



The allure of vulnerability: Advertising cues to exploitability as a signal of sexual accessibility



Cari D. Goetz^{a,*}, Judith A. Easton^b, Cindy M. Meston^a

^aThe University of Texas at Austin, Department of Psychology, 108 E. Dean Keeton Stop A8000, Austin, TX 78712-1043, USA

^bPsychology Department, Undergraduate Academic Center, Room 253, Texas State University – San Marcos, San Marcos, TX 78666, USA

ARTICLE INFO

Article history:

Received 7 November 2013

Received in revised form 8 February 2014

Accepted 11 February 2014

Available online 14 March 2014

Keywords:

Mating

Signaling

Sexual exploitability

Sexual accessibility

Individual differences

ABSTRACT

Research has documented that men are sexually attracted to women displaying cues to sexual exploitability. The current study investigated individual differences hypothesized to predict the display of exploitability cues as a mate attraction tactic. It was predicted that women who are more inclined toward short-term mating, high in openness, and high in extraversion would be more likely to display sexual exploitability cues. Fifty-seven women created hypothetical video dating profiles that were later coded for exploitability cues. Results supported the predicted relationships and provided the first behavioral evidence that some women may capitalize on the relationship between perceived exploitability and sexual attractiveness in pursuit of mating goals.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

Previous research has demonstrated that humans and non-human animals use impression management strategies such as “playing dumb” and downplaying competence in a variety of social situations, including mate attraction (e.g., Drea & Wallen, 1999; Gove, Hughes, & Geerken, 1980; Holoien & Fiske, 2012). One potential mate attraction tactic that involves downplaying attributes is that of displaying cues and characteristics associated with perceived vulnerability to being deceived, pressured, or coerced into sex, or sexually assaulted. Researchers have defined such cues as indicators of “sexual exploitability” (Goetz, Easton, Lewis, & Buss, 2012). Previous work characterizes these cues as passively displayed; however, it is possible that some women functionally display these cues as a signal of their sexual accessibility in order to manipulate the behavior of potential mates (for a discussion of signals functioning to manipulate other organisms’ behavior see Dawkins & Krebs, 1978). The purpose of the current study was to examine individual differences in advertising sexual exploitability cues in a mate attraction context.

Female mate attraction tactics function to attract potential mates by appealing to male preferences and desires (Buss, 1988). However, men’s preferences and desires are not static across context, particularly with regard to intended relationship-type. Men’s

preferences change when evaluating women for short-term relationships compared to when they desire a committed, long-term relationship. For example, compared to their preferences for long-term mates men dislike women who are prudish, conservative, and have a low sex-drive for casual sex (Buss & Schmitt, 1993). Although men prefer an intelligent partner for long-term mating, they relax this preference when evaluating potential casual sex partners (Kenrick, Groth, Trost, & Sadalla, 1993; Kenrick, Sadalla, Groth, & Trost, 1990). Furthermore, the relative weight men place on facial versus body attractiveness differs between short-term and long-term mating contexts (Confer, Perilloux, & Buss, 2010; Currie & Little, 2009). If men’s preferences differ depending on relationship-type, there should be a corresponding shift in women’s mate attraction tactics.

1.1. Short-term mating inclination and displaying cues to exploitability

One recently documented male short-term mate preference is for cues indicative of sexual exploitability. Goetz et al. (2012) determined that men find women displaying cues to sexual exploitability sexually attractive. They identified 22 cues that were indicative of sexual exploitability. Their list included cues that indicated a woman could be mentally or emotionally manipulated, such as being less intelligent or immature; was temporarily vulnerable, such as being fatigued or intoxicated; and would be more likely to end up in dangerous or risky situations, such as being reckless. They also argued that characteristics such as

* Corresponding author. Tel.: +1 5124711157.

E-mail address: cdgoetz@mail.utexas.edu (C.D. Goetz).

promiscuity and flirtatiousness are indicative of exploitability because displaying such cues may place a woman in risky sexual situations and provide exploitative men the opportunity to approach under the guise of harmless flirtation. Therefore, men evolved to find sexual exploitability cues to be sexually attractive because they are indicators of sexual accessibility and thus offer a higher likelihood of payoff of mating effort. Interestingly, Goetz et al. found that attraction to exploitability cues did not globally enhance mate attractiveness; rather, it was unique to the short-term mating context. Many of the cues to sexual exploitability were negatively correlated with long-term mate attractiveness.

