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Evaluation of the Validity of the Condom Use Self-Efficacy Scale (CUSES) in Young Men Using Two Behavioral Simulations

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Abstract

Assessment of behavioral skills remains critical to the evaluation of HIV prevention interventions; however, investigators often rely upon participant reports of self-efficacy to estimate such skills. We evaluated the relationship between self-efficacy beliefs for condom use and behavioral performance. Forty-three men completed the Condom Use Self-Efficacy Scale (CUSES) and participated in two behavioral assessments. Regression analyses indicated that the CUSES subscales relevant to negotiation of condom use did not account for a significant amount of variability in interpersonal skills; similarly, the CUSES subscale relevant to technical condom use skill did not account for variability in the condom application scores. We caution investigators against the assumption that higher self-efficacy reflects behavioral competence for HIV-risk reduction.

Keywords

Self-efficacy; HIV; AIDS; assessment

AIDS threatens public health in the United States. Estimates suggest that 1% of young men are infected with the human immunodeficiency virus (HIV) that causes AIDS (Rosenberg, 1995). Concern about AIDS has stimulated the development of several theoretical models that address the determinants of behavior change and guide risk reduction efforts. Of these, Bandura's self-efficacy theory (1992) has received considerable attention. According to this theory, self-efficacy informs decisions to engage in risk reducing behaviors, determines the amount of effort that is expended, and influences the extent to which an individual perseveres when obstacles are encountered. Self-efficacy is hypothesized to mediate performance of self-protective behavioral skills (e.g., Wulfert & Wan, 1993).

The Condom Use Self-Efficacy Scale (CUSES) assesses efficacy to purchase condoms, apply and remove them, and negotiate their use with partners; ample evidence exists for the reliability of the CUSES (Brafford & Beck, 1991). Evidence for the validity of the CUSES is modest but three sources can be located. First, the CUSES correlates with other self-report measures, namely, the Attitudes Toward Condoms scale ($r = .51, p < .001$; Brown, 1984) and the

Contraceptive Self-Efficacy scale ($r = .55, p < .001$; Levinson, 1986). Second, comparison of known groups indicates that (a) condom users scored higher than non-condom users, (b) sexually experienced subjects scored higher than inexperienced subjects, (c) condom users primarily concerned with birth control scored higher than those less so concerned, and (d) condom users without histories of STDs scored higher than those with histories (Brafford & Beck, 1991). Third, discriminant analyses indicate that the CUSES distinguishes sporadic- and non-users from regular condom users (Brien, Thombs, Mahoney, & Wallnau, 1994). Although promising, these validation efforts relied exclusively upon self-report. Research has not addressed the extent to which CUSES scores, or other self-report measures of self-efficacy, correspond to actual condom use skill.

Impediments to direct observation of various social behaviors have stimulated the development of role-play methodologies that permit observation of relevant behaviors in analog settings. Role-play assessments have improved with attention to instructions (e.g., Higgins, Alonso, & Pendleton, 1979), confederate behavior (e.g., Kern, 1991), number of prompts (e.g., Bellack, 1983), and level of analysis (e.g., Eisler, Hersen, Miller, & Blanchard, 1975). Many investigators have demonstrated the validity of role-plays, particularly when molar ratings of behavior are used (e.g., Wessberg, Mariotto, Conger, Farrell, & Conger, 1979).

The purpose of this study was to examine whether perceptions of condom use efficacy, as measured with the CUSES, correlate with related skills when assessed by behavioral role-plays. We hypothesized that (a) the CUSES subscales designed to measure efficacy beliefs pertaining to negotiation of condoms with a resistant partner (i.e., Assertive and Partner's Disapproval) would predict variability in a role-play simulation in which participants were asked to demonstrate negotiation skill; and (b) the CUSES subscale designed to measure perceived efficacy to properly use condoms (i.e., Mechanics) would predict variability in a condom application protocol.

Method

Participants

Forty-three undergraduate males volunteered for a "Men's Health Study." Participants' mean age was 18.9 years ($SD = 1.1$); the sample was predominantly Caucasian (79%). Most (89%) were sexually experienced, 79% had used condoms before, and 63% used condoms with their most recent partners. Volunteers participated in exchange for course credit. Sample size was determined based on the expectation of a moderate to large effect size between efficacy and behavior (i.e., $r = .40$; Cohen, 1977); to reject the null hypothesis, with $\alpha = .05$ and $\beta = .75$, we needed a sample size of 41.

