Personality and Individual Differences 46 (2009) 336–340

Contents lists available at ScienceDirect

Personality and Individual Differences

journal homepage: www.elsevier.com/locate/paid

Development and initial psychometric assessment of the rape avoidance inventory

William F. McKibbin [a,*], Todd K. Shackelford [a], Aaron T. Goetz [b], Vincent M. Bates [a], Valerie G. Starratt [c], Emily J. Miner [a]

[a] Florida Atlantic University, Department of Psychology, 2912 College Avenue, Davie, Florida 33314, United States
[b] Department of Psychology, California State University – Fullerton, Fullerton, California, United States
[c] Department of Psychology, Nova Southeastern University, Davie, Florida, United States

ARTICLE INFO

Article history:
Received 16 May 2008
Received in revised form 10 September 2008
Accepted 27 October 2008
Available online 9 December 2008

Keywords:
Rape
Rape avoidance
Evolutionary psychology

ABSTRACT

Rape is a traumatic event with severe consequences for women. Therefore, women may have evolved psychological mechanisms that motivate them to avoid circumstances linked with rape. We present the development and initial psychometric assessment of an inventory designed to assess women's rape avoidance behaviors. In Study 1 ($N = 99$), we conducted an act nomination procedure to identify specific behaviors for inclusion in a preliminary rape avoidance inventory. In Study 2 ($N = 144$), we secured performance reports for the behaviors assessed by the inventory. We present the results of principal components analyses and the construction of the rape avoidance inventory (RAI). We identified four components of women's rape avoidance behaviors as assessed by the RAI: avoid strange men, avoid appearing sexually receptive, avoid being alone, and awareness of surroundings/defensive preparedness. We demonstrate that, as predicted, performance of rape avoidance behaviors is negatively associated with a measure of interest in and pursuit of short-term sex. We conclude that the RAI is a useful tool for future research on rape avoidance and rape prevention.

Rape—defined as the use of force or threat of force to achieve penile-vaginal penetration without a woman's consent, (Kilpatrick, Edmunds, & Seymour, 1992; Thornhill & Palmer, 2000)—is a traumatic event that produces many negative consequences for women. These can include disrupting a woman's parental care, causing her partner to abandon her, or causing her physical injury (Thornhill, 1996; Thornhill & Palmer, 2000). Perhaps the greatest cost to women who are raped is circumvention of their choice of a sexual partner (Wilson & Mesnick, 1997). Circumvention of a woman's mate choice can jeopardize her reproductive success, as women bear significantly greater minimum obligatory parental investment than men, including pregnancy, lactation, and childcare (Symons, 1979; Thornhill & Palmer, 2000). A woman who has been raped risks devoting parental effort to a child sired by a man of unknown genetic quality, potentially at an inopportune time (e.g., when she already has multiple children to care for). Therefore, women may have evolved psychological mechanisms designed to motivate rape avoidance behaviors (Bröder & Hohmann, 2003; Chavanne & Gallup, 1998).

Several female traits may have evolved to reduce the risk of being raped. Thornhill and Thornhill (1990) demonstrated that the psychological pain that women feel after being raped may be one such trait. Thornhill and Thornhill argue that psychological pain leads individuals to attend to the circumstances that caused the pain and to avoid these circumstances in the future. Thornhill and Thornhill predicted and found that victims of rape with more to lose in terms of future reproductive success experience greater psychological pain than do women with less to lose in terms of future reproductive success. Perhaps most crucially, Thornhill and Thornhill predicted and found that reproductive-aged women (relative to pre-reproductive aged girls and post-reproductive-aged women) experience greater psychological pain following rape, arguably due to a greater risk of conception. The research conducted by Thornhill and Thornhill focused on the psychological pain that may lead women to later avoid the circumstances associated with the rape. This research provides preliminary evidence for rape avoidance adaptations in women. Little research has investigated the *specific behaviors* women may perform to avoid being raped.

