The UCLA Multidimensional Condom Attitudes Scale

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The purpose of the UCLA Multidimensional Condom Attitudes Scale (MCAS) is to measure condom attitudes in five independent areas: (1) the *reliability and effectiveness* of condoms, (2) the sexual *pleasure* associated with condom use, (3) the *stigma* associated with people proposing or using condoms, (4) the *embarrassment about negotiating and using* of condoms, and (5) the *embarrassment about purchasing* condoms. The scale can be used with individuals who do and do not have personal experience using condoms.

The 25-item MCAS assesses five independent factors associated with condom use. The MCAS was found to be reliable and valid in three studies using ethnically diverse samples of UCLA undergraduates (Helweg-Larsen & Collins, 1994). As of March 2017, it had been cited 268 times, according to Google Scholar. The scale has been used in 66 of these publications. The scale has been used with a range of populations, such as HIV positive individuals from urban clinics in California (Milam, Richardson, Espinoza & Stoyanoff, 2006), Chinese and Filipina American college women (Lam & Barnhart, 2006), sexually active adult cocaine or heroin users (Rosengard, Anderson, & Stein, 2006), cocaine abusing, opioid-dependent HIV-positive adults (Avants, Warburton, Hawkins, & Margolin, 2000), individuals diagnosed with schizophrenia and mood disorders (Weinhardt, Carey & Carey, 1997), American Indian men who identified as gay/bisexual/two-spirit and heterosexual (Simoni, Walters, Balsam, & Meyers, 2006), HIV-positive Zambian women (Jones, Ross, Weiss, Bhat & Chitalu, 2005), and pregnant & postpartum adolescents and their partners (Kershaw et al., 2012; Reid et al., 2013). Furthermore, the MCAS has been translated to Spanish (DeSouza, Madrigal, & Millán, 1999; Lechuga & Wiebe, 2009; Unger & Molina, 1999), Japanese (Kaneko, 2007), Urdu (Agha & Beaudoin, 2012; Agha & Meekers, 2010; Beaudoin, Chen & Agha, 2016) and various Zambian languages such as Bemba, Nyanja, and Nsenga (Jones et al., 2005). Overall, the body of research using the MCAS shows that it has been a reliable and valid measure of condom attitudes in a wide range of participants.

Response Mode and Timing

Participants answer the 25 items using either a 7-point or a 5-point scale from *strongly agree* to *strongly disagree*. It should take 5–10 minutes to complete the scale depending on reading level and speed.

We found that the five dimensions of the MCAS cannot meaningfully be summed to generate a single global score because the factors are independent. The statistical independence of the five factors was established via factor analyses and confirmatory factor analysis in structural equation modeling which showed that a model with five independent factors was superior in fitting the data compared to a unidimensional model (all 25 questions averaged). This factor structure has been replicated (Starosta, Berghoff, & Earleywine, 2015). Thus, it is important that the five factors are scored separately. If researchers do not have room to use all 25 questions, they may select one or several of the factors that they are particularly interested in and use all five questions in that factor. Another option is to select a few questions from each of the five factors; table 1 in Helweg-Larsen & Collins (1994) shows factor loadings (separately for men and women) that can guide researchers in the selection of questions. Our research shows that important information is lost if questions are added together across factors.

Scoring

Our research also demonstrated the importance of examining condom attitudes separately for men and women. First, results indicated gender differences on several of the five factors; compared to women, men were less embarrassed about purchasing condoms but more concerned about stigma. In a validation study of the MCAS, Starosta et al. (2015) conducted differential item functioning analyses and concluded that three items (16, 19, 22; see table 1 in Starosta et al., 2015) were problematic from a gender bias perspective. They found that an amended MCAS (without those three items) provided a valid scale with five constructs holding similar meaning for men and women. Second, the MCAS factors showed different patterns of correlations with criterion variables for men and women. For example, women's past condom use was not correlated with any of the five MCAS factors, whereas men's past condom use was correlated with positive attitudes toward pleasure and embarrassment about buying condoms.

Some of the MCAS items are worded negatively (i.e., indicate a negative attitude towards condoms) and the score must therefore be reversed before adding or averaging the scores; higher scores will then indicate more positive condom attitudes.

