# The Attraction to Sexual Aggression Scale: Part One<sup>1</sup>

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A scale designed to measure attraction to sexual aggression is described, based on earlier work assessing self-reported likelihood of committing rape. This scale's associations with measures of theoretically relevant attitudes, perceptions, and behavioral inclinations are examined in comparison with briefer measures, and with a number of other scales measuring attraction to various types of sexual interactions. These include conventional sex (e.g., heterosexual intercourse), homosexuality, bondage, unconventional sex (e.g., group sex), and deviant sex (e.g., pedophilia). Data supporting the longer and shorter versions of the attraction to sexual aggression scale are presented, showing internal consistency, test-retest reliability, and discriminant and construct validity. As well, a number of issues raised by critiques of research in this area are addressed empirically.

KEY WORDS: sexual aggression; rape; personality assessment

In the past decade, a variety of studies have used a measure that asks men to indicate the likelihood they would commit sexual aggression, if they could be assured that they would not suffer any negative consequences. The purpose of that research was to identify individual differences among men in their motivations and inclinations to aggress sexually. This work utilized either a single item to assess likelihood of rape (LR) or an additional item to also assess likelihood of forced (LF) sex (e.g., Briere & Malamuth, 1983; Malamuth, Haber, & Feshbach, 1980; Malamuth, 1981). In some of the research, a three-level hierarchy (LFR) was constructed based on these two items (Briere & Malamuth, 1983). Although most of the original work in this area, as well as replications and extensions (e.g., Demare, Briere, & Lips, 1988; Donnerstein, 1984; Greendlinger & Byrne, 1987; Rapaport, 1984; Smeaton & Byrne, 1987; Stille, 1984; Tieger, 1981), focused on

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college students, there has been research with men from the general community which yielded very similar data (e.g., Murphy, Coleman, & Haynes, 1986). Our work has also been extended successfully to related areas of research, including sexual harassment (Pryor, 1987) and wife battering (Briere, 1987).

LR and LF ratings have been shown to account for a significant portion of the variance in theoretically relevant variables (e.g., Malamuth, 1981, 1984; Murphy et al., 1986; Rapaport, 1984; Stille, 1984). Further, Malamuth (1988a) found that using these ratings, as well as measures of past sexually aggressive behavior (Koss & Dinero, 1988), accounted for a substantially higher percentage of relevant attitudinal and emotional responses than using either type of measure alone. This finding led Malamuth (1988a) to emphasize the need for a multidimensional approach to research on sexual aggression.

#### Criticisms

Although there is growing interest in the use of "likelihood" measures, there have also been a number of critiques. The present research (described in two articles) addresses four major issues raised by critics. One concerns the discriminant validity of LR ratings. Brannigan and Goldenberg (1987) imply that if subjects were asked about the likelihood that they would commit other socially undesirable acts, the data might be comparable to those obtained with LR. This might be considered a variant of the "deviation hypothesis" (Berg, 1967), arguing that some subjects have a "response set" whereby they will give relatively deviant responses on any measures, irrespective of item content. Such a perspective would suggest that the relationships found between LR and criterion measures (e.g., rape-supportive attitudes and perceptions) are simply due to some individuals' responding in more "deviant" ways on all measures.

Three other issues have been raised by another critic (Mould, 1988) in his recent critique of one of the earliest studies in our research (i.e., Malamuth & Check, 1980). He questions the reliability of the evidence showing that LR ratings relate to attitudes, perceptions, or sexual arousal to aggression. He also questions the findings by noting that some of the relationships observed between LR and other measures occurred on certain criterion items and not others. For example, he argues that although Malamuth and Check (1980) found significant relationships between LR ratings and perceptions of a rape victim's pleasure, the fact that significant relations were not found on perceptions of the victim's pain seriously weakens the findings.

Mould (1988) and others (e.g., Greendlinger, 1985) raise concerns about our use of only one or two items to assess attraction to sexual aggression (e.g., LR ratings). This is an issue that we, too, have been concerned with, since it is generally not considered a psychometrically desirable strategy (e.g., Cohen & Cohen, 1983; Comrey, 1988). However, there has recently been considerable debate regarding the utility of using formally developed multi-item scales as compared to more informally short or even single-item scales. Burisch (1984a, 1984b; 1985) argues that the former have not been shown to be preferable to the latter and that, in many cases, the latter might be preferred for "economical" considerations. On the other hand, Paunonen and Jackson's (1985a, 1985b) assertions (and literature review) favor the formal multi-item scales. Although the present article does not specifically address this debate, the data presented are clearly relevant to it.

One potential disadvantage of relying on only one or two items is lower reliability of the instrument, as compared with a measure consisting of a relatively large number of items (Cohen & Cohen, 1983). At first glance, previous research assessing the reliability of LR ratings appears to have yielded inconsistent results. On the one hand, Malamuth and Ceniti (1986) found considerable reliability in Likelihood of Raping (LR) reports—a test-retest reliability of .70 when the two assessments were separated by about two months. On the other hand, Rapaport (1984) reported considerably lower correlations in multiple administration of LR ratings. However, she used very different ways of assessing LR ratings in each of her research phases. For instance, in one phase, subjects were asked about the likelihood that they would behave as the man did in a sexually explicit rape story, whereas in another phase, they were asked about the likelihood that they would rape, in general, if assured of not being punished. These differing assessments clearly do not enable an actual test of reliability. Nonetheless, in general it is likely that a multi-item measure would yield higher reliability than very short or single-item measures.

