

2015

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Davidson, Meghan; Gervais, Sarah; and Sherd, Lindsey W., "The Ripple Effects of Stranger Harassment on Objectification of Self and Others" (2015). *Educational Psychology Papers and Publications*. 189.

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The Ripple Effects of Stranger Harassment on Objectification of Self and Others

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Abstract

Despite the frequency and negative consequences of stranger harassment, only a scant number of studies have explicitly examined stranger harassment and its consequences through the lens of objectification theory. The current study introduced and tested a mediation model in which women's experiences of stranger harassment may lead to self-objectification, which in turn may lead to objectification of other people. To examine this model, undergraduate women ($N = 501$) completed measures of stranger harassment (including the verbal harassment and sexual pressure subscales of the Stranger Harassment Index), body surveillance, and objectification of other women and men. Consistent with hypotheses, significant positive correlations emerged among total stranger harassment, verbal harassment, sexual pressure, body surveillance, and other objectification of women. Other-objectification of men showed a similar pattern of results, with the exception of being unrelated to total stranger harassment and sexual pressure. Consistent with the proposed model, body surveillance was a significant mediator of the relation between total stranger harassment and other-objectification of both women and men, as well as the relation between verbal harassment and other-objectification of both women and men. Theoretical and practical implications, as well as future directions for research on stranger harassment, are discussed.

Keywords: stranger harassment, sexual harassment, objectification, body image, social comparison

Stranger harassment—experiencing uninvited sexual attention in public from strangers (Fairchild & Rudman, 2008)—represents a prototypic sexual objectification experience in which women are treated as though their bodies represent the totality of their personhood and exist solely for the use and pleasure of other people (Bartky, 1990). Characterized by both verbal (e.g., catcalls, sexual remarks) and nonverbal (e.g., leers, fondling) behaviors, nearly one third (31%) of college women report experiencing some form of stranger harassment every few days or more (Fairchild & Rudman, 2008), with similar percentages (29%) reported among noncollegiate women (Fairchild, 2010). The myriad negative objectification-related consequences stemming from stranger harassment includes body surveillance (i.e., persistent body monitoring), body shame, and safety concerns (Fairchild & Rudman, 2008).

Despite the prevalence and adverse effects of stranger harassment, most research that has examined the impact of sexual objectification experiences on women has not

explicitly focused on harassment perpetrated by strangers. That is, although previous studies have investigated the frequency with which women experience sexually objectifying events, most extant research has not unequivocally delineated the relation of the perpetrators to the targets (Kozee, Tylka, Augustus-Horvath, & Denchik, 2007; Moradi, Dirks, & Matteson, 2005; Swim, Hyers, Cohen, & Ferguson, 2001; Wesselmann & Kelly, 2010; cf. Fairchild, 2010; Fairchild & Rudman, 2008). Some existing research is suggestive. In their diary study, for example, Swim, Hyers, Cohen, and Ferguson (2001) qualitatively described objectification experiences perpetrated by different types of sources including friends and strangers. Similarly, the Interpersonal Sexual Objectification Scale (Kozee et al., 2007) contains items that may be more likely to be enacted by strangers (e.g., “How often have you been whistled at while walking down the street?”) and other items that may be more likely to be perpetrated by acquaintances such as colleagues or classmates (e.g., “How often have

you experienced sexual harassment [on the job, in school, etc.]?”). Yet, these published studies have not explicitly differentiated experiences perpetrated by distinctive sources, including strangers specifically. This significant gap in the research is concerning because stranger harassment appears to be more pervasive than sexual harassment perpetrated by nonstrangers. For example, MacMillan, Nierobisz, and Welsh (2000), utilizing data from a national sample of Canadian women who responded to the 1993 Violence Against Women Survey (Johnson & Sacco, 1995), found that whereas 51% reported experiencing nonstranger sexual harassment, a full 85% indicated experiencing stranger harassment. Further, objectification from strangers may be particularly problematic. As an example, objectification perpetrated by strangers contributes to more negative consequences for women compared to objectification enacted by friends (Fuller-Tyszkiewicz, Reynard, Skouteris, & McCabe, 2012). Stranger harassment that occurs in public from strangers also represents a particularly uncontrollable form of sexual objectification. Unless women avoided all public places or people unknown to them, it would be nearly impossible for women to completely eliminate stranger harassment from their everyday lives.