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MCAS Factors

1. *Reliability and effectiveness* of condoms: Reverse score questions 6 and 14; then add questions 4, 6, 9, 14, and 20.
2. *Pleasure* associated with condoms: Reverse score questions 2, 8, 25; then add questions 2, 8, 15, 19, and 25.
3. *Stigma* associated with condoms: Reverse score questions 3, 13, 18, 22, and 24; then add questions 3, 13, 18, 22, and 24.
4. *Embarrassment about negotiation and use* of condoms: Reverse score questions 1, 7, 16; then add questions 1, 7, 12, 16, and 21.
5. *Embarrassment about purchasing* condoms: Reverse score questions 5, 11, 17, 23; then add questions 5, 10, 11, 17, and 23.

Reliability

We established internal consistency in three independent samples (separately for men and women) using factor analysis and confirmatory factor analysis in structural equation modeling (Helweg-Larsen & Collins, 1994). Acceptable Cronbach's alpha values for each factor have been found in many subsequent studies (e.g., Maistro et al., 2004; Rosengard et al., 2006; Starosta et al., 2015).

Validity

We established construct validity for the MCAS by showing that gender and sexual experience was associated with the five factors of the MCAS (Helweg-Larsen & Collins, 1994). Furthermore, criterion validity was established in that both past and intended condom use were related to the five factors of the MCAS, again showing different patterns for men and women. The MCAS and its factor structure has also been validated in a sample of low-acculturated Hispanic women (Unger & Molina, 1999), among Mexican undergraduate students (DeSouza et al., 1999), and in a large sample of internet-recruited participants (Starosta et al., 2015).

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Exhibit

UCLA Multidimensional Condom Attitudes Scale

Please respond to all questions *even if you are not sexually active* or *have never used* (or had a partner who used) condoms. In such cases indicate how you *think you would feel* in such a situation. Choose a number on the scale below that best represents your feelings about each statement. There are no right or wrong responses to any of these statements. Select the number that best represents your opinion in the blank beside each question

	1 Strongly Disagree	2 Disagree	3 Slightly Disagree	4	5 Slightly Agree	6 Agree	7 Strongly Agree
1. It is really hard to bring up the issue of using condoms to my partner.	○	○	○	○	○	○	○
2. Use of a condom is an interruption of foreplay.	○	○	○	○	○	○	○
3. Women think men who use condoms are jerks.	○	○	○	○	○	○	○
4. Condoms are an effective method of preventing the spread of AIDS and other sexually transmitted diseases.	○	○	○	○	○	○	○
5. I always feel really uncomfortable when I buy condoms.	○	○	○	○	○	○	○
6. Condoms are unreliable.	○	○	○	○	○	○	○
7. When I suggest using a condom I am almost always embarrassed.	○	○	○	○	○	○	○
8. Condoms ruin the sex act.	○	○	○	○	○	○	○
9. I think condoms are an excellent means of contraception.	○	○	○	○	○	○	○
10. I don't think that buying condoms is awkward.	○	○	○	○	○	○	○
11. It is very embarrassing to buy condoms.	○	○	○	○	○	○	○
12. It is easy to suggest to my partner that we use a condom.	○	○	○	○	○	○	○
13. If a couple is about to have sex and the man suggests using a condom, it is less likely that they will have sex.	○	○	○	○	○	○	○
14. Condoms do not offer reliable protection.	○	○	○	○	○	○	○
15. Condoms are a lot of fun.	○	○	○	○	○	○	○
16. I never know what to say when my partner and I need to talk about condoms or other protection.	○	○	○	○	○	○	○
17. It would be embarrassing to be seen buying condoms in a store.	○	○	○	○	○	○	○
18. People who suggest condom use are a little bit geeky.	○	○	○	○	○	○	○
19. The use of condoms can make sex more stimulating	○	○	○	○	○	○	○
20. Condoms are an effective method of birth control.	○	○	○	○	○	○	○
21. I'm comfortable talking about condoms with my partner.	○	○	○	○	○	○	○
22. Men who suggest using a condom are really boring.	○	○	○	○	○	○	○
23. When I need condoms, I often dread having to get them.	○	○	○	○	○	○	○
24. A woman who suggests using a condom does not trust her partner.	○	○	○	○	○	○	○
25. Condoms are uncomfortable for both parties.	○	○	○	○	○	○	○