Women inclined toward short-term mating may benefit from displaying cues to exploitability more than women less inclined toward short-term mating. In general, short-term mating can be a costly strategy for women. They may face reputational damage for appearing sexually accessible (Campbell, 2002), in addition to potential disease and pregnancy risks. Because men value fidelity in long-term mates (Buss, 1989; Buss & Schmitt, 1993), displaying cues to sexual exploitability may make women particularly unattractive as long-term mates because those cues may indicate a greater sexual accessibility to other men. However, researchers have also hypothesized a variety of benefits of short-term mating for women, including obtaining economic resource benefits, protection from other males, and genetic benefits for offspring (Greiling & Buss, 2000; Thornhill & Gangestad, 2008). Thus, women who are inclined toward short-term mating stand to benefit from advertising their sexual accessibility to attract potential mates interested in casual sex. Women pursuing short-term mating should therefore display cues to exploitability more often than women less inclined toward short-term mating.

Evidence from women's ratings of different mate attraction tactics provides preliminary support for this hypothesis. In one study, short-term mating inclined women reported more frequent use of tactics that signaled sexual availability (Bleske-Rechek & Buss, 2006). In another study in which women rated their prospective use of mate attraction tactics, women more inclined toward casual sex reported a higher likelihood of using exploitability-related tactics to attract a mate. This increased likelihood was not due to a systematic increase in the use of all mate attraction tactics by women pursuing short-term mating. These women may, therefore, uniquely capitalize on the relationship between exploitability and attractiveness in pursuit of their mating goals (Goetz, Easton & Buss, in press). However, these studies relied on women's self-reported usages of mating tactics. It is possible that women inclined towards casual sex simply are more aware of the mate attraction tactics they employ, or are more comfortable with acknowledging that they use tactics that involve signaling exploitability. Still necessary is behavioral evidence that individual differences in mating strategy preferences are associated with individual differences in advertising cues related to exploitability in women actively engaged in mate attraction. In the current study we tested the hypothesis that women who were more inclined toward short-term mating would be more likely to display sexual exploitability cues.

1.2. Openness to experience and extraversion and displaying cues to exploitability

Additionally, we investigated the relationship between the traits of openness and extraversion and displaying exploitability cues. Previous research has consistently documented a positive correlation between these two traits and short-term mating (e.g., Costa, Fagan, Piedmont, Ponticas, & Wise, 1992; Eysenck, 1976; Hoyle, Fejfar, & Miller, 2000; Schmitt & Shackelford, 2008), suggesting that they should also be positively correlated with the display of exploitability cues. However, we hypothesized they will

be predictive of the display of exploitability cues independent of their relationship with short-term mate seeking. Both openness and extraversion are positively correlated with sensation seeking (Aluja, Garcia, & Garcia, 2003) which may motivate the use of riskier mate attraction strategies. Women high in sensation seeking may be more likely to engage in short-term sexual relationships and displaying exploitability cues would facilitate such interactions. Furthermore, people high on openness tend to have a wider range of sexual experiences (Costa et al., 1992). This suggests that women high in openness may be comfortable using more varied mate attraction tactics, including those that involve the display of exploitability cues. Women high on openness may also be more likely to test out and experiment with different mate attraction strategies. In the current study we tested the hypotheses that both extraversion and openness would be positively related to display of exploitability cues.

1.3. Current study

The current study provides the first objective analysis of women's behavior in a mate attraction scenario to test the hypotheses that women who are more inclined toward short-term mating, high on openness, and high on extraversion would be more likely to signal accessibility by using cues to exploitability than women less inclined toward short-term mating. To obtain a behavioral measure of display of exploitability cues in a mate attraction context, we created a cover story that we were developing a dating website and asked women to create a video of themselves for their own hypothetical profile.

2. Method

2.1. Participants

Sixty heterosexual female undergraduates at a large public university participated in return for partial course credit. Data from one participant were excluded because her video did not record in its entirety due to equipment malfunction and data from two participants were excluded from analyses because they did not complete the measure of short-term mating inclination. The 57 remaining participants ranged in age from 18 to 27 years ($M = 19.0$, $SD = 2.15$) and self-reported their relationship status as single ($N = 38$), dating ($N = 8$), exclusive relationship ($N = 10$), married ($N = 0$), or other ($N = 0$). One participant did not report her relationship status.