Although research regarding the negative mental health consequences of sexual objectification experiences (see Calogero, Tantleff-Dunn, & Thompson, 2011; Moradi & Huang, 2008, for reviews) as well as the causes and consequences of other-objectification is burgeoning (Bernard, Gervais, Allen, Campomizzi, & Klein, 2012; Gervais, Holland, & Dodd, 2013; Gervais, Vescio, & Allen, 2012a; Gervais, Vescio, Förster, Maass, & Suitner, 2012b; Heflick & Goldenberg, 2009; Loughnan et al., 2010; Rudman & Mescher, 2012; Vaes, Paladino, & Puvia, 2011), scant studies to date have investigated the relations among women's sexual objectification experiences and other-objectification. Using objectification theory (Fredrickson & Roberts, 1997) as the framework, our goal with the current study was to examine a mediation model linking stranger harassment with other objectification among college women, with self-objectification as manifested via body surveillance as the critical mechanism of this association. Specifically, we suggest that following experiences of stranger harassment, women may first adopt an objectifying view of self and then in turn perpetuate the cycle of objectification by adopting an objectifying view of others (including women and men).

Objectification Theory

Fredrickson and Roberts (1997) developed objectification theory to illuminate the mental health consequences for women who live in a culture with pervasive sexual objectification in which women are regarded as things rather than people in the media and interpersonal interactions. Objectification theory posits that when a woman experiences an external sexually objectifying event (i.e., her body, body parts, and/or sexual functions are singled out

from her person and treated as if they exist for other people's pleasure and use; Bartky, 1990), she then self-objectifies, internalizing the observer's perspective of her body (Fredrickson & Roberts, 1997). Self-objectification has several manifestations including women deeming their visible physical appearance features (e.g., body measurements) as paramount to their self-concept relative to their nonobservable physical competence features (e.g., strength; Noll & Fredrickson, 1998). Persistent body surveillance (McKinley & Hyde, 1996), defined by Fredrickson and Roberts (1997) as “habitual monitoring of the body's outward appearance” (p. 180), represents another indicator of self-objectification. This self-objectification provides the foundation for numerous negative short-term and long-term mental health consequences (see Calogero et al., 2011; Moradi & Huang, 2008, for reviews).

Stranger Harassment and Objectification

Stranger harassment remains an understudied (cf. Fairchild, 2010; Fairchild & Rudman, 2008) sexual objectification experience. According to Bowman (1993, p. 523), stranger harassment can be defined as “both verbal and nonverbal behavior, such as wolf-whistles, leers, winks, grabs, pinches, catcalls, and stranger remarks; the remarks are frequently sexual in nature and comment evaluatively on a woman's physical appearance or on her presence in public.” That is, stranger harassment is perpetrated by individuals whom the victim does not know personally and occurs in public areas, including (but not limited to) on the street, on public transportation, and/or in bars and shops (Fairchild & Rudman, 2008). From conducting over 500 interviews with both women and men regarding stranger harassment, Gardner (1995) began to parse the commonalities and differences between stranger harassment and sexual harassment. Notably, stranger harassment is most similar to unwanted sexual attention or advances as conceptualized by sexual harassment researchers, with the distinguishing difference being the perpetrator-to-victim relationship (Gardner, 1995). Additionally, stranger harassment is perpetrated by someone unknown to the victim in a public place, whereas sexual harassment most often assumes a nonstranger perpetrator in a work or school setting (MacMillan, Nierobisz, & Welsh, 2000; Wiener, Gervais, Allen, & Marquez, 2013).