Chavanne and Gallup (1998) investigated the performance of risky behaviors by women across their menstrual cycle. Women in the ovulatory, fertile phase performed fewer behaviors linked to greater risk of being raped, relative to the performance of behaviors linked with lesser risk of being raped. This research had several methodological limitations, however. In particular the use of summed composite riskiness scores confounds behavioral riskiness with behavioral diversity (e.g., multiple low-risk behaviors

* Corresponding author. Tel.: +1 954 703 0452.
E-mail address: wmckibbi@fau.edu (W.F. McKibbin).

0191-8869/$ - see front matter © 2008 Elsevier Ltd. All rights reserved.
doi:10.1016/j.paid.2008.10.026

are coded equivalently to one or a few high-risk behaviors; see Bröder & Hohmann, 2003). Despite these limitations, this research documented a decrease in performance of risky behaviors by women in the ovulatory phase. These results provide evidence of the downstream effects of female rape avoidance mechanisms, particularly when women are in the ovulatory phase—when conception risk is highest and, therefore, when rape threatens the most severe reproductive costs.

The Chavanne and Gallup (1998) study was replicated by Bröder and Hohmann (2003) using an improved methodology, allowing the researchers to assess more accurately the behavioral effects of women's ovulatory status. Bröder and Hohmann assessed the performance of risky behaviors and non-risky behaviors once weekly for one month. Women were asked to indicate which of 40 behaviors they had performed in the previous 24 h. The results indicated that women selectively avoid performing behaviors associated with greater risk of being raped when they are most fertile, corroborating the results of Chavanne and Gallup. The results of both studies indicate that women may have mechanisms designed to motivate behaviors that cause them to avoid being raped. Although the Bröder and Hohmann study addressed limitations in the Chavanne and Gallup study, it is not clear in either study how "risky" behaviors were identified and selected for assessment.

Garver-Apgar, Gangestad, and Simpson (2007) tested the hypothesis that women in the ovulatory phase of their menstrual cycle are more attuned to signs of a man's sexual coerciveness than are women not in the ovulatory phase. Women watched brief videotaped interviews of men, then rated the men on several items, responses to which were summed to construct a sexual coerciveness score. Women in the ovulatory phase rated men as more sexually coercive. This finding suggests that women in the ovulatory phase are particularly attuned to signs of men's sexual coerciveness, and provides evidence that women may have mechanisms that motivate rape avoidance.

In summary, several studies provide evidence that women may have mechanisms that motivate rape avoidance. Women may have mechanisms that motivate them to assess the risk of being raped (e.g., the riskiness of walking in a dark parking lot alone) or the likelihood that a particular man may be sexually coercive. However, these previous studies of rape avoidance assessed different behaviors that were selected for assessment without an explicit rationale, making it difficult to compare specific results across the studies. We developed the rape avoidance inventory (RAI) to address the need for a standard instrument to assess women's specific rape avoidance behaviors. Furthermore, previous studies assess a limited selection of behaviors. A goal in developing the RAI was to construct an inventory that assessed a broad range of relevant behaviors.

In Study 1, we used an act nomination procedure to identify specific behaviors for inclusion in a preliminary rape avoidance inventory. In Study 2, we administered this inventory to a different sample of women. We used the results of principal components analyses to construct the final rape avoidance inventory (RAI), which secures assessments of four interpretable components of women's rape avoidance behaviors. We present an initial psychometric assessment of the RAI with data secured in Study 2.

1. Study 1: nominations of rape avoidance behaviors

1.1. Method

1.1.1. Participants

Participants were 99 women recruited from psychology courses at a public university in the southeastern United States. Participants were required to be at least 18 years old. The mean age of participants was 24.2 years (SD = 5.1).