Another disadvantage is that the small number of items used in previous research might assess only some aspect(s) of a more complex construct. Also, the obvious limitations of a self-report measure might be reduced somewhat when inquiries to subjects are phrased in many different ways and approached from "different angles."

## Addressing the Issues Raised by Critiques

To address the "deviation hypothesis" described above, the present article and the subsequent one (to appear in the next issue of this jour-

nal) assess a variety of other socially approved and disapproved behaviors (e.g., group sex, bondage sex, transvestism, pedophilia, murder, armed robbery, etc.) using the same type of questions comprising the ASA scale. These were then used to construct more "global" scales (e.g., attraction to conventional sex, attraction to unconventional sex, etc.). The validity data gathered pertained primarily to sexual aggression, and the other scales were intended to serve as "controls." If a "deviation hypothesis" were correct, we would expect that the attraction to sexual aggression measure would not show a specific connection with attitudes, perceptions, and behavioral indices of sexual aggression beyond that shown by the other attraction measures. Moreover, as further assessment of discriminant validity, a variety of other target areas were also examined on the criteria side of the equations.

Although I have already responded to Mould's criticisms elsewhere (Malamuth, 1988b), I hope that the other issues mentioned above will be properly dealt with in the present research by (a) providing a conceptual elaboration of the attraction to sexual aggression construct, (b) comparing the predictive ability of a multi-item, psychometrically sound scale to a shorter version of this scale and to single-item measures, (c) whenever appropriate, using composite scores (i.e., adding several attitude scales and adding perceptions of the victim's pleasure, willingness, pain, and trauma), (d) assessing in several studies whether theoretically predicted relationships are consistently found, and (e) evaluating whether such relationships might be explained by extraneous variables.

# The Construct of Attraction to Sexual Aggression

There appears to be some confusion regarding the purpose of assessing LR and LF, which may be partially due to an insufficient theoretical elaboration by the author, as well as the possibility that critics may have relied on secondary sources, such as the popular press, to obtain their information. From the very first article where we assessed LR ratings, we stated that "It would seem highly inappropriate to argue that those subjects who indicated a possibility of engaging in rape, particularly under the hypothetical circumstances of being assured of not being caught, are actually likely to rape" (Malamuth, Haber & Feshbach, 1980, p. 134). We further noted that only in an "exaggerated form," and in combination with other factors, might such a tendency be predictive of actual aggressive behavior (Malamuth et al., 1980, p. 134). Yet, some critics have incorrectly argued that we are classifying subjects who indicate any likelihood of

raping, or forcing sex, as "potential rapists" (Brannigan & Goldenberg, 1987, p. 273).

This misunderstanding is particularly surprising, since in an article exclusively focusing on LR research, I argued against the utility of attempting to identify "potential rapists" and pointed out that "people have the potential to engage in virtually any behavior" (Malamuth, 1981, p. 139). I therefore emphasized that to the extent that this motivational measure assesses some inclination (or proclivity) to engage in sexual aggression, it is only scientifically meaningful to attempt to determine "some relative likelihood . . . under conditions that may or may not actually occur (e.g., wartime)." (Malamuth, 1981, p. 139).

As suggested by the term "attraction" used in the present paper, the "likelihood" items and the expanded scale described here are intended to measure the "lure" of sexual aggression, both to the subject himself as well as his perceptions of its attraction to others. The construct of attraction to sexual aggression refers to the belief that aggressing sexually is likely to be a sexually arousing experience, both to aggressors and victims, so that the respondent believes that he might aggress in were it not for fear of punishment or other inhibitory factors. The scale is particularly designed to identify those men for whom the idea of sexual coercion is sexually arousing, beyond that which would occur with a willing partner. However, individuals who are simply not "turned off" by sexual aggression (but are not necessarily particularly "turned on" by it either) would clearly score higher than those who are "turned off" by the idea.

# Relationship to Other Scales

It is important to consider the differences between the present scale and others developed to measure various constructs relevant to the study of sexual aggression. There are self-report measures designed to assess the extent to which subjects have actually engaged in sexually aggressive acts (Koss & Oros, 1982; Mosher & Sirkin, 1984; Rapaport, 1984). Others measure characteristics closely tied to sexual aggression, such as a "macho personality constellation" (Mosher & Sirkin, 1984) and hostility toward women (Check, 1984; Check & Malamuth, 1983). The scale that appears most closely related to the present one is Greendlinger and Byrne's (1987) Coercive Sexual Fantasies (CSF) scale. However, that scale focuses primarily on fantasies of sexual aggression, whereas the current one is more closely tied to the belief that actually engaging in sexual aggression would be an arousing, attractive experience. Although the two scales are likely to correlate quite highly (e.g., Greendlinger, 1985, reported a correlation of .41, n = 120,

p<.0001, between LR and rape fantasies), there may be important instances of lack of correspondence between the two measures. For example, a person might fantasize about sexual coercion but believe that actual aggression would be a horrendous experience.

## **Specific Predictions**

A nomological network (Cronbach & Meehl, 1955) based on the construct of attraction to sexual aggression suggests the following predictions about a valid measure:

1) It should relate to attitudinal and cognitive measures regarding sexual aggression. Individuals who score higher in attraction should perceive and react to sexual aggression differently from those scoring lower in such attraction. Such differences may be both a result and a cause of the attraction to sexual aggression.

In the current research (consisting of two articles), these predictions were tested by examining the relationship between the attraction measure and (a) established scales assessing attitudes about and related to sexual aggression, and (b) perceptions of rape victims described within stories.