Fairchild and Rudman (2008) further delineated stranger harassment in their development of the Stranger Harassment Index (SHI). More specifically, Fairchild and Rudman (2008) identified two subtypes of stranger harassment including verbal stranger harassment and sexual pressure. Verbal stranger harassment refers to such experiences as offensive sexual remarks, catcalls, and stares from strangers, whereas sexual pressure includes fondling or grabbing, unwanted touching, and coercion to cooperate sexually from a stranger. These aspects then compose the umbrella term of stranger harassment as conceptualized and empirically

validated by Fairchild and Rudman (2008). From this operationalization, sexual objectification is clearly a distinct component of stranger harassment in which women are seen and treated as objects— to be ogled, groped, and targeted for sexual advancement— rather than as people (Fairchild & Rudman, 2008; Petersen & Hyde, 2013).

Objectification theory posits that women adopt an objectifying view of themselves as a result of experiencing sexual objectification from others (Fredrickson & Roberts, 1997; see also Kozee et al., 2007; Moradi et al., 2005; Swim et al., 2001). This supposition is consistent with other general theories of self-knowledge including “the looking glass self” (Cooley, 1902) and reflected appraisal processes (Kinch, 1963), all suggesting that the views of others shape how people think of themselves. Thus, women experience stranger harassment and are treated as if their appearance or bodies represent them. Then, in an effort to see themselves consistently with how others see them, women objectify themselves, persistently monitoring how their body looks to others. By being their own surveyors (Berger, 1972), this self-objectification may “be viewed as women’s strategy for helping to determine how others will treat them” (Fredrickson & Roberts, 1997, p. 179). Therefore, although stranger harassment is uncontrollable (i.e., it would be impossible for women to avoid all public places where stranger harassment could occur), women can reassert some control by engaging in body surveillance to determine how they will be treated in subsequent interactions with others.

Several empirical findings are consistent with the notion that stranger harassment is associated with self-objectification manifested through body surveillance. To wit, Fairchild and Rudman (2008) found significant relations between stranger harassment and objectified body consciousness in a sample of college women. More specifically, women who reported more experiences of stranger harassment indicated more objectified body consciousness, as measured by combining the body surveillance and body shame subscales of the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996). In the current study, we extend this previous finding by specifically considering body surveillance through the mediation model posited by objectification theory. Relatedly, researchers have demonstrated positive associations between sexual harassment and body surveillance among samples of early adolescents (Lindberg, Grabe, & Hyde, 2007; Petersen & Hyde, 2013) as well as between sexual violence and body surveillance among college women (Davidson & Gervais, 2015). As in most published research, it remains unclear whether the sexual harassment and sexual violence under investigation were perpetrated by strangers; thus, the current study extends this work by specifically focusing on harassment enacted by strangers. Finally, previous research has demonstrated that less extreme compared to more extreme objectifying behaviors are related to more self-objectification and more body surveillance (Gervais & Davidson, 2013). The current study further examines this finding, as well

as the work of Fairchild and Rudman (2008), by parsing stranger harassment into verbal stranger harassment and sexual pressure in the mediation models examined.

Building on the basic proposition of objectification theory that sexual objectification experiences alter how women see themselves, we further suggest that these experiences fundamentally change how women think about other people through the process of self-objectification (Petersen & Hyde, 2013; Strelan & Hargreaves, 2005). Indeed, people tend to process information about situations and other people with reference to their own self-views (e.g., the self-reference effect, Rogers, Kuiper, & Kirker, 1977). When women adopt an objectifying lens toward themselves following stranger harassment, this lens may also influence their perceptions of other people. Chronic accessibility (Bruner, 1957; Fiske & Taylor, 1991) may be one mechanism linking self-and other-objectification. When people persistently think about their own appearance, appearance-related attributes may be persistently salient and thus applied to other women and men in addition to the self. Social comparison (Festinger, 1954) is another potential impetus for other-objectification. In order to assess how they “stack up,” women may objectify others, evaluating their own bodies with respect to other people’s bodies (Lindner, Tantleff-Dunn, & Jentsch, 2012). Compared to men, other women may be more diagnostic for social comparisons with respect to appearance for women, but research reveals that people initially compare themselves to any target available (Gilbert, Giesler, & Morris, 1995). As a result, social comparison could drive women to other-objectify both women and men. Finally, sexual impulses and mate selection may represent an additional drive underlying other-objectification. If people regard their own appearance as central to their self-concept, they may focus on the appearance of others as they view prospective relationship partners (Zurbriggen, Ramsey, & Jaworski, 2011). Although these potential explanations differ in important regards, they all suggest that self-objectification may be associated with women objectifying other women as well as men. Further, self-objectification may be a critical mechanism explaining the relation between stranger harassment and other-objectification of women and men, consistent with the novel mediation model examined in the present work.