1.1.2. Materials

We used an act nomination procedure pioneered by Buss and Craik (1983). This procedure begins by asking participants to nominate specific acts that represent a particular domain of behavior. Rather than relying on researcher intuition, participants self-report rape avoidance behaviors that may better represent the specific behaviors that women actually perform. Instructions for the nomination form were as follows: "rape is a painful, traumatic event for women. We are attempting to identify specific behaviors that women might perform to avoid being raped. This information may be valuable for the prevention of rape, so it is important to be as honest, accurate, and specific as possible. In the spaces provided below, please write down 10 specific behaviors you do, or might do, to avoid being raped. These behaviors might be things you actively do, for example: 'I keep my car keys in my hand' or 'I lock the doors and windows of my home.' Or these behaviors might be things you avoid doing, for example: 'I avoid dark parking lots' or 'I avoid drinking alcohol.'

1.1.3. Procedure

An investigator provided envelopes to the participants. The envelopes contained two copies of a consent form and the nomination form. After signing and returning one consent form, participants were asked to read the instructions at the top of the nomination form and to complete the form. After completing the form, participants sealed the form in the envelope. The sealed envelopes were then placed into a locked box to maintain anonymity.

1.2. Results and discussion

Participants nominated a total of 886 acts. The mean number of act nominations per participant was 8.9 (SD = 1.6). To construct a preliminary set of rape avoidance behaviors, two of the authors worked together to eliminate acts with identical or similar wording. For example, acts such as "I avoid jogging at night" and "I don't go jogging at night" were nominated by many women. In such cases, one exemplar was retained and similar acts eliminated. We eliminated acts that consisted of multiple behaviors, such as "Be careful and cautious and be alert at all times and more in suspicious places," because frequency reports on such multiple-behavior acts are difficult to interpret. We eliminated acts deemed esoteric (e.g., "I wear five panties") or unlikely to be reported by many women (e.g., "I have always and will always live in a gated community patrolled by security"). We also eliminated acts with vague or unclear wording (e.g., "Be prepared for anything," "Don't wear certain things to certain places"). The few disagreements about retention of an item were resolved by a third author. The final set of nominated acts consisted of 83 specific behaviors. These acts were used to construct an initial inventory of rape avoidance behaviors. This inventory was administered to a new sample of participants, for further development and initial psychometric assessment, as described in Study 2.

2. Study 2: further development and initial psychometric assessment of the rape avoidance inventory

The goals of Study 2 were to construct an initial version of the RAI, and to provide an initial psychometric assessment of the RAI. We assessed the validity of the RAI by examining the relationship between scores on the RAI and scores on a conceptually related construct. By definition, the performance of rape avoidance behaviors decreases the risk that a woman will be raped. A woman's interest in and pursuit of short-term sex (e.g., one-night stands) arguably increases the risk that she will be raped, because

she will be interacting more frequently with men who pursue short-term sex and who are known to be more likely to commit rape (e.g., Lalumiere & Quinsey, 1996). Therefore, we hypothesized that women's performance of rape avoidance behaviors as assessed by the RAI will be negatively correlated with women's scores on the sociosexual orientation inventory (Gangestad & Simpson, 1990; Simpson & Gangestad, 1991), a measure of interest in and pursuit of short-term sex.

2.1. Method

2.1.1. Participants

Participants were 144 women recruited from psychology courses at a public university in the southeastern United States. Participants were required to be at least 18 years old. The mean age of participants was 25.9 years (*SD* = 7.8).

2.1.2. Materials

Participants completed a preliminary inventory of rape avoidance behaviors, administered via website. The inventory consisted of 83 behaviors that women in Study 1 nominated that they do or might do specifically to avoid being raped. Participants indicated how often on a 6-point scale they perform each act. Response values were as follows: 0 = *Never,* 1 = *Almost never,* 2 = *Rarely,* 3 = *Sometimes,* 4 = *Frequently*, 5 = *Almost always*, 6 = *Always.*

Participants next completed the sociosexual orientation inventory (SOI; Simpson & Gangestad, 1991). The SOI consists of behavioral and attitudinal questions designed to assess interest in and pursuit of short-term sex. Research has demonstrated the reliability and validity of the SOI across many cultures (e.g., Schmitt, 2005). Higher scores indicate greater interest in short-term sex.

