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Multidimensional Measure of Comfort With Sexuality

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One of the goals of sexuality educators has been to increase student comfort with sexuality, including comfort talking about sexual issues. This chapter reports on a multidimensional measure of comfort with sexuality—the MMCS1—and a nine-item short form, the MMCS1-S, which correlates well with the total score from the MMCS1.

The MMCS1 is a multidimensional measure of comfort with sexuality that can be easily administered in college-level sexuality classrooms. Note that comfort with sexuality is not the same as acceptance of sexuality as a positive thing. For example, a person might be comfortable talking about a sexual behavior they believe people should not do; the MMCS1 measures comfort, not necessarily acceptance.

Although scale development work typically proceeds with a single ordering of items (thereby embedding each item in a specific context), in the “real” world, scales are often misused; researchers often extract and administer only those items that constitute a particular subscale. This practice pulls the items out of the context in which they were validated, raising questions about the validity of the subscale using the new format. The MMCS1 was developed using data from three semirandom orderings of the items—only items that were relatively position/context independent were retained—allowing more confidence to be placed in the use of a single subscale.

The MMCS1 was developed using a convenience sample of 463 college students, most of whom were recruited from sexuality education classrooms. The MMCS1 was developed as part of my doctoral work. See my doctoral dissertation for full details on the development of the instrument (Tromovitch, 2000; available as a PDF).

Description

The MMCS1 contains 32 items, each of which is written as a statement. Respondents indicate the extent to which they agree or disagree with the 32 statements by checking one of six non-numbered boxes with the anchors Strongly Agree and Strongly Disagree. For an easy way to deal with missing data (i.e., if an item is left blank, it does not enter into the calculation). A

A 9-item short form, the MMCS1-S, was also created so as to have a high correlation with the total score from the MMCS1 ($r = .93$) and good internal consistency ($\alpha = .80$).

The instruments were derived for use in college-level sexuality education classrooms, but may have applicability with other populations.

Response Mode and Timing

The full, 32-item MMCS1 takes approximately 10 minutes to complete. Respondents indicate the degree to which they agree or disagree with the 32 statements by checking one of six non-numbered boxes with the anchors Strongly Disagree and Strongly Agree.

Scoring

Subscale scores are calculated as the arithmetic mean of the individual responses for the appropriate items, after adjusting for reverse valence items. This approach keeps all subscales on the same measurement scale (1 to 6) and allows for an easy way to deal with missing data (i.e., if an item is left blank, it does not enter into the calculation). A

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single blank item is not expected to meaningfully reduce the validity of the scores; however, if multiple items are left blank, scores should be interpreted with caution.

By summing the TS, AP, and AO subscales, a comfort with sexuality total score is formed (thus having a range of 3 to 18). It must be remembered that this total score is not necessarily related to comfort with the taboo sexual activities of others (statistical analyses indicated that a total score is warranted, yet is relatively independent of the construct measured by the AT subscale).

For normal valence items, Strongly Disagree is scored as 1, with scores increasing to Strongly Agree, which is scored as 6—higher scores indicating greater comfort. See Table 1 for item numbers and the subscale to which they belong; items with an asterisk are reverse scored.

The MMCS1-S is scored by averaging the responses to its 9 items; it does not contain reverse valence items.

**Reliability**

Cronbach’s alpha indicated excellent reliability for the TS, AP, and AO subscales and low but acceptable reliability for the AT subscale (see Table 1).

Item-total correlation analyses were also performed. All 32 MMCS1 items were found to have item-total correlations in the commonly recommended ranges (.2 or .3 through .8).

**Validity**

To ensure face and content validity, an initial pool of items was reviewed by an expert panel including expertise in both sexuality education and psychometric scale development. The panel included one MD, one psychology PhD, and two sexuality educators. Only 60 of the items passing the first expert panel were considered for use.