- 2) It should be related to affective reactions, particularly sexual arousal, to sexual aggression. This was tested by (a) asking subjects about their affective reactions to sexual aggression in the media, and (b) by measuring sexual arousal, both via self-report and physiological assessment of penile tumescence, to depictions of mutually consenting sex and of rape.
- 3) It should have some relationship to measures of behavioral intentions, and under some limited circumstances, to actual behavior. However, individuals scoring relatively high on the ASA scale are not necessarily more likely to actually aggress sexually.

Kornadt (1984) described a motivation theory of aggression. According to this conceptualization, motivation for a specific aggressive act is a function of a) the addition of a person's enduring aggression motive, expectancy to be successful, the incentive of the aggression and b) minus the enduring motive to avoid aggression, the expectancy to be punished, and the negative incentive of being punished. Although men who are more attracted to sexual aggression may indeed be higher in some components of this model, such as in their incentive to aggress, some may also be relatively high in the inhibitory components of the equation. For example, Greendlinger (1985) found that LR scores correlated with somewhat increased perceptions that a rapist was likely to be caught. (This might be due to the possibility that those more attracted to sexual aggression are more motivated to

ponder its consequences.) Such a perception would be expected to inhibit the actual carrying out of an attraction to aggress sexually. Therefore, any relationship between attraction to sexual aggression and actual commission of sexual aggression should not be expected to be a simple one, and, as suggested earlier, there will be many instances of individuals who score highly on the ASA scale, but who do not engage in any sexual aggression.

An analogy might be drawn to attraction to smoking cigarettes or to taking illicit drugs. Here, too, some individuals might feel that participating in such activities is likely to be gratifying in some ways, but other factors may cause avoidance of actual behavior (e.g., fear of the law, concern about "losing control," ill effects on health, etc.). In the present research, the relationship between attraction and actual sexual aggression was assessed both by asking subjects about their past acts and about their expectations about their future behavior. In the first study reported here, actual aggression was assessed in only a very limited way, but in research described in the second article, it was assessed in a more complete manner with an established and validated scale of sexually aggressive behavior.

4) It should show some association with characteristics frequently found in men who actually aggress against women. Although attraction to aggression may not necessarily, nor directly, relate to actual aggression, it is expected that men who are more attracted to such aggression will share some characteristics (e.g., emotions, motivations, etc.) with men who are not only attracted to it, but who actually commit the aggression. This prediction, as well, was explored in the present research.

#### Method

#### Overview

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The present and forthcoming articles describe the development and validation of the ASA scale. This first article utilized a data base which was also used by Malamuth, Check, and Briere (1986). Malamuth et al. (1986) focused on the correlates of sexual arousal to aggression. However, there is very little overlap between that focus and the present one.

In the present article, I describe the content of the ASA scale and assess its psychometric properties (e.g., internal consistency, testretest reliability), as well as examine discriminant and construct validity, as reflected in measures of attitudes, perceptions, and behavioral inclinations. The article that follows replicates some of these relationships and also includes physiological and self-report arousal data, as well as actual aggression reports. Furthermore, it assesses the potential artifact of social desirability.

## Subjects

Three hundred and sixty-seven male introductory psychology students participated in the first phase of this research. Complete data on all of the attraction scales used here were available for 288 men, and these therefore constituted the subjects for the research. Some of the degrees of freedom reported below are smaller due to missing data on dependent measures. As indicated below, 117 of these men also participated in the second phase of this study.

#### Materials and Procedure

The study consisted of two phases. In the first, subjects completed a "paper and pencil" questionnaire containing the "attraction" scales and the attitudinal measures developed by Burt (1980). The latter included the Rape Myth Acceptance (RMA) scale (19 items), the Acceptance of Interpersonal Violence (AIV) against women scale (6 items), and the Adversarial Sex Beliefs (ASB) scale (9 items).

To assess whether the ASA scale might relate to indicators of behavioral inclinations/intentions, subjects were asked whether they had ever "tried any of the following activities" and if they never had, whether they thought they ever would. The behaviors listed following these questions were the same as those presented in Table 1 (e.g., necking, petting, oral sex, etc.). Responses were on dichotomous scales (e.g., "yes" vs. "no"). Subjects who had tried the activities were also asked about the degree to which they had enjoyed them on a 4-point scale, ranging from "not at all" to "very much" (see Malamuth, 1988a, for a discussion of this issue).

About a week later, 117 of these subjects participated in the second phase, which consisted of two stages. Here sexual arousal and perception measures were administered. In the first stage, subjects were presented with one of several stories, which are described in more detail in Malamuth et al. (1986). In the second stage, subjects were presented with one of two versions of a rape story, one involving a stranger and the other acquaintance rape. Although sexual arousal measures were also obtained in both stages of this second phase, for the vast majority of subjects, the type of stories used did not enable the calculation of "rape indices" of arousal (Abel, Barlow, Blanchard & Guild, 1977). The stories differed from previous studies in this line of research, which had enabled calculation of "rape indices." However, the relevant sexual arousal data that do exist are presented in the second article, to appear in the next issue of this journal.

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In reaction to these rape stories, we assessed perceptions of the extent to which the woman was a willing participant, whether she derived "pleasure" from being victimized, and the degree of trauma and pain she experienced. These were indicated on 9-point scales for the pleasure and pain items, on a 5-point scale for the trauma item, and on a ten-point scale for the willingness item. At the end of this session, subjects were given debriefing and educational information designed to dispel false beliefs about sexual aggression. Such debriefings have been found to be effective in previous research (see Malamuth, 1984; Rapaport, 1984).

Malamuth et al. (1986) analyzed the differences between volunteers and nonvolunteers for the second phase of the research and did not find differences that would pose any serious limitations to the utility of this second phase.