Measures

Participants completed (a) a sexual history measure, (b) the 25-item Multidimensional Condom Attitudes Scale (MCAS; Helweg-Larsen & Collins, 1994), (c) the 15-item CUSES, (d) a role-play exercise, and (e) a condom use assessment.

CUSES—The 15-item CUSES (Brien et al., 1994; Brafford & Beck, 1991) measures condom use self-efficacy using 5-point Likert scales; higher scores indicate stronger percepts of condom use efficacy. Sample statements include: "I feel confident in my ability to use a condom correctly" and "I feel confident in my ability to suggest using condoms with a new partner." In prior research the CUSES has demonstrated test-retest reliability ($r = .81, N = 367$); and a four-factor structure (Brien et al., 1994; Brafford & Beck, 1991). In the current sample, alpha coefficients ranged from .71 to .89.

MCAS—The MCAS contains 25 items that assess attitudes toward condoms using 7-point Likert scales; higher scores indicate more favorable attitudes toward condoms. Sample items include: “Women think men who use condoms are jerks”; and “If a couple is about to have sex and the man suggests using a condom, it is less likely that they will have sex.” Prior research confirmed that the scale is multidimensional, with a five-factor structure: (a) Reliability and Effectiveness, (b) Pleasure, (c) Identity stigma, (d) Embarrassment about Negotiation and Use, and (e) Embarrassment about Purchase (Helweg-Larsen & Collins, 1994). In the current sample, alpha coefficients for these sub-scales ranged from .55 to .88.

Role-play—The role-plays, informed by prior research (e.g., Kelly, St. Lawrence, Hood, & Brasfield, 1989) and elicitation interviews, consisted of five audiotaped scenarios with two prompts each. Stimulus materials were pre-recorded by a trained female confederate. An example of a scenario is: “You and your girlfriend have been dating for 1 month. You have had sex together a number of times but you have never used a condom. Because of everything you have been hearing lately, you decide that it’s safest to use a condom when you have sex until both of you get tested for HIV. You know from an earlier conversation that she hates using condoms but you decide to suggest using one anyway. When you do, she says: Why are you suddenly so concerned about using a condom with me? Don’t you trust me? (then, after participant’s initial response): I don’t believe you...have you been screwing around on me!?”

In the remaining scenarios, participants role-played situations (a) with new, casual, and long-term partners, (b) when condoms were or were not available, and (c) where issues of trust, disease, and faithfulness emerged in confederate prompts. Responses to the scenarios were audiotaped to permit assessment of interrater reliability and were scored across the following four dimensions: (a) refusal of high-risk behavior, (b) reason for refusal (e.g., “I worry about AIDS, so I won’t have sex without a condom”), (c) alternate solution (e.g., participant suggests a less risky sexual activity), and (d) aggressive response (e.g., antagonistic statements toward the partner). Responses were scored for the first 3 dimensions (i.e., refusal, reason, and alternate solution) using discrete criteria that assessed the quality of the response; scores for these dimensions ranged from 0 - 2 (i.e., 0 = no refusal, 1 = partial/tentative refusal, and 2 = firm refusal). The fourth dimension, aggressiveness, was scored using a 4-point system to capture responses that were blatantly antagonistic or hurtful (e.g., 0 = “I can’t trust you, you @#\$\$”), mildly antagonistic or hurtful (e.g., 1 = “Just get out of here”), neutral (e.g., 2 = “I can’t do it without a condom”), or understanding (e.g., 3 = “I care about you and I really want to be safe--for both of us”). Scores were aggregated across scenarios for use in subsequent analyses; all scores were reliable (kappas = .76 to .90).

Condom application protocol—The condom use protocol involved presenting participants with an assortment of condoms and lubricants, asking them what they would use to prevent HIV infection, and then asking them to apply their choice to a model penis. Performance was scored on 15 items. Nine items related to condom or lubricant selection and application, and were scored according to the presence or absence of correct choices (e.g., latex vs. lambskin condom) or correct performances (e.g., rolling the condom to the base of the model). The remaining items required verbal responses to questions about condom use (e.g., “How should a condom be removed from a penis after sex?”) and were scored as correct or incorrect. During the simulation, participants were presented four types of condoms from which to choose, including (a) non-lubricated/latex, (b) lubricated/latex, (c) lambskin, and (d) lubricated/latex but expired; four of each type were available. Lubricants included KY Jelly, petroleum jelly, and baby oil. Items were summed and scores were reliable (kappa = .90).