To ensure construct validity, over 400 factor analyses were calculated. Factor analytic methods included principal components analysis, common factor analysis, and image analysis. Types of rotation employed included varimax, equamax, and promax (with \( k = 2 \) and \( k = 3 \)). In addition to analyzing the entire derivation dataset as a whole, various subgroups were separately examined including, but not limited to, males, females, respondents aged 18–20, respondents aged 21–23, White/Caucasian respondents, and data from each of the three different semirandom ordered forms of the derivation instrument. The 32 items retained in the MMCS1 possess a clear factor structure evidencing great reproducibility across factor analytic method, type of rotation, and subsample.

As a further check on face and content validity, a second expert panel reviewed the 34 best items (based on numerous statistical analyses, at both the factor level and the individual item level (e.g., kurtosis, means, and standard deviations of responses to each item). The second expert panel consisted of this author and two others, both of whom have PhDs in sexuality.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Subscale Intercorrelations</th>
<th>Cronbach’s ( \alpha )</th>
<th>Items Constituting Subscales</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS (Talking, Sexuality)</td>
<td>.38</td>
<td>.46</td>
<td>.08</td>
</tr>
<tr>
<td>AP (Activities, Personal)</td>
<td>.23</td>
<td>–.01</td>
<td>.84</td>
</tr>
<tr>
<td>AO (Activities, Others)</td>
<td>.19</td>
<td>.83</td>
<td>1, 11*, 17, 23, 25, 26, 28*, 30, 32</td>
</tr>
<tr>
<td>AT (Activities, Taboo)</td>
<td>.62</td>
<td></td>
<td>6, 18, 20*, 22*</td>
</tr>
</tbody>
</table>

Note. Items marked with an asterisk (*) are reverse scored. An \( \alpha \) greater than .9 may indicate the presence of bloated specifics, which raise \( \alpha \) without improving a scale’s usefulness; an \( \alpha \) less than .6 indicates low reliability.

The four factors that were used to define the subscales accounted for over 40% of the variance in the 32 items. This large value suggests the four subscales significantly explain response variance in items dealing with comfort with sexuality, further supporting construct validity.

As a final test of construct validity, a confirmatory analysis was conducted (oblique principal components cluster analysis), which also indicated high construct validity.

Image analysis indicated that the TS, AO, and AP subscales shared common variance, supporting their use (and excluding the AT subscale) in calculating a comfort with sexuality total score.

**Other Information**

In the derivation sample, males and females did not significantly differ in most of their comfort levels; people who masturbate more than one time per month were more comfortable discussing sexuality and with the sexuality of others than people who rarely masturbate or who declined to indicate their masturbation frequency; people who described themselves as liberal were more comfortable with sexuality; people whose family of origin was open about sexual issues and nudity were more comfortable discussing sexuality and with their own sexual lives; and people reporting higher frequencies of religious attendance or importance showed significantly less comfort with the sexuality of others.

Because of the small number of items on the AT subscale, its lower reliability, and the fact that what constitutes taboo activity varies greatly from one population to another, the AT subscale should be interpreted carefully; further, owing to widely varying and constantly changing definitions of taboo, when feasible the AT subscale should be tested for internal consistency.

Note that, as with most measures containing subscales, the scoring of the MMCS1 produces raw scores, not standardized scores. Consequently scores cannot be precisely compared across subscales (e.g., if a respondent has an AP
subscale score of 3.2 and a TS subscale score of 3.4, one cannot conclude that the respondent is more comfortable talking about sexuality than the respondent is with his or her own sexual life).

The intercorrelations among the subscales are provided in Table 1.

**Reference**


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**Exhibit**

**The MMCS1: The Multidimensional Measure of Comfort With Sexuality**

For each item please check (√) the box that best represents your answer.