These theoretical suppositions regarding associations between self- and other-objectification are supported by previous empirical research (Lindner et al., 2012; Strelan & Hargreaves, 2005). That is, objectification of the self has shown a positive association with objectifying others. In their seminal work, Strelan and Hargreaves (2005) provided the first empirical evidence linking self-objectification to other-objectification. More specifically, Strelan and Hargreaves (2005) demonstrated that higher self-objectification among women and men was associated with higher levels of other-objectification of both women and men. These associations, however, were stronger among women. As well, women objectified other women to a greater extent than they objectified other men, however, not

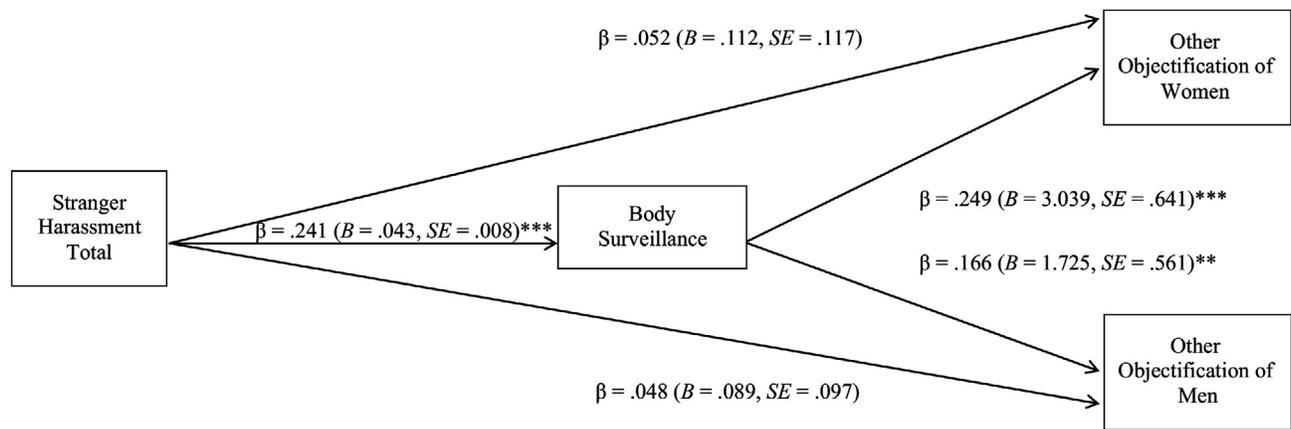


Figure 1. Empirical model of relations derived from Objectification Theory with Stranger Harassment Total Score. Values represent the unstandardized coefficients and standard errors. * $p < .05$; ** $p < .01$; *** $p < .001$

to a statistically significant degree (Strelan & Hargreaves, 2005). In a more recent study with a large sample of college women, Lindner, Tantleff-Dunn, and Jentsch (2012) demonstrated strong positive associations between (a) self-objectification, (b) body surveillance, and (c) body shame with other-objectification of women. Relatedly, a significant association emerged between self-objectification and other-objectification of one's romantic partner in a study among undergraduate men and women (Zurbriggen et al., 2011). Whereas broad research on other-objectification is being conducted (e.g., Gervais et al., 2012b; Gurung & Chrouser, 2007; Johnson & Gurung, 2011; Loughnan et al., 2010; Vaes et al., 2011), the literature reviewed here represents the scant research on the relations between self-objectification and other-objectification to date.