2.1.3. Procedure

Prospective participants were directed to a website with a link to the study. Once participants completed the survey, they were directed to a page thanking them for their time and were exited from the study.

2.2. Results and discussion

2.2.1. Principal components analyses

We conducted principal components analyses, followed by varimax rotation, on responses to the 83 rape avoidance items. These analyses produced four interpretable components, each with an eigenvalue greater than 3.0. The four components accounted for 37.1% of the inter-item variance [Principal components analyses followed by oblique rotations produced similar solutions, as did parallel analyses using FACTOR (Lorenzo-Seva & Ferrando, 2006). All analyses are available from the first author on request].

We removed 14 items with a loading less than 0.40 on the component to which it was assigned statistically. Researchers disagree about the minimum loading that warrants item retention (Sharma,

Table 1
Descriptives for women's component and total scores on self-reports of rape avoidance behaviors.

	Mean	*SD*	Minimum	Maximum	Possible values
Avoid strange men	104.8	14.9	36	120	0–120
Avoid appearing sexually receptive	68.5	16.3	26	100	0–102
Avoid being alone	58.0	11.1	26	84	0–84
Awareness of surroundings/ defensive preparedness	54.1	17.4	5	92	0–108
RAI (total)	285.7	45.5	157	386	0–414

Table 2
Rape avoidance inventory (RAI) item-total correlations and alpha reliabilities using women's self-reports of rape avoidance.

Rape avoidance behavior correlation	Item-total
Avoid strange men	
Avoid men with a reputation for forcing themselves on women	0.77
Avoid letting men I don't know into my home	0.67
Lock my house doors	0.66
Avoid men I don't know that make me feel uneasy	0.63
Avoid giving too much personal information to men I don't know well	0.63
Avoid taking rides with men I don't know	0.63
Lock my car doors	0.59
Avoiding meeting with men from the internet	0.56
Avoid accepting drinks from men that I did not watch being made	0.54
Avoid men who make me feel uncomfortable	0.54
Avoiding meeting with men I don't know in places I'm not familiar with	0.53
Be aware of my surroundings when in public	0.52
Avoid drunk men	0.50
Avoid being around violent men	0.48
When at a club or party, refuse drinks from men I don't know	0.48
Avoid "blind" dates	0.47
Park in well-lit areas	0.45
Avoid leading men on sexually	0.42
Avoid jogging at night	0.41
Avoid leaving my drink unattended when at a bar or party	0.41
Avoid appearing sexually receptive	
Avoid wearing revealing clothes	0.80
Avoid drinking alcohol in unfamiliar places	0.70
Dress conservatively	0.70
Avoid staying out too late	0.68
Avoid drinking alcohol	0.66
Avoid drinking alcohol if I am around men I don't know	0.65
Avoid wearing sexy clothing	0.61
Avoid going out alone with a man I don't know	0.54
Avoid "making out" with a man I have just met	0.52
Avoid attracting attention to myself	0.52
Avoid large groups of men	0.51
Avoid talking to men I don't know	0.50
Avoid taking drugs	0.48
Be cautious of male friends	0.47
Avoid places where I am the only woman	0.44
Avoid teasing men by making sexual comments	0.43
Wear a lot of clothes	0.42
Avoid being alone	
Leave television or music on when I'm at home alone	0.66
When I go out, I stay with at least one other person that I know	0.60
Let friends or family know where I am going when I go out	0.58
Stay around other people when I go out	0.53
Respond negatively to men when they flirt with me	0.52
Avoid going to public restrooms alone	0.51
Avoid unfamiliar places where I could get lost	0.50
Keep lights on in my house when alone	0.50
Avoid going to gas stations at night	0.47
Avoid sitting in a parked car for too long	0.46
When I go out, I go with at least one male friend	0.44
Walk with someone to my car	0.43
Avoid walking alone at night	0.43
Avoid parking far from my destination at night	0.40
Awareness of surroundings/defensive preparedness	
Look around before I get out of my car	0.68
Check my house when I come home to make sure nothing has been tampered with	0.62
Look in my car before I get in	0.60
Keep a sharp object in my purse	0.59
Carry a knife	0.58
Set my house alarm	0.56
Report suspicious men in my neighborhood	0.55
Pay special attention to my surroundings	0.54
Check behind me when walking	0.51
Carry pepper spray	0.50
Keep a weapon in my car	0.49
Pay attention to my feelings in potentially dangerous situations	0.46
Keep a weapon in my house	0.46
Walk with my keys in hand, with a key in between my fingers	0.46
Alert others if a man I don't know seems to be following me	0.45
Present myself in a confident manner when around men I don't know	0.43
Hold my keys in my hand when walking to my car	0.42
Keep one hand free when walking alone	0.40