#### The ASA Scale

The present study used the "deductive" approach to scale construction recommended by Burisch (1986). The scale items were constructed a-priori to assess the construct of attraction to sexual aggression, although a couple of items originally included were deleted from the final version. The 14 items retained for this ASA scale are presented in Table 1, embedded within similar items used to assess attraction to other acts (e.g., oral sex, transvestism, pedophilia, etc.). The items comprising the ASA scale primarily consisted of those referring to "rape," and in a sexual context, to "forcing a female to do something she didn't want to."

As indicated in Table 1, two items asked whether the person had ever thought of trying the activities, two items asked about the extent to which he found the idea of engaging in these activities attractive, and two inquired about his beliefs about the percentage of males who would find the activities sexually arousing (if they would engage in them). Similarly, two items asked about the respondent's beliefs about the percentage of females who would find the activities sexually arousing (i.e., rape and forcing a male), but a third item was added in this set asking about his beliefs about the percentage of females who would be sexually aroused by being forced to do something sexual they didn't want to. In addition, three items inquired about the extent to which the subject himself believed that he would be sexually aroused by engaging in rape, forcing a female to do something sexual she didn't want to, and by being forced to do something sexual he didn't want to. Finally, two items inquired about the likelihood that the respondent would engage in the behaviors if he "could be assured that no one would know and that you could in no way be punished . . . " Table 1 includes the distribution of subjects' responses to this question. These 14 items were first standardized and then added together to create a total ASA score. (It may be preferable in future research to use a 5- or 9-item scale on all items instead of the scales varying in length.)2

SEXUAL AGGRESSION

On the basis of a priori classification confirmed by factor analyses, the other items described in Table 1 were used to create five additional scales: (a) The Attraction to Bondage (12 items) encompassed both the "bondage" and "whipping, spanking" items, (b) Attraction to Conventional Sex (18 items), which included the items referring to necking, petting, oral sex, and heterosexual intercourse, (c) Attraction to Homosexuality (5 items) consisting of the items inquiring about homosexual sex, (d) Attraction to Unconventional Sex (11 items) consisting of the items concerning anal intercourse and group sex, and (e) Attraction to Deviant Sex (12 items) encompassing the items referring to pedophilia and to transvestism. Table 2 presents the intercorrelations among these scales.

As part of the second phase of the study (in which 117 individuals participated), six items of the ASA scale were again administered after exposure to the stories. This provided some opportunity to assess testretest reliability. The six items were LR and LF, questions about subjects' beliefs regarding the percentage of men who would be sexually aroused by forced sex and by rape, and about the percentage of women who would be sexually aroused by being raped or by being forced into sex. The scale based on these six items will be referred to as the "short ASA scale." For comparison purposes, such versions are computed both at the first phase (when the additional items were also administered) and at the second phase.

As Fiske (1986) notes, all self-report scales assess "... traits as attributions that people make about themselves and others" and should be studied as such rather than as "... properties of the outside, real world" (p. 41). This is particularly relevant to ASA, since there may be individuals who are actually sexually aroused by sexual aggression, but who deny that even to themselves. Such people might not score highly on the present scale, although the findings presented by Malamuth, Check, and Briere (1986) suggest that (on the whole) sub-

<sup>&</sup>lt;sup>2</sup>In future developments of the scale, it is desirable to include some methodological modifications, such as an equal number of both portrait (positively worded) and contrait (negatively worded) items to address problems of social desirability or "yeasaying," a response set that can detract from the validity of a scale (Altemeyer, 1981; Anastasi, 1976). In the second article of this research, the influence of social desirability was assessed by means of a social desirability scale.

Table 1

Items Used to Create the Attraction to Sexual Aggression (ASA) Scale and the Other Scales

(Note: For items 13 & 14, the distribution of responses is given.)

#### ASA Scale Items

1 & 2. People frequently think about different activities even if they never do them. For each kind of activity listed, please indicate whether or not you have ever thought of trying that activity.

Have thought Have never of it thought of it

- a. Necking (deep kissing)
- b. Petting
- c. Oral sex
- d. Heterosexual intercourse
- e. Anal intercourse
- f. Male homosexual acts.
- g. Group sex
- Bondage (e.g., tying up self or sex partner)
- i. Whipping, spanking
- j. Rape
- k. Forcing a female to do something sexual she didn't want to do
- Transvestism (wearing clothes of opposite sex)
- m. Pedophilia (sex with a child)
- 3 & 4. Whether or not you had ever thought of it, do you find the idea:

Very Somewhat Somewhat Very Unattractive Unattractive Attractive Attractive

(Same behaviors as in item 1 were listed here.)

5 & 6. What percentage of *males* do you think would find the following activities sexually arousing?

(The same behaviors were listed as those in item 1, followed by 11-point scales, ranging from 0% to 100% in increments of 10%.)

- 7, 8, What percentage of *females* do you think would find the following & 9. activities sexually arousing?
  - (The same behaviors and scales were used as in items 5 and 6, except that the items referred to females both "Being forced to do something sexual they didn't want to" and "Forcing a male to do something sexual he didn't want to.")
- 10, 11, How sexually arousing do you think you would find the following sexual & 12. activities if you engaged in them (even if you have never engaged in them)?

(Same behaviors and scales were used as in items 5 and 6, with the addition of the following item: "Being forced to do something sexual you didn't want to.")

13 & 14. If you could be assured that no one would know and that you could in no way be punished for engaging in the following acts, how likely, if at all, would you be to commit such acts? (n = 288).

Note. Numbers indicate percent providing each response.

