assess sexual self-concept among a sample of urban, ethnically diverse early adolescent girls. Three dimensions of sexual self-concept emerged from our work: Sexual Arousability, Sexual Agency, and Negative Sexual Affect. These scales make up the 34-item instrument, the SSCI. Sexual self-concept was demonstrated to be a construct that can be measured reliably among this group of ethnically diverse girls, a group historically overlooked in normative, nonpathological models of sexuality (Tolman, Striepe, & O’Sullivan, 2003). The scales of the SSCI have good internal consistency and test-retest reliability over a 3-week and 1-year period. Scores on these three scales were related to those from other more established instruments, supporting its validity.

Sexual Arousability appears to be similar but distinct from Sexual Agency, both of which are notably different from the third subscale, Negative Sexual Affect. Support from our validity work reinforces the distinctness of the three separate subscales. Both Sexual Arousability and Sexual Agency were moderately correlated with lower-level sexual experiences, common among girls in this age group. Sexual Arousability was also moderately correlated with sexual intercourse experience, but given the relatively low numbers of girls reporting this experience, this result should be interpreted tentatively. Sexual Arousability also differs from Sexual Agency in some key respects: It alone was negatively correlated with Negative Sexual Affect. Moreover, Sexual Arousability appears to capture feelings of interest in and anticipation of sexual experiences. Girls’ Sexual Arousability scores were associated with less perceived maternal disapproval of intercourse amongst a sample who perceived little overall maternal approval for intercourse and more positive anticipated emotions associated with intercourse. Sexual Arousability also had stronger associations with a range of romantic and sexual experiences at baseline and 1 year later.

Sexual Agency may more closely reflect Tolman’s use of the term “sexual subjectivity,” which refers to a person’s experience of self as a sexual being, who feels entitled to sexual pleasure and sexual safety (Tolman, 2002), given the lack of association with Negative Sexual Affect, anticipated emotions, and perceived maternal approval. Like the other two dimensions, Sexual Agency was related to sexual self-esteem, but not significantly related to global self-esteem. This lack of association suggests that the constructs tapped by these scales are particular to the experience and expression of sexual feelings and behaviors rather than more general feelings of worth. Thus, these subscales appear to capture dimensions of girls’ sexual self-concepts related to exploration and interest in sexual experiences.

Negative Sexual Affect contrasts in almost all respects from both Sexual Arousability and Sexual Agency. It captures feelings of sexual repression and denial—beliefs that are traditionally reinforced in girls’ sexual socialization. Girls’ Negative Sexual Affect scores were associated with lower sexual self-esteem, greater endorsement of abstinence beliefs, lower perceived maternal approval/greater disapproval of sexual activity, lower perceived readiness and likelihood of intercourse in the near future, and more negative anticipated emotions and less intentions to engage in intercourse. Interestingly, however, the associations between Negative Sexual Affect and actual past sexual experience were neither consistent nor strong. Possibly, this subscale assesses socially desirable responding, with girls who are more sensitive to social demands reporting what may appear to be more appropriate attitudes and opinions about sexual experience for their gender and age, regardless of their actual experiences. If true, however, we would expect to find consistent nonreporting of sexual experiences, which we clearly did not find. In addition, older girls had less Negative Sexual Affect, which suggests that reduced negativity about sexual matters corresponds with increasing sexual experience either as an anticipatory effect, as some work suggests (O’Sullivan & Brooks-Gunn, 2005), in reaction to positive consequences associated with new experiences occurring as girls develop sexually, or as an indication that sexual activity is seen as more appropriate at older ages.

We argued that sexual self-concept develops from an understanding of social expectations about sexual experiences. Following our theoretical perspective, the instrument that we developed should be considered a pilot tool that is appropriate for capturing urban ethnically diverse girls’ sexual self-concept at a particular developmental stage of life—early adolescence. However, the pool of items that we gathered through our qualitative work, including those that did not ultimately load on one of the factors, may be useful for developing variations of the SSCI subscales. Administering the measure to the same cohort of urban girls 1 year later revealed that sexual self-concept shifted slightly but significantly over time, resulting in higher levels of Sexual Arousability and less Negative Sexual Affect. Future research may be able to document patterns of change over time, especially salient features, in early adolescent girls’ sexual self-concepts. This may be particularly useful using other samples of ethnically diverse girls, groups that have been long overlooked in studies of normal sexual development.

The SSCI adds to the literature on sexual self-concept in several ways. First, this instrument reflects a careful treatment of a construct previously unexplored in the literature among this early adolescent population. The SSCI is similar in some respects to other instruments; for example, Buzwell and Rosenthal (1996) assessed similar dimensions of sexual self-concept in their work identifying “sexual styles.” However, the SSCI represents several subscales capturing dimensions that are characteristic of ethnically diverse
The lenses of gender. New Haven, CT: Yale University Press.