1. I am completely comfortable knowing and interacting with people whose sexual activities significantly differ from my own.  
   - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
   - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

2. I would be completely comfortable talking to a friend about sexual problems I was having with my lover.  
   - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
   - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

3. I have lived my sex life in a way that is consistent with my moral beliefs.  
   - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
   - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

4. I would be comfortable telling a good friend about sexual experiences I have had which I consider to be out of the norm.  
   - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
   - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

5. Talking about the details of my own sexual experiences would be embarrassing, even with friends.  
   - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
   - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

6. I could be comfortable interacting with a person who I thought might be having a sexual relationship with their sibling.  
   - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
   - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

7. Talking about my personal sexual views is as natural as talking about current events.  
   - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
   - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

8. I enjoy the opportunity to share my personal views about sexuality.  
   - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
   - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

9. My sexual experiences and explorations are a positive, on-going part of who I am.  
   - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
   - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

10. I am comfortable with my sexual activities, both past and present.  
    - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
    - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

11. Having a lot of sexually active bisexual friends would make me feel uncomfortable.  
    - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
    - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

12. I am ashamed of my past sexual conduct.  
    - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
    - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

13. I am comfortable talking about my sexual views, my sexual fantasies, and sexual experiences that I have had.  
    - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
    - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

14. My past sexual experiences and explorations have been very worthwhile.  
    - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
    - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

15. I would be comfortable talking about my sexual fantasies in a small group.  
    - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
    - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

16. It is disturbing for me to think about my past sexual experiences.  
    - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
    - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

17. I would be comfortable having a close friend who was engaging in homosexual activities.  
    - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
    - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

18. I could comfortably interact with an adult who I thought might have had a sexual encounter with a pubescent 12-year-old.  
    - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
    - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]

19. I am comfortable talking about my sexual views with people I do not know well.  
    - Strongly Disagree [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
    - Strongly Agree [ ] [ ] [ ] [ ] [ ] [ ] [ ]
20. I would never maintain a friendship with someone who engaged in sexual activity with animals.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

21. The sexual activities I have engaged in are completely and perfectly natural.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

22. I would be repulsed and appalled if a 21-year-old friend told me they recently had oral sex with a 13-year-old.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

23. It would not bother me if I knew that a good friend enjoys anal stimulation during masturbation.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

24. I am comfortable discussing my sexual fantasies with close friends.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

25. I would be perfectly comfortable working with a person who I knew enjoys spanking during sexual activity with their sex partner.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

26. A person can be a good friend of mine, even if they enjoy sadomasochism with their sex partners.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

27. I can freely discuss sexual topics in a small group of peers.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

28. I would find it awkward knowing that a friend’s favorite sexual activity was anal sex.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

29. If I had my life to live over, I would relive most of my past sexual experiences.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

30. I think it is good for people to experiment with a wide range of sexual practices.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

31. Talking to a sexuality researcher about my sexual history would be easy for me.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

32. I would continue to accept a 21-year-old friend who I discovered was sexually involved with an elderly person.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

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The MMCS 1-S: The Multidimensional Measure of Comfort With Sexuality Short Form

For each item please check (✓) the box that best represents your answer.

1. I am completely comfortable knowing and interacting with people whose sexual activities significantly differ from my own.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

2. I enjoy the opportunity to share my personal views about sexuality  
   Strongly Disagree □ □ □ □ □ Strongly Agree

3. My sexual experiences and explorations are a positive, on-going part of who I am.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

4. I am comfortable with my sexual activities, both past and present  
   Strongly Disagree □ □ □ □ □ Strongly Agree

5. I am comfortable talking about my sexual views, my sexual fantasies, and sexual experiences that I have had.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

6. My past sexual experiences and explorations have been very worthwhile.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

7. It would not bother me if I knew that a good friend enjoys anal stimulation during masturbation.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

8. I can freely discuss sexual topics in a small group of peers.  
   Strongly Disagree □ □ □ □ □ Strongly Agree

9. I think it is good for people to experiment with a wide range of sexual practices.  
   Strongly Disagree □ □ □ □ □ Strongly Agree
Possible cover page for use with the MMCS1

Thank you for filling out the attached questionnaire. Your responses to this questionnaire are anonymous. Do not put your name on these sheets.