	Not at All 1	2	3	4	Very Likely 5
Anal intercourse	24.3%	15.3%	16.3%	19.1%	25.0%
Group sex	12.5%	12.2%	23.3%	25.0%	27.1%
Homosexuality	87.5%	7.3%	3.8%	1.0%	0.3%
Bondage	33.0%	24.3%	17.4%	15.6%	9.7%
Whipping, Spanking	48.3%	27.1%	10.4%	8.7%	5.6%
Rape	74.0%	13.9%	5.6%	4.9%	1.7%
Forcing a female to do something she didn't want to do	41.7%	26.7%	14.2%	12.2%	5.2%
Transvestism	86.1%	10.8%	1.7%	1.0%	
Pedophilia	90.9%	5.9%	0.7%	1.7%	0.3% 0.7%

Table 2
Intercorrelations among the Attraction Scales

Scale	1	2	3	4	5	6
<ol> <li>Conventional</li> <li>Deviant Sex</li> <li>Homosexuality</li> <li>Sexual Aggression</li> <li>Bondage</li> <li>Unconventional Sex</li> </ol>	1.00	.02 1.00	.09 .32*** 1.00	05 .48*** .21** 1.00	.15* .34*** .23** .55***	.39*** .17 .25** .30*** .47***

p < .01; \*p < .001; \*p < .0001; \*p < .0001; \*p < .0001.

jects generally provide veridical reports about their physiological arousal to sexually aggressive stimuli.

#### Results

## Internal Consistency

The 14-item ASA scale yielded high internal consistency, alpha coefficient = .91. Item-total correlations ranged from .46 to .77. The mean of the inter-item correlations was .41, within the range for the optimal level of homogeneity (Briggs & Cheek, 1986). The "short" version of the ASA scale (6 items) yielded an alpha of .84 at the first administration (n = 288) and an alpha of .91 at the second administration (n = 117).

The other scales also yielded high internal consistency. The 12-item Attraction to Bondage scale had an alpha of .92. The 11-item Attraction to Unconventional Sex scale yielded an alpha of .85, the 18-item Attraction to Conventional Sex had an alpha of .89. The 12-item Attraction to Deviant Sex scale yielded an alpha of .83, and the five-item Attraction to Homosexuality scale showed an alpha of .78.

## Dimensionality of Scale

To assess whether ASA could be considered a unidimensional scale, a Principal Factor Analysis was conducted. The application of the Scree Test (Cattell, 1966) to the eigenvalues of each initial factor indeed suggested that it may be appropriate to retain only one factor. This first factor had an eigenvalue of 6.45 and accounted for 46.1% of the variance. Extracting this factor yielded factor loadings above .49 for all items. The next factor had an eigenvalue of 1.67, the next 1.29, with each subsequent factor showing a gradual reduction in the eigenvalues.

## Reliability

As noted earlier, in the second research phase, six ASA items were administered a second time. This provided an opportunity to assess test-retest reliability. First, examining the "likelihood" items, LR's test-retest correlation was .66 (p < .00001) and LF's was .74 (p < .00001). These data are similar to those found by Malamuth and Ceniti (1986).

To assess the reliability of the "short" version of the ASA scale, a correlation was first computed within the first phase between the entire ASA scale and the "short" six-item scale, for the same items which were later asked again in the second phase. Within the first phase, the "short" version of the ASA scale correlated .93 with the overall 14-item scale. The correlation between ASA and the "short" version administered in stage two was .75, whereas the test-retest correlation between the two "short" versions administered in the two stages was .76. There was very little change when the potential influences of the stories at stage 1 and stage 2 were partialled out. For example, the partial correlation for ASA and the "short" version of this scale administered in the second phase changed from .76 to .75. On the whole, the data indicate considerable reliability and test-retest stability for such a relatively short scale (Cohen & Cohen, 1983).

## Relationship to Attitudes

In order to assess the relationship between the scales of interest and attitudes, a composite measure was created adding the Z-transformed RMA, AIV, and ASB scales. Simple correlations were computed between the six attraction scales and this attitude composite. They indicated that men who scored higher on ASA held more rape-supporting attitudes,  $r=.41,\,p<.00001$  (see Table 3). The only other scale also correlating positively with rape-supportive attitudes was

the Attraction to Bondage scale, r=.26, p<.005. However, another scale correlating inversely with the attitude composite was the Attraction to Conventional Sex, r=-.15, p<.05 (i.e., men who were more attracted to conventional heterosexual sex were less likely to hold attitudes supportive of violence against women).

A multiple regression analysis was also computed in which the 6 attraction scales were "forced entered" to predict the attitude composite. The Multiple R yielded by this equation was .429, F(6,263) = 19.87, p < .00001. Only the ASA scale made a significant positive contribution to this equation. Similarly, a step-wise regression that allowed only significant contributory variables to enter resulted in only the ASA scale entering the equation.

As indicated in Table 3, the attitude composite also correlated strongly with the "short" version of ASA for both administrations of this scale. The "short" version administered at phase 1 correlated .46, p < .00001 with the attitude composite, whereas the same version administered at time 2 correlated .51, p < .00001 with this composite. (A comparable correlation between the attitude composite and the entire ASA scale using only the 117 subjects who participated in both phases of the research is .49, p < .0000).