Procedure

Participants received an overview of the study, gave their informed consent to participate, and completed the sexual history measure, MCAS, and CUSES. Next, participants were introduced to the simulation protocol and then were left alone in a dimly lit, comfortably furnished room that permitted audiotaped presentation of the scenarios from an adjacent observation room. Participants were instructed to listen to the audiotaped scenarios and respond to prompts as they would in real life. After participants heard the prompts, the audiotape paused to allow them to respond. Following the role-play, participants completed the condom application assessment. Performances were videotaped through one-way glass (in a manner that protected participants' identities) to permit interrater reliability.

Results

Preliminary analyses assessed skewness and reliability of the measures. Skewed scores were transformed toward normality. Reliability estimates for the questionnaires were calculated using Cronbach's alpha; estimates for behavioral data were calculated using Cohen's kappa on independent ratings of a random subset (28%) of observations. To replicate previous assessments of the CUSES's validity, CUSES scores were correlated with MCAS scores. The CUSES score was associated with attitudes regarding condom pleasure ($r = .48, p < .01$), identity stigma ($r = .60, p < .01$), negotiation ($r = .55, p < .01$), and purchase ($r = .32, p < .05$) but not with reliability ($r = .21, ns$).

The primary analyses involved multiple regression to examine evidence for the CUSES's validity in two steps. First, the role-play summary score was regressed on the two CUSES subscales pertaining to perceived efficacy to negotiate condom use (i.e., the Assertive and Partner's Disapproval subscales) providing a test of the strength of the relationship between the behavioral simulations and the self-reports. These factors did not predict a significant amount of role-play score variability, $R^2 = .13, F(2, 38) = 2.79, ns$. Second, condom application protocol score was regressed on CUSES Mechanics score, a procedure that yielded both the amount of variability accounted for by this score and an assessment of the strength of their relationship. The CUSES Mechanics factor was correlated with condom application protocol scores, $r(40) = .14$; however, it did not account for a significant amount of the variability of condom use skill, $F(1, 38) = .77, ns$.

Discussion

Consistent with prior research, we found that the CUSES possesses adequate internal consistency and that its summary score is correlated with attitudes toward condoms. These two findings replicate Brafford and Beck's (1991) results using an improved condom attitudes measure. The most important findings, however, involved the test of the validity of the CUSES using two behavioral assessments. The CUSES factors pertaining to perceived efficacy to negotiate condom use (viz., Assertive and Partner's Disapproval) were not correlated with role-play performance and these factors did not predict a significant amount of the variability in role-play scores. Likewise, the CUSES factor assessing self-efficacy to properly use condoms (viz., Mechanics) did not account for a significant amount of variability in condom application scores. Taken together, these findings raise concerns about the validity of the CUSES, and its intended use as an assessment tool in HIV-risk reduction programs (Brafford & Beck, 1991).

Comparison of CUSES scores with role-play and condom application protocols highlights the danger of conflating the perception of condom use efficacy with condom use skill. According to self-efficacy theory, efficacy beliefs and behavioral performance are distinct yet related phenomena; but the former are thought to predict the latter by enhancing behavioral intentions (Bandura, 1986; Fishbein & Middlestadt, 1989; Schaalma, Kok, & Peters, 1993). Research has

obscured this formulation by assuming that percepts of efficacy are reasonable proxies for performance of preventive behaviors (e.g., Basen-Engquist & Parcel, 1992; Kasen, Vaughan, & Walter, 1992). Closer scrutiny of the literature, however, reveals that correlations are most often found between efficacy beliefs and intentions to use condoms, not condom use skill. Whereas behavioral intentions are influenced by social norms, attitudes and efficacy beliefs, performance is influenced additionally by the presence or absence of relevant behavioral skills. Thus, intention should not be equated with action. Our results suggest that the relationship between condom use efficacy and condom use skill is tenuous, and indicate the need for caution in interpreting the capacity of efficacy beliefs to predict condom use skill.

These results are consistent with those of Langer, Zimmerman, and Cabral (1994), who reported that a single-item, condom use self-efficacy scale correlated poorly with demonstrated condom use skill in a sample of over 3,000 clients at sexually transmitted disease clinics. Results from both studies suggest that some individuals have higher percepts of condom use efficacy than are realistic given the skills demonstrated. Although self-efficacy theory predicts discrepancies between percepts of efficacy and performance of related skills (Bandura, 1986), incongruencies between the two are particularly ominous in the domain of sexual health and behavior, where HIV infection can result from a single lapse in self-protective behavior.

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