2.2. Video recordings & procedure

We employed female research assistants blind to the study's goals and hypotheses to film the videos and interact with the participants. The recruitment ad for the study introduced the cover story that the researchers were interested in creating a dating website for the university population and that participants would be asked to make a hypothetical video as though it would be posted on their profile. This cover story was expanded upon when the participant came to the lab to film her video. The assistant told the participant she would be making a one-minute long video as though she was "interested in using the site to find someone to date" to later be analyzed to determine what information women convey in these types of videos. She assured the participant that the videos would not be publicly released in any way, but that she could have access to her video to post when the site went "live" if she so desired. We used this cover story to encourage sincere participation and to assuage any participant concerns that the videos would be made public without their knowledge or consent.

To film, the assistant sat the participant in a chair in a private room. The camera captured the participant from approximately mid-torso up, and each participant was filmed in the same room, with the chair and tripod positioned in the same place. She instructed each participant to face the camera with a neutral expression and when directed to begin her video with the sentence, “Hi, thanks for clicking on my profile.” After one minute of recording, she signaled to the participant to conclude her video and gave her as much time as she needed to finish. If the participant finished speaking before the one minute mark, the assistant stopped the recording then. For all participants, she asked the participant if she was satisfied with her performance and offered to rerecord if she so desired. Seven participants filmed twice, and in all cases the second video was used in analyses. Participants were then left to privately fill out a questionnaire about the website they viewed and their experience filming. This questionnaire included one question assessing the likelihood that they would use the site when it went live rated on a 7-point scale that ranged from “Very unlikely” to “Very likely.” Participants completed the Revised Sociosexual Orientation Inventory, which measures inclination towards short-term, casual sex (SOI-R; Penke & Asendorpf, 2008). It consists of nine items that assess sexual attitudes, behaviors, and desires. The items are summed to generate a total score (possible range: 9–45). Low scores indicate an individual is less inclined towards short-term mating while high scores indicate an individual is more inclined towards short-term mating. Participants also completed the Ten-Item Personality Inventory, which measures the Big Five personality dimensions (TIPI; Gosling, Rentfrow, & Swann, 2003). This scale contains two items per personality dimension, which are averaged to generate a score for each dimension (possible range per dimension: 1–7).

To conclude, the assistant debriefed the participant, informing her that there was no dating website and that the cover story had been crafted to encourage sincere participation. The assistant also asked the participant if she believed the cover story or had any knowledge of the study’s goals. Four participants reported that they doubted we were actually making a dating website; however, none of the participants reported knowledge of the study’s goals outside of what had been told to them in the recruitment and consent process.

2.3. Video data analysis

Five trained raters (two males, three females) who were not part of the video data collection process viewed and rated the women in the videos on 10 dimensions. Data from Goetz et al. (2012) and [Names deleted for review] (in press) demonstrate that men and women both recognize and identify the same cues to exploitability when evaluating other women. We calculated the average measures intraclass correlation coefficient (ICC) between the raters on each dimension to measure the level of agreement among them. This allowed us to use the average of the five raters’ responses to quantify how much each participant displayed each cue.

Each rater viewed and rated the videos in a different, randomized order. First, they viewed a still image taken from the beginning of each woman’s video prior to when she began speaking and rated her facial attractiveness, body attractiveness, and overall physical attractiveness, each on a 7-point scale ranging from “Very Unattractive” to “Very Attractive.” Raters showed a high level of agreement on these items (face ICC = .86, body ICC = .89, overall ICC = .90). These ratings allowed us to control for the effect of the participant’s physical attractiveness. Both men and women rate women more inclined toward casual sex as more attractive (Boothroyd, Jones, Burt, DeBruine, & Perrett, 2008) and we wanted to ensure that any relationships between exploitability cues and inclination towards short-term mating were not influenced by physical attractiveness.

Next, they viewed the full video. Videos ranged in length from 36 to 75 s ($M = 63.5$). They rated the woman on a 7-point scale on seven characteristics: Attention-seeking, Flirtatiousness, Intelligence, Immaturity, Promiscuity, Recklessness, Shyness (ICC range: .71–.87, $M = .80$). We selected these characteristics because they have been determined to be the most highly correlated (range: .39–.75) with exploitability (Goetz et al., 2012). We did not include other highly correlated cues such as Intoxicated, Partying, and Promiscuous friends because these because they were unlikely to be represented in the lab-recorded videos. We averaged these seven ratings for each woman to generate a composite sexual exploitability measure ($\alpha = .81$; Intelligence and Shy were reverse-scored because of their negative correlations with exploitability; see Goetz et al., 2012).