Table 3

Correlations between Predictors and the Criterion Measures 1

Predictors						
	ASA	SHORT t1	SHORT t2	LF	LR	LFR
Attitude Composite	.41****	.46****	.51****	.29****	.33***	.29***
Perceptions Composite	.28**	.30**	.37***	.19*	.22*	.11
Behavioral Items						
Did Force Sex	.33****	.31****	.14	.34****	.16**	.30***
Will Rape	.30****	.28****	.45****	.25***	.28****	.21***
Will Force Sex	.58****	.56****	.41****	.60****	.44****	.49****
Enjoyed Forcing	.31*	.22	.12	.34*	.12	.35*

Note. ASA = Attraction to Sexual Aggression scale; SHORT t1 = short version of ASA given at time 1; SHORT t2 = short version of ASA given at time 2; LF = Likelihood to Force item; LR = Likelihood to Rape item; LFR = Likelihood to Force/Rape index.

<sup>1</sup>Except for some variations due to missing data, these correlations are based on 288 subjects for the attitude composite and for the first three "behavioral" items, and on 117 subjects for the perceptions composite and for the short ASA scale administered at time 2 (i.e., short t2). For the "enjoyed forcing" item, there were 51 subjects, except for the short ASA scale at time 2 where there were 23 subjects. Some of the correlations reported are actually point biserial correlations or phi coefficients due to the use of dichotomous variables.

<sup>\*</sup>p < .05, \*\*p < .01, \*\*\*p < .0001, \*\*\*\*p < .00001.

# Correlations of ASA and Attitudes with Likelihood Items

The ASA scale correlated .67 with LR, .76 with LF, and .69 with LFR (all p < .00001). As indicated in Table 3, the attitude composite correlated significantly with LR, LF, and the index based on both these items, the LFR.

## Perceptions

A composite measure of perceptions of the rape victim's experience was constructed by adding Z-transformations of perceptions of the rape victim's "pleasure" and "willingness" and subtracting her "pain" and "trauma." Simple correlations and regression analyses were then computed for this measure in a similar manner to that with the attitude composite (the attitude and perception composites were significantly related, r = .36, p < .001). The ASA scale was the only one of the attraction scales that positively correlated with the perception composite (see Table 3). In addition, the conventional sex scale correlated negatively with the perception composite, r = -.27, p <.005. Regression analyses indicated that with all the attraction scales "force entered," the Multiple R to predict perceptions was .380, F(6,110) = 3.09, p < .008, with only ASA and the conventional sex scales contributing significantly to the equation. Similarly, in stepwise regression, the Multiple R was .353, F(2,114) = 8.130, p < .0005. The two scales entering significantly were ASA (Beta = .233, p < .01) and the Attraction to Conventional Sex (Beta = -.226, p < .02) scales. These analyses, as well, were redone first entering the phase 1 and phase 2 stories (i.e., accounting for any variance that might be due to variations in the content of these stories). The results were virtually identical to those reported above.

As indicated in Table 3, for both administrations of the "short" ASA scale, there were significant correlations with the perceptions composite.

The data suggest that men who are higher in attraction to sexual aggression perceive a rape victim's experience as more positive. Further, if the men are also less attracted to conventional sex, they are more inclined to see the rape victim's experience as positive. The consistency in both the attitudinal and perceptual data are therefore high in supporting the validity of the ASA scale.

# Correlations of Perceptions with Likelihood Items

As indicated in Table 3, the correlations between the perception composite and both LR and LF were significant, but the correlation with LFR was not.

It is noteworthy that regression analyses on both the attitude and perception composites using the LR and LF items and the other individual likelihood items (e.g., likelihood of transvestism, pedophilia, etc.) yielded very similar conclusions regarding discriminant validity as the analyses presented above with the other attraction scales. These data show that both the single and multi-item scales revealed discriminant validity, and they therefore contradict a "deviation" hypothesis.

#### "Behavioral" Items

Simple correlations revealed that ASA significantly correlated with all four "behavioral" items. However, because very few subjects indicated that they "had raped," the data for this variable will not be included here (although the pattern of the data was very consistent with the other items). Table 3 presents the correlations with the three behavioral items. It appears from this table that both the full ASA scale, the short versions, and the "likelihood" items are quite strongly related to the behavioral items, particularly with the "will force" item. Once again, "factoring out" the variance due to story variations did not substantially affect these relationships.

Some other attraction scales also showed significant simple correlations with the "behavioral" items, although these were in all cases significantly lower than those with the ASA scale. In order to examine whether these correlations might be explained by overlap between scales, regression analyses were conducted using all six attraction scales.3 For all the "behavioral" items, these regression analyses revealed that ASA scale was the only one that made a significant contribution. In one of these ("will rape"), the Attraction to Conventional Sex scale also significantly entered the equation, but negatively. These data therefore indicate that once overlap among the scales is controlled for, only ASA makes a positive contribution to the prediction of the "behavioral" items. These data provide additional support for the discriminant and construct validity of this scale. Once again, there is also some indication here that men who are more attracted to sexual aggression, but are less attracted to conventional sex, are more inclined to believe that they might rape than those who are attracted to both sexual aggression and to conventional sex.

<sup>3</sup>Some of the analyses reported here violate some of the formal assumptions of statistical models, by using dichotomous variables as dependent variables and using ordinal scales in regression analyses. But as Cohen and Cohen (1983) have noted, in practice and with support from theory and research, the use of such variables and scales is justified and useful (also see Overall, 1980).