Instructions: This is not a test. It is a survey about attitudes and sexuality. You will not have to reveal any details about sexual experiences you may have had. There are no correct or incorrect answers. Please answer all of the questions and answer each question truthfully. Your honest answer to each question is the best answer.

Thank you for your participation!

Sincerely,

[fill in name of researcher]
Principal Investigator

If you have any questions about this research and would like to contact me, I can most easily be reached by [fill in: e-mail, phone, postal mail] at:

[fill in contact information]

Possible demographics page for use with the MMCS1

What is your age? ______________
What is your sex? ______________

What is your race/ethnicity (if you are mixed race, please check all that apply):

☐ White/Caucasian  ☐ Black/African American  ☐ Other (please specify: Asian/Pacific Islander  Hispanic/Latino  ___________________

How open about sexual issues were your parents while you were growing up?
Not Open  ☐  ☐  ☐  ☐  ☐  Very Open

How open was your family about nudity while you were growing up?
Not Open  ☐  ☐  ☐  ☐  ☐  Very Open

How would you describe your social views?
Conservative  ☐  ☐  ☐  ☐  ☐  Liberal

To what extent are you sexually aroused by people of the other sex?
Not At All  ☐  ☐  ☐  ☐  ☐  Very Much

To what extent are you sexually aroused by people of the same sex?
Not At All  ☐  ☐  ☐  ☐  ☐  Very Much

How do you rate your sex drive (libido)?
Very Mild  ☐  ☐  ☐  ☐  ☐  Very Strong

With how many people of the other sex have you had sexual experiences (e.g., masturbating with them, oral sex, anal sex, penis-vagina intercourse)? ____________

With how many people of the same sex have you had sexual experiences (e.g., masturbating with them, oral sex, anal sex)? ____________

How many sexual experiences have you had with people of the other sex?
☐ None  ☐ 1 or 2  ☐ 3 to 5  ☐ 6 to 10  ☐ 11 to 20  ☐ 21+
Of those, approximately how many times have you engaged in coitus (i.e., penis-vagina intercourse)?

☐ None  ☐ 1 or 2  ☐ 3 to 5  ☐ 6 to 10  ☐ 11 to 20  ☐ 21+

How many sexual experiences have you had with people of the same sex?

☐ None  ☐ 1 or 2  ☐ 3 to 5  ☐ 6 to 10  ☐ 11 to 20  ☐ 21+

In a typical month, how many times do you masturbate? ___________

How frequently do you attend religious services?

☐ Never  ☐ 1–4 times/year  ☐ 5–12 times/year
☐ 2–3 times/month  ☐ Once a week  ☐ More than once a week

Attraction to Sexual Aggression Scale

N. M. MALAMUTH, University of California, Los Angeles

This instrument was developed by Malamuth (1989a, 1989b) to measure attraction to sexual aggression. It is reprinted by permission of the author.

References


Exhibit

Attraction to Sexual Aggression Scale

Social Relationships Research

Instructions: On the following pages there are a variety of different questions. Please answer all the questions to the best of your ability. If you are unsure of the answer to a question, please give your best guess. It is important that all of the questions be answered. There are no right or wrong answers, and no trick questions. Please answer the question by placing a tick in the box you choose, like this: Y. Please work quickly and be AS HONEST as possible. Your responses will be kept completely confidential. Thank you for your cooperation.

I. People frequently think about different activities even if they never do them. For each kind of activity listed, please indicate how often you have thought of trying it:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Necking (deep kissing)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual intercourse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anal intercourse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homosexual acts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bondage sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whipping, spanking sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robbing a bank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raping a woman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forcing a female to do something sexual she didn’t want to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being forced to do something sexual you didn’t want to</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>