Table 3
Rape avoidance inventory component intercorrelations and alpha reliabilities (alpha reliabilities in bold).

	RAI (total)	Avoid strange men	Avoid appearing sexually receptive	Avoid being alone	Awareness of surroundings/ defensive preparedness
RAI (total)	**0.94**				
Avoid strange men	0.81	**0.92**			
Avoid appearing sexually receptive	0.80	0.54	**0.90**		
Avoid being alone	0.76	0.51	0.56	**0.83**	
Awareness of surroundings/defensive preparedness	0.76	0.48	0.40	0.45	**0.86**

Note: $N = 144$. All correlations are significant at $p < 0.001$.

1996; Tabachnick & Fidell, 2001). We used a liberal assignment criterion of at least 0.40 for an item to be included on a component, to capture broadly the behavioral content of a component. We calculated individuals' scores for each component by summing responses to the constituent items. We calculated a total score by summing scores across the four components. Table 1 displays descriptive statistics for the four components and total rape avoidance inventory (RAI). Table 2 displays the 69 items and component loadings.

Alpha reliabilities ranged between 0.83 and 0.92 for the components. The alpha reliability for the total was 0.94 (see Table 3). These results indicate that the total scale and each of the four components have sufficient reliability to warrant their use and that the 69 items can be grouped into four interpretable components. Table 3 displays intercorrelations among scores on the total RAI and the four components. The intercorrelations among the four components were uniformly positive and moderate in size, ranging from $r = 0.40$ to $r = 0.56$. The intercorrelations among the four components and the total score also were uniformly positive, ranging from $r = 0.76$ to $r = 0.81$.These results indicate that the components each capture unique portions of the variance in rape avoidance behaviors.

The avoid strange men component (eigenvalue = 18.2, accounting for 22.0% of inter-item variance) includes behaviors in which women avoid unfamiliar men or strange men (e.g., "avoid letting men I don't know into my home," "avoid men who make me feel uncomfortable") or men who may represent a risk of being sexually coercive (e.g., "avoid men with a reputation for forcing themselves on women," "avoid drunk men"). The avoid appearing sexually receptive component (eigenvalue = 4.9, accounting for 5.9% of inter-item variance) includes behaviors that may diminish a woman's attractiveness or perceived sexual receptiveness to a potential rapist. Examples include "avoid wearing revealing clothes," and "avoid 'making out' with a man I have just met." The avoid being alone component (eigenvalue = 4.3, accounting for 5.2% of inter-item variance) includes behaviors that function to keep a woman around others (e.g., "When I go out, I stay with at least one other person that I know," "Let friends or family know where I am going when I go out") or to avoid areas where they may be at greater risk of being raped (e.g., "avoid walking alone at night"). The awareness of surroundings/defensive preparedness component (eigenvalue = 3.3, accounting for 4.0% of inter-item variance) includes behaviors that serve to keep a woman attentive to her surroundings and to possible signs of danger (e.g., "look around before I get out of my car," "pay special attention to my surroundings"), and behaviors that enhance a woman's ability to thwart a rapist (e.g., "carry a knife," "keep a weapon in my car").