Similar regression analyses using the six attraction scales and "behavioral" items referring to the other areas assessed here (e.g., "have tried anal intercourse," "will engage in transvestism," "will engage in pedophilia," etc.)4 showed a high correspondence between the domain assessed by the specific attraction scale and the degree to which the target "behaviors" were successfully predicted. These data were therefore generally inconsistent with the "deviation hypothesis" described earlier since they revealed that item content played a very important role. However, the pattern of the data suggested that a relatively small percentage of the variance might be explained by a "deviant" response set or, alternatively, by a general tendency to engage in socially prohibited sexuality, regardless of the specific behavior involved. It is noteworthy that the rape-supportive attitudinal measure (i.e., the composite of the AIV, RMA and ASB) scale correlated only weakly with the four sexual aggression "behavioral" items, ranging in magnitude from .08 to .15. In addition, regression analyses on these behavioral items in which the attitudinal composite was first "forced entered" showed that the ASA scale continued to relate strongly to the aggression behavioral items after the attitude measure was controlled for. For example, in a regression with the "will force" item as the dependent variable, the equation with only the attitude composite entered yielded a Multiple of .15, F(1,219) = 5.13, p< .03. Also, entering the ASA scale resulted in a Multiple R of .57, F(2,218) = 52.98, p < .00001. The Beta weights for the two variables indicated that the ASA variable made a very strong contribution (p.00001), whereas the attitude composite no longer contributed significantly. These data suggest that the ASA scale is not simply another means of assessing attitudes about sexual aggression. Rather, as intended, it appears to be more strongly tied to the lure or "pull" of the behaviors.

## Greater Utility of Multi-item Vs. Single-item Approach

Does the use of the multi-item ASA scale enable better prediction of variables of interest in comparison with LR and LF? To directly address this question, regression analyses were computed in the following way: First, in a stepwise manner, LR and LF were given the opportunity to enter the equation. Second, the opportunity was given to the six "attraction" scales to enter, also in step-wise fashion. A modified

4The conclusions reported are the same whether the scales are based only on specific behaviors (e.g., group sex, pedophilia, etc.) or if they are combined into more global scales (e.g., conventional sex, unconventional sex, etc.).

version of ASA was used in these analyses, excluding the LR and/or the LF items if they had already entered the equation, in order to avoid redundancy.

With regard to the attitude composite, both LR and LF entered significantly, resulting in a Multiple R of .35, F(2,267) = 19.13, p < .00001. When the opportunity was given to the attraction scales to enter, only ASA entered, yielding a Multiple R of .41, F(3,266) = 17.39, p < .00001, indicating that the addition of the ASA scale did account for a greater percentage of the variance of the attitude composite. With all three variables entered, the Beta weights were .01 (p = ns) for LF, .16 (p < .03) for LR, and .29, (p < .0005) for ASA.

However, the greater variance accounted for by the addition of the ASA scale might be explained by similarity in some of the questions on this scale and some of the items on the scales used to construct the attitude composite. In particular, the ASA scale contains items asking about the subject's belief about the percentage of women who would be sexually aroused by being sexually assaulted, and the attitude composite also contains questions about whether women derive pleasure from being raped. In order to at least partially control for such overlap, another analysis was conducted excluding the ASA items which appeared to resemble some of the items of the attitude composite. In this analysis, the addition of ASA still significantly increased the amount of attitude variance accounted for, with the Multiple R increasing from .35 with LR and LF entered, to .39, with the addition of ASA. The Beta weights in this analysis were .04 (p=ns) for LF, .17 (p<.03 for LR, and .24, p<.005) for ASA.

Similar analyses were conducted on the perception composite and the behavioral items. (For perceptions, the story variations at stages 1 and 2 were first partialled out.) The results indicated that LR entered significantly, but the ASA did not add additional prediction. However, the Attraction to Conventional Sex scale did enter significantly, with men who are more attracted to such sex being less likely to perceive a rape victim's experience positively.

The following were the regression results for the "behavioral" items. On the "will force" item, LF entered yielding a Multiple R of .59, F(2,217)=66.94, p<.0000. LR did not enter this equation. When the "attraction" scales were given the opportunity to enter, only ASA did so, resulting in a Multiple R of .62, F(2,217)=66.94, p<.00001. The Beta weights with both variables entered were .39 for LF (p<.00001) and .27 (p<.0006) for the ASA scale. For the "will rape" item, LR first entered, yielding a Multiple R of .28, F(1,229)=19.79, p<.0000. LF did not enter significantly. With regard to the attraction scales,

ASA and the Attraction to Conventional Sex scales entered, yielding a Multiple R of .34, F(3,227)=10.33, p<.00001. The Beta weights when all three variables entered were .16, p<.05 for LR, .19, p<.02 for ASA, and -.13, p<.04 for the conventional sex scale.

For the "tried force" item, LF entered significantly, yielding a Multiple R of .33, F(1,265) = 33.35, p < .00001. LR did not enter. For the attraction scales, ASA entered significantly, yielding a Multiple R of .36, F(2,264) = 19.48, p < .0000. The Beta weights were .19, p < .04 for LF and .20, p < .03 for ASA.

## Comparing Mean Differences

The data presented heretofore indicated that the long and short versions of ASA as well as LR and LF are significantly related to attitudes, perceptions, and "behavioral" items. In order to further explore these relationships, mean differences among various levels of these variables were examined. For ASA, this dimension was divided into four levels based on quartile levels. For the LR and LF, the means were examined corresponding to the LFR classification (Briere & Malamuth, 1983).

Table 4 presents the means on attitudes, perceptions, and the force "behavioral" items for each of the three LFR levels. These means were analyzed with analyses of variance and, consistent with the correlation analyses for this variable, significant differences were found for attitudes and the force items, but not for perceptions (see Table 4). Table 5 shows similar analyses for the four levels of ASA. Here, too, the attitudes and the "behavioral" items yielded significant F tests, but, in contrast to the correlational analyses, the F test for perceptions did not reach statistical significance. This is probably due to the loss of statistical power resulting from the reduction of ASA to a four-level variable (Cohen & Cohen, 1983), and to what appears to be a nonlinear data pattern.