In sum, we suggest that stranger harassment, including verbal harassment and sexual pressure, is associated with other-objectification of both women and men and that self-objectification manifested through persistent body surveillance is a critical mechanism of this association. This innovative mediation model stems from theory and empirical findings of two related literatures that have developed rather independently. Individual studies have typically focused on predictors of self-objectification (e.g., Fairchild & Rudman, 2008; Kozee et al., 2007; Moradi et al., 2005) or predictors of other-objectification (e.g., Gervais et al., 2012b; Puvia & Vaes, 2013; Strelan & Hargreaves, 2005), but not both. Thus, our study provides the first known empirical examination of the hypothesized mediation model and provides a new theoretical lens through which to view the relations among women's sexual objectification experiences, self-objectification, and other-objectification.

Overview and Hypotheses

The current study tested a mediation model linking stranger harassment with other-objectification, identifying

self-objectification manifested as body surveillance as a mediator of this relation (see Figure 1). We first considered our model by estimating bivariate correlations between each of the variables. Next, we used path analysis to test the unique relations among the variables of interest as posited by our model and to test the mediating role of body surveillance in the relation between stranger harassment and other-objectification.

We further delineated our model in two ways. First, although we expected stranger harassment and body surveillance to predict other-objectification in general, we included other objectification of men and other-objectification of women as separate outcomes to provide direct comparisons with Strelan and Hargreaves (2005) who found stronger relations between self-objectification and other-objectification of women compared to self-objectification and other-objectification of men. Thus, we included the total stranger harassment scale in a first model in which stranger harassment was the proposed predictor variable (X), body surveillance was the proposed mediator (M), and other-objectification of women (Y1) and other objectification of men (Y2) were the outcome variables.

Second, given differences that have been found for less severe compared to more severe objectifying behaviors (Gervais & Davidson, 2013) and Fredrickson and Roberts' (1997) suggestion that more extreme sexual objectification experiences could bypass the self-objectification process leading directly to adverse consequences, it is possible that body surveillance would explain the relation between verbal harassment (a less extreme sexual objectification experience) and other-objectification but not the relation between sexual pressure (a more extreme sexual objectification experience) and other-objectification. Based on this possibility, as well as to further extend Fairchild and Rudman (2008) who only examined the total stranger harassment score, we also explored this same mediation model by parsing out verbal harassment and sexual pressure as separate

Table 1. Descriptive Statistics and Correlations for All Variables.

	M(SD)	Actual Range	1	2	3	4	5	6
1. Total SHI (<i>N</i> = 495)	7.41(6.16)	0 to 32	—					
2. Verbal harassment (<i>N</i> = 497)	6.41(4.89)	0 to 24	.964**	—				
3. Sexual pressure (<i>N</i> = 498)	1.05(1.96)	0 to 12	.746**	.542**	—			
4. Body surveillance (<i>N</i> = 501)	4.84(1.09)	1.14 to 7	.241**	.232**	.163**	—		
5.OOQ–W (<i>N</i> = 319)	2.82(13.31)	–25 to 25	.133*	.130*	.081	.286**	—	—
6.OOQ–M (<i>N</i> = 320)	–1.02(11.42)	–25 to 25	.082	.111*	–.039	.174**	.681**	—

Total SHI = the total Stranger Harassment Index; OOQ–W = other-objectification of women; OOQ–M = other-objectification of men; SD = standard deviation. * *p* < .05 ; ** *p* < .01

predictors. Specifically, we tested three hypotheses: (a) More stranger harassment (including total SHI, verbal harassment, and sexual pressure) will be associated with more body surveillance (Hypothesis 1a), other-objectification of women (Hypothesis 1b), and other-objectification of men (Hypothesis 1c); (b) more body surveillance will be associated with more other-objectification of both women (Hypothesis 2a) and men (Hypothesis 2b); and (c) body surveillance will mediate the relations between stranger harassment (including total SHI, verbal harassment, and sexual pressure) and other-objectification of both women (Hypothesis 3a) and men (Hypothesis 3b).