We correlated women's total and component RAI scores with SOI scores (Cronbach's α for SOI = 0.70). The correlation between SOI score and total RAI score was significantly negative, $r(136) = -0.30$, $p < 0.001$. The correlations between SOI score and RAI scores for the components avoid strange men and awareness of surroundings/defensive preparedness were negative but not significant: $r(144) = -0.07$ and -0.05 $p > 0.05$, respectively. The correlations between SOI scores and RAI scores for the components avoid appearing sexually receptive and avoid being alone were significantly negative, $r(136) = -0.42$, $p < 0.001$, and $r(136) = -0.42$, $p < 0.001$, respectively. These results provide initial evidence of the validity of the RAI as an assessment of women's rape avoidance behaviors. As hypothesized, women's interest in and pursuit of short-term sex (as reflected by higher SOI scores) and who therefore are at greater risk of rape (Lalumiere & Quinsey, 1996) report less frequent performance of rape avoidance behaviors (as reflected by lower RAI scores).

Although we made no specific predictions regarding the pattern of relationships with SOI scores for the four components, these results provide additional preliminary evidence of the validity of the RAI as an assessment of women's rape avoidance behaviors. Scores on the two components that correlated significantly and negatively with SOI scores include behaviors that might be particularly relevant to interest in and pursuit of short-term sex, such as "avoid wearing revealing clothing," "avoid 'making out' with a man I have just met," and "Respond negatively to men when they flirt with me."

3. General discussion

We sought to identify specific behaviors women perform to avoid being raped, and to construct a psychometrically sound inventory to assess these behaviors. The rape avoidance inventory (RAI) assesses performance of 69 specific behaviors nominated by women across four relatively independent components: avoid strange men, avoid appearing sexually receptive, avoid being alone, and awareness of surroundings/defensive preparedness. These components map closely onto a taxonomy of four "guidelines" for female defense against rape derived independently by Judson (2002, p. 121) following a review of cross-species research addressing primarily non-humans. These four guidelines are: "avoid groups of idle males," "don't attract attention," "don't leave home alone," and "do carry weapons." The conceptual confluence of the current four components with those derived by Judson provides preliminary evidence for the construct validity of the RAI.

The results of Study 2 provide preliminary evidence of the psychometric soundness of the RAI. The full-scale and four component scales demonstrate sufficiently high internal reliability to warrant further research with the inventory. The uniformly positive but moderately-sized correlations among scores on the total and component scales provide additional evidence of the utility of the four-component nature of the RAI.. Finally, the small-to-moderately-sized negative correlations between RAI scores and interest in and pursuit of short-term sex (which places women at increased risk of rape) provides some evidence for the convergent and discriminative validity of the RAI as an assessment of women's rape avoidance behaviors.

3.1. Limitations and future directions

A possible limitation of the current research is related to the reliance on reports from young adults. Although this is a reason-

able criticism of much psychological research, a young adult sample may be ideal for realizing the goals of the current research. Women in young adulthood are more likely to be raped than are much younger or much older women (Greenfield, 1997; Kilpatrick et al., 1992). Young adult women also report more negative psychological and health consequences following rape (Thornhill & Thornhill, 1990). Young adult women therefore might have more direct or more efficient access to rape avoidance behaviors.

Future research should further investigate the psychometric properties of the RAI, including examining its reliability and validity with data from larger, more diverse samples. Also, it is possible that women perform the behaviors assessed by the RAI not specifically to avoid rape, but to avoid interpersonal violence, in general. One way to test this hypothesis is to assess women's rape avoidance behavior over the ovulatory cycle. For example, if women performed rape avoidance behaviors more frequently during the fertile phase of their ovulatory cycle, this would provide preliminary evidence for the specificity of these behaviors as rape avoidance behaviors.

Other future research might investigate the link between a woman's attractiveness and mateship status and her performance of rape avoidance behaviors. Women who are more attractive, relative to women who are less attractive, may be preferentially targeted by would-be rapists (Thornhill & Palmer, 2000). Consequently, a woman's attractiveness might be related positively to the frequency with which she performs rape avoidance behaviors. Women in a committed romantic relationship risk the additional cost of a partner's abandonment following her rape by another man. All else equal, we speculate that women in a committed relationship might perform more frequent rape avoidance behaviors than women not in a committed romantic relationship.