Table 4

Means of Dependent Variables as a Function of a Three-Level Classification Based on the LF and LR Items

Dependent Measure		_		
	LF-/LR-	LF+/LR-	LF+/LR+	FTEST
Attitude Composite	-0.70a	-0.05ъ	1.16c	13.82*
Perceptions Composite	-0.45	-0.08	.36	.64
Did Force Sex	1.04a	1.11a	1.29b	13.13*
Will Force Sex	1.02a	1.22a	1.51b	37.58*

Note. LF-/LR- = no reported likelihood of forcing sex or of rape; LF+/LR- = some reported likelihood of forcing sex but no reported likelihood of raping; LF+/LR+ = some reported likelihood of forcing sex and of raping. Means not sharing a common subscript differ at p < .05 by the Neuman-Keuls test.

Table 5

Means of Dependent Variables as a Function of a Four-Level Attraction to Sexual Aggression (ASA) Classification

Dependent Measure					
	1	2	3	4	FTEST
Attitude Composite	-1.00a	-0.69a	0.16ь	1.21c	12.71*
Perceptions Composite	-1.44	0.23	0.39	0.05	1.79
Will Force Sex	1.02a	1.03a	1.17b	1.59c	37.59*
Did Force Sex	1.03a	1.04a	1.18b	1.33c	13.40*

Note. Means not sharing a common subscript differ at p < .05 by the Neuman-Keuls test.

Tables 4 and 5 also present multiple comparisons among means using the Neuman-Keuls test. Interestingly, these show that for the different criterion variables, there are differing patterns corresponding to the classification levels. Particularly, in Table 5, the data indicate that for attitudes and for the "behavioral" items, there is generally a linear pattern whereby the lower two levels significantly differ from the middle levels, which are significantly lower than the highest levels. (Indeed, a test of linear trend verifies that such a trend exists here.) Although the differences did not reach statistical significance, the pattern on the perceptions composite suggests that the lowest level of ASA may be the only one that actually might have differed from the other levels.

## Using Several Measures

The data described here revealed theoretically expected relationships between the ASA scale and measures of attitudes, perceptions, and behavioral inclinations. To determine whether these measures provide "redundant information," step-wise regressions (in which all variables were first standardized) were performed with ASA as the dependent measures, allowing entry to three types of measures (i.e., the attitude and perception composites and the "will force" item assessing behavioral inclinations). A preliminary analysis for subjects who participated in both phases of the research revealed that after the attitude composite had entered, the perceptions composite did not account for any additional variance. Consequently, the analysis was conducted without the perceptions measure on the larger sample participating in the first phase of the research.

With only "main effects" allowed to enter, the attitude composite (Beta = .272, p < .0000) and the "will force" item (Beta = .527, p < .00001) entered significantly, yielding a Multiple R of .63, F(2,213) =

<sup>\*</sup>p < .0000.

<sup>\*</sup>p < .000.

71.03, p < .00001. When the interaction between these two variables was then allowed to enter in a hierarchical procedure (Cohen & Cohen, 1983), the resultant model was a significant improvement, yielding a Multiple R of .66, F(3,212)=53.54, p < .00001. The Beta weights with both of the main effects and the interaction entered were .260, p < .00001 for the attitude composite, .398, p < .00001 for "will force," and .220, p < .0008 for the interaction. These data suggest that men who are relatively high in attraction to sexual aggression are characterized by high acceptance of attitudes supporting aggression against women and the belief that they will force a woman into sexual acts in the future, even beyond what would be expected by an additive combination of these variables.

#### Discussion

The findings presented herein provide support for the reliability and the construct and discriminant validity of the ASA scale. The data showed theoretically expected relationships between this scale and attitudinal and perceptual composites, as well as with items focusing on inclinations to engage in sexually aggressive behavior, particularly the belief among men that they will engage in forced sex in the future. The relationships were quite strong with the measures of attitudes and the behavioral inclinations (with additional analyses showing that these measures are not providing "redundant" information) but weaker with the perceptions composite. Comparisons with other scales measuring attractions to various types of sexual behaviors, including socially disapproved acts, contradicted a "deviation hypothesis," or a "response set," explanation of the findings.

The single- and the two-item measures (i.e., LR, LF, and LFR) also showed significant relationships with the criterion measures. These data provide support for Malamuth's (1988b) response to criticisms regarding LR and LF ratings. On the whole, however, the ASA did better than these very brief measures. Analyses comparing the amount of variance accounted for by the ASA, as compared to the single-item measures, indicated that both on the attitude composite and on the "behavioral" tendencies items, ASA accounted for a significantly greater amount of the criteria's variance. In contrast, significant differences were not found on perceptions. Overall, the data are consistent with the point emphasized by Paunonen and Jackson (1985b) concerning the advantages of multi-item measures in predicting multiple criteria.

Interestingly, the "short" version of the ASA (i.e., 6 items as compared to the 14-item longer version) showed high internal consistency,

reasonable test-retest reliability, and related as strongly to the criteria as the full ASA scale. These data suggest that for many purposes, the "short" version might be an acceptable substitute, particularly when "economical" factors are an important consideration (Burisch, 1984a; 1984b). This conclusion is consistent with that reached by Paunonen (1984) who systematically compared differing scale lengths and concluded that judiciously abbreviated scales can yield validity coefficients that are very similar to those of considerably longer assessments.

In the second article pertaining to the ASA scale (to appear in the next issue of this journal), I present the findings of additional studies that provide further support for the validity of the ASA scale and demonstrate its usefulness.

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