3. Results

We used the composite sexual exploitability variable as a measure of perceived sexual exploitability in our analyses. To test the hypotheses that women more inclined toward casual sex, higher in extraversion, and higher in openness would be more likely to signal accessibility using cues to exploitability, we regressed perceived sexual exploitability on SOI-R scores, and the extraversion and openness scores on the TIPI. Although we did not *a priori* predict interaction effects between our predictor variables, we tested interaction effects in the model to obtain a complete picture of how these individual differences interact with one another to predict the display of exploitability cues. All three predictor variables and their interactions with one another were entered simultaneously in a multiple linear regression analysis and non-significant interactions were removed until we obtained the final model (Table 1). Both SOI-R scores and openness were significantly positively related to the display of exploitability cues. Additionally, a significant interaction emerged between openness and SOI-R scores. As shown in Fig. 1, women who were low on the trait openness and less inclined toward casual sex were less likely to display exploitability cues, $R^2 = .26$, $F(4,56) = 4.58$, $p < .01$. When entered as a single predictor, extraversion was significantly positively related to perceived exploitability, $\beta = .17$, $t(55) = 2.71$, $p < .01$, $R^2 = .12$, $F(1,56) = 7.34$, $p < .01$. When included in the model with the interaction between openness and SOI-R, the significance of the extraversion variable dropped to the edge of conventional statistical significance (Table 1).

We also repeated analyses controlling for physical attractiveness and relationship status (for correlations between the variables of interest and control variables, see Table 2). We used the ratings of overall attractiveness as the measure of physical attractiveness. We recoded the participant’s self-reported relationship status. Participants who reported they were single or dating were coded as “not in a relationship” ($n = 46$) while participants who indicated they were in an exclusive relationship were coded as “in a relationship” ($n = 10$). Controlling for these variables did not change the direction or significance of any of the findings (Table 3). We also controlled for video length, words per second, likelihood of using the dating website when it went live, and repeated the analyses removing women in exclusive relationships and the women who

Table 1
Regression of perceived exploitability on SOI-R, extraversion, and openness.

Variable	B	SE	β	t	p
(Constant)	−2.56	1.62		−1.58	.12
SOI-R	.23	.09	1.87	2.47	.02
Extraversion	.13	.06	.26	1.98	.05
Openness	.84	.29	1.11	2.93	<.01
SOI-R × openness	−.04	.02	−2.08	−2.41	.02

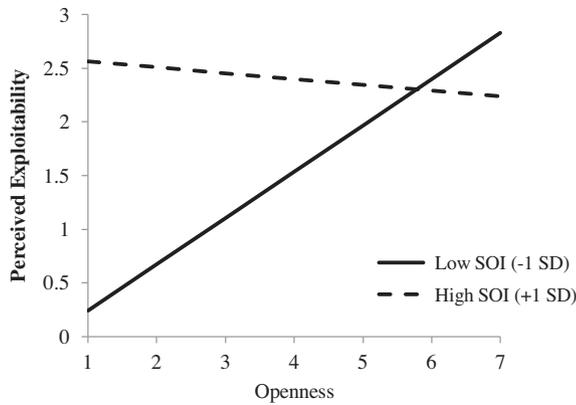


Fig. 1. Interaction between openness and short-term mating inclination.

Table 2

Means of, standard deviations of, and zero-order correlations between the variables of interest and the control variables.

Variable	Correlations (<i>r</i>)					<i>M</i>	<i>SD</i>
	1	2	3	4	5		
1. SOI-R	–	.12	.08	–.28*	.17	16.30	6.08
2. Extraversion		–	.38**	.11	.06	4.82	1.52
3. Openness			–	.14	–.08	5.60	.99
4. Physical attractiveness				–	–.08	4.13	1.23
5. Relationship status					–	–	–

Note: **p* < .05; ***p* < .01.

Table 3

Controlling for physical attractiveness and relationship status.

Variable	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Attractiveness	.252	.07	.41	3.6	<.01
SOI-R	.212	.08	1.72	2.52	.02
Extraversion	.11	.06	.22	1.85	.07
Openness	.70	.26	.93	2.67	.01
SOI-R × Openness	–.03	.02	–1.76	–2.25	.03
RS	–.09	.24	–.05	–.39	.70
SOI-R	.22	.10	1.79	2.32	.02
Extraversion	.13	.07	.26	1.91	.06
Openness	.82	.29	1.10	2.82	.01
SOI-R × openness	–.04	.02	–2.02	–2.28	.03

reported they doubted the cover story. The direction and significance of the findings remained across these iterations (see [Supplementary online materials](#)).