Our intention is *not* to assign fault or responsibility on women with regard to rape avoidance. Our goal in this research instead was to develop a psychometrically sound inventory of women's rape avoidance behaviors, to thereby encourage research in this important area. Identifying and assessing the specific rape avoidance behaviors women perform can be beneficial in teaching effective rape avoidance and defense strategies. Previous research investigating women's rape avoidance behaviors has been promising, but also has been hindered by the lack of a standard and psychometrically sound inventory of women's rape avoidance behaviors. We have constructed such an inventory—the rape avoidance inventory (RAI). Given the importance of reducing the occurrence of rape, the RAI may be a useful tool for researchers and clinicians.

References

Bröder, A., & Hohmann, N. (2003). Variations in risk-taking behavior over the menstrual cycle: An improved replication. *Evolution and Human Behavior, 24*, 391–398.

Buss, D. M., & Craik, K. H. (1983). The act frequency approach to personality. *Psychological Review, 90*, 105–126.

Chavanne, T. J., & Gallup, G. G. (1998). Variation in risk taking behavior among female college students as a function of the menstrual cycle. *Evolution and Human Behavior, 19*, 27–32.

Gangestad, S. W., & Simpson, J. A. (1990). Toward an evolutionary history of female sociosexual variation. *Journal of Personality, 58*, 69–96.

Garver-Apgar, C. E., Gangestad, S. W., & Simpson, J. A. (2007). Women's perceptions of men's sexual coerciveness change across the menstrual cycle. *Acta Psychologica Sinica, 39*, 536–540.

Greenfield, L. (1997). *Sex offenses and offenders*. Washington, D.C.: Bureau of Justice Statistics.

Judson, O. (2002). *Dr. Tatiana's sex advice to all creation*. New York: Henry Holt & Company.

Kilpatrick, D., Edmunds, C., & Seymour, A. (1992). *Rape in America*. Arlington, VA: National Victim Center.

Lalumiere, M. L., & Quinsey, V. L. (1996). Sexual deviance, antisociality, mating effort, and the use of sexually coercive behaviors. *Personality and Individual Differences, 21*, 33–48.

Lorenzo-Seva, U., & Ferrando, P. J. (2006). FACTOR: A computer program to fit the exploratory factor analysis model. *Behavioral Research Methods, Instruments and Computers, 38*, 88–91.

Schmitt, D. P. (2005). Sociosexuality from Argentina to Zimbabwe: A 48-nation study of sex, culture, and strategies of human mating. *Behavioral and Brain Sciences, 28*, 247–311.

Sharma, S. (1996). *Applied multivariate techniques*. Hoboken, NJ: John Wiley & Sons.

Simpson, J. A., & Gangestad, S. W. (1991). Individual differences in sociosexuality: Evidence for convergent and discriminant validity. *Journal of Personality and Social Psychology, 60*, 870–883.

Symons, D. (1979). *The evolution of human sexuality*. New York: Oxford University Press.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston: Allyn & Bacon.

Thornhill, N. (1996). Psychological adaptation to sexual coercion in victims and offenders. In D. M. Buss & N. Malamuth (Eds.), *Sex, power, conflict* (pp. 90–104). New York: Oxford University Press.

Thornhill, N., & Thornhill, R. (1990). Evolutionary analysis of psychological pain of rape victims I: The effects of victim's age and marital status. *Ethology and Sociobiology, 11*, 155–176.

Thornhill, R., & Palmer, C. P. (2000). *A natural history of rape*. Cambridge, MA: The MIT Press.

Wilson, M., & Mesnick, S. L. (1997). An empirical test of the bodyguard hypothesis. In P. A. Gowaty (Ed.), *Feminism and evolutionary biology* (pp. 505–511). New York: Chapman & Hall.