Because the characteristics Flirtatiousness and Promiscuity may be associated with actively seeking short-term mating relationships, we created a subscale of the characteristics not directly linked to actively seeking mating opportunities (Attention-seeking, Immaturity, Intelligence, Recklessness, and Shyness) to determine if these characteristics alone had the same relationship with the predictor variables. We averaged the ratings of these five characteristics and performed the same analyses ($\alpha = .73$). The same significant interaction emerged such that women low on the trait openness and low on short-term mating inclination were less likely to display the subscale of exploitability cues (Table 4). Extraversion was significantly positively associated with the display of the subscale of exploitability cues.

4. Discussion

We tested the predictions that women inclined toward short-term mating, high on openness and high on extraversion would

Table 4

Regression of the subscale of items not related to mate-seeking on SOI-R, extraversion, and openness.

Variable	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
(Constant)	–1.82	1.54		–1.18	.24
SOI-R	.20	.09	1.70	2.21	.03
Extraversion	.14	.06	.30	2.29	.03
Openness	.70	.28	.99	2.56	.01
SOI × openness	–.04	.02	–1.94	–2.21	.03

be more likely to display cues to exploitability in a mate attraction context. We found a significant interaction between inclination towards casual sex and openness such that women who were low on openness and less inclined toward casual sex were less likely to display cues to exploitability. There was also a significant positive relationship between extraversion and displaying exploitability cues not related to actively seeking mating opportunities.

These findings provide the first behavioral evidence of individual differences in the display of exploitability cues by women in a mate attraction context. This evidence suggests that these are more than passive cues that a woman is vulnerable, but are actively displayed to signal sexual accessibility to potential mates. These findings expand on previous work that found that women who were short-term mating inclined were more likely to endorse mate attraction tactics that involve displaying exploitability cues (Goetz et al., in press). Furthermore, this is the first study to demonstrate that personality variables other than mating-inclination influence the display of exploitability cues. As a whole, the findings demonstrate that women who are more inclined toward casual sex, high on openness, and high on extraversion may capitalize on the relationship between sexual exploitability and sexual attractiveness to pursue their mating goals.

Displaying exploitability-related cues is one of many potential mate attraction strategies, and its efficacy and frequency should be compared with other strategies. These findings demonstrate that only a brief interaction is necessary for a woman to convey, and an observer to assess, cues to exploitability. Utilizing exploitability cues to signal accessibility may be a particularly effective mate attraction strategy because it is so readily communicated.

The current sample was limited to relatively young university women. The probability of displaying exploitability cues may vary based on a woman's age or relationship and sexual experience. Younger women may find this tactic to be more effective because youth is a cue to exploitability (Goetz et al., 2012). The success or failure of attracting mates by displaying exploitability cues may influence future probability of using them to signal sexual accessibility. Future studies would benefit from examining women's behaviors in a broader age range to capture any effects of age and experience.

The current study benefited from relying on a measurement of women's behavior in a mate attraction scenario; however, the participants were not actively interacting with a potential mate. Future work could expand upon this work by observing women engaged in flirtatious interactions with potential mates.

The current study and others on the relationship between sexual attractiveness and sexual exploitability have focused on a woman's perceived exploitability. It is unknown how a woman's current perceived exploitability relates to her past history of sexual exploitation or her future likelihood of being sexually exploited. In many situations, her perceived exploitability is an important construct in and of itself. Displaying cues to exploitability may allow a woman to actively attract mates without resulting in her being exploited. However, appearing exploitable may still result in reputation damage in the eyes of both males and other females from being perceived as sexually accessible even if a woman does not have a history of promiscuity (Leenaars, Dane, & Marini, 2008;

Vaillancourt & Sharma, 2011). Furthermore, the functional advertisement of exploitability cues could increase the likelihood that she would be targeted by men who would exploit her while she is attempting to signal her accessibility to other men she does desire to attract. Continued work in this domain should focus on exploring these costs and identifying when advertising cues to exploitability to signal accessibility increases a woman's risk of exploitation.

5. Conclusions

These data provide the first behavioral evidence that women inclined toward casual sex, high on openness, and high on extraversion capitalize upon the relationship between sexual exploitability and sexual attractiveness to further their mating goals. This study deepens our understanding of both perceived sexual exploitability and women's mate attraction strategies, and lays the ground work for future investigations into the likelihood and consequences of signaling accessibility using cues to exploitability.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.paid.2014.02.019>.

References

- Aluja, A., Garcia, O., & Garcia, L. F. (2003). Relationships among extraversion, openness to experiences, and sensation seeking. *Personality and Individual Differences*, 35, 671–680.
- Bleske-Rechek, A., & Buss, D. M. (2006). Sexual strategies pursued and mate attraction tactics deployed. *Personality and Individual Differences*, 40, 1299–1311.
- Boothroyd, L. G., Jones, B. C., Burt, D. M., DeBruine, L. M., & Perrett, D. I. (2008). Facial correlates of sociosexuality. *Evolution and Human Behavior*, 29, 211–218.
- Buss, D. M. (1988). The evolution of human intrasexual competition: Tactics of mate attraction. *Journal of Personality and Social Psychology*, 54, 616–628.
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral & Brain Sciences*, 12, 1–49.
- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, 100, 204–232.
- Campbell, A. (2002). *A mind of her own: The evolutionary psychology of women*. Oxford: Oxford University Press.
- Confer, J. C., Perilloux, C., & Buss, D. M. (2010). More than just a pretty face: Men's priority shifts toward bodily attractiveness in short-term mating contexts. *Evolution and Human Behavior*, 31, 348–353.
- Costa, P. T., Jr., Fagan, P. J., Piedmont, R. L., Ponticas, Y., & Wise, T. N. (1992). The five-factor model of personality and sexual functioning in outpatient men and women. *Psychiatric Medicine*, 10, 199–215.
- Currie, T. E., & Little, A. C. (2009). The relative importance of the face and body in judgments of human physical attractiveness. *Evolution and Human Behavior*, 30, 409–416.
- Dawkins, R., & Krebs, J. R. (1978). Animal signals: Information or manipulation. In *Behavioural ecology: An evolutionary approach* (pp. 282–309). Oxford: Blackwell Scientific Publications.
- Drea, C. M., & Wallen, K. (1999). Low-status monkeys “play dumb” when learning in mixed social groups. *Proceedings of the National Academy of Sciences*, 96, 12965–12969.
- Eysenck, H. J. (1976). *Sex and personality*. London: Open Books.
- Goetz, C. D., Easton, J. A., Lewis, D. M. G., & Buss, D. M. (2012). Sexual exploitability: Observable cues and their link to sexual attraction. *Evolution and Human Behavior*, 33, 417–426.
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B. Jr. (2003). A very brief measure of the Big Five personality domains. *Journal of Research in Personality*, 37, 504–528.
- Gove, W. R., Hughes, M., & Geerken, M. R. (1980). Playing dumb: A form of impression management with undesirable side effects. *Social Psychology Quarterly*, 43, 89–102.
- Greiling, H., & Buss, D. M. (2000). Women's sexual strategies: The hidden dimension of extra pair mating. *Personality and Individual Differences*, 28, 929–963.
- Holoien, D. S., & Fiske, S. T. (2012). Downplaying positive impressions: Compensation between warmth and competence in impression management. *Journal of Experimental Social Psychology*, 49, 33–41.
- Hoyle, R. H., Fejfar, M. C., & Miller, J. D. (2000). Personality and sexual risk taking: A quantitative review. *Journal of Personality*, 68, 1203–1231.
- Kenrick, D. T., Groth, G., Trost, M. R., & Sadalla, E. K. (1993). Integrating evolutionary and social exchange perspectives on relationships: Effect of gender, self-appraisal, and involvement level on mate selection criteria. *Journal of Personality and Social Psychology*, 64, 951–969.
- Kenrick, D. T., Sadalla, E. K., Groth, G., & Trost, M. R. (1990). Evolution, traits, and the stages of human courtship: Qualifying the parental investment model. *Journal of Personality*, 58, 97–117.
- Leenaars, L. S., Dane, A. V., & Marini, Z. A. (2008). Evolutionary perspective on indirect victimization in adolescence: The role of attractiveness, dating, and sexual behavior. *Aggressive Behavior*, 34, 404–415.
- Penke, L., & Asendorpf, J. B. (2008). Beyond global sociosexual orientations: A more differentiated look at sociosexuality and its effects on courtship and romantic relationships. *Journal of Personality and Social Psychology*, 95, 1113–1135.
- Schmitt, D. P., & Shackelford, T. K. (2008). Big five traits related to short-term mating: From personality to promiscuity across 46 nations. *Evolutionary Psychology*, 6, 246–282.
- Thornhill, R., & Gangestad, S. W. (2008). *The evolutionary biology of human female sexuality*. New York: Oxford University Press.
- Vaillancourt, T., & Sharma, A. (2011). Intolerance of sexy peers: Intrasexual competition among women. *Aggressive Behavior*, 37, 569–577.