Method

Participants

Women undergraduate students from a large, U.S. Mid-western university served as the participants for the current study. Of the 566 women who participated, 501 remained in the sample after excluding invalid data and 495 were used in the following analyses. Age of the participants ranged from 17 to 38 years (*M* = 19.89, standard deviation [*SD*] = 2.09). With respect to race/ethnicity, most participants described themselves as White (88%; *n* = 444), whereas 4% (*n* = 21) were multiracial or biracial, 3% (*n* = 16) were Asian American, 2% (*n* = 10) were Latina, 2% (*n* = 8) were African American, 0.2% (*n* = 1) were Native American, and .2% (*n* = 1) were designated “Other.”

Procedures and Materials

Approval from the Institutional Review Board was obtained for the current investigation prior to study recruitment. To more broadly sample, both psychology courses and sorority chapters were used as recruitment locations for study participants. More specifically, the study was posted to the psychology department participant pool website, and the first author met with sorority chapter presidents who then shared the study information with their members. Following the provision of their informed consent, participants completed the measures online via Survey Monkey with order counterbalanced. Validity items

(e.g., “Please answer ‘disagree’ for this item”) were interspersed throughout the survey, with one validity item appearing on each online page of the survey. Data were determined invalid and excluded from analyses if participants responded incorrectly to two or more of these items. In exchange for participation, course credit or raffle entry for a \$20 gift certificate was offered.

Stranger harassment. The SHI (Fairchild & Rudman, 2008) assesses experiences of harassment from strangers. Participants first indicate whether they have ever experienced nine different types of behaviors from strangers using a yes/no response format (coded as 1 or 0). Participants then respond to the same nine behaviors with respect to frequency of occurrence, ranging from 1 (once) through 2 (once a month), 3 (2–4 times per month), 4 (every few days), and 5 (every day). Scores on the SHI are then computed by multiplying the dichotomous responses to the nine types of stranger harassment by their associated frequency of occurrence and then summing these totals. The SHI comprises two subscales: verbal stranger harassment (5 items; e.g., “Have you ever experienced crude and offensive sexual remarks, jokes, or actions from a stranger?”) and sexual pressure (4 items; e.g., “Have you ever experienced direct or forceful fondling or grabbing from a stranger?”). Scores on the total SHI have demonstrated acceptable internal consistency reliability ($\alpha = .85$) among college women as have scores on the verbal stranger harassment ($\alpha = .85$) and sexual pressure ($\alpha = .75$) subscales (Fairchild & Rudman, 2008). Mean verbal harassment ($\alpha = .78$), mean sexual pressure ($\alpha = .76$), and mean total SHI ($\alpha = .82$) scores were calculated (see Table 1). Item-level data were missing for four participants on the verbal harassment subscale, for three participants on the sexual pressure subscale, and for six participants on the total SHI. Because missing items on these scales bias the sum scores, verbal harassment, sexual pressure, and total SHI scores for participants who failed to respond to one or more items were coded as missing.

Self-objectification. The OBCS (McKinley & Hyde, 1996) assesses body surveillance, body shame, and control beliefs on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree), with a not applicable option. The 8-item body surveillance subscale was the focus of the current investigation

because it assesses self-objectification manifested as persistent body monitoring (e.g., "I am more concerned with what my body can do than how it looks" – reverse coded). Moreover, we used the body surveillance subscale of the OBCS instead of using the Self-Objectification Questionnaire (SOQ; Noll & Fredrickson, 1998) to reduce the possibility of response bias on the Other-Objectification Questionnaire (OOQ; Strelan & Hargreaves, 2005). Because the SOQ and the OOQ employ the exact same format – with participants ranking the relative importance of physical appearance and physical competence attributes to the self-concept three times (i.e., for themselves, for women, for men; Strelan & Hargreaves, 2005), it is possible that consistency motives and/or confusion regarding the instructions could contribute to the strong relations between self- and other-objectification. To rule out this possibility, we utilized body surveillance as a manifestation of self-objectification in the present study. Acceptable internal consistency reliability has been demonstrated for scores on the body surveillance subscale ($\alpha = .76$; McKinley, 1998; McKinley & Hyde, 1996) among college women as has convergent validity with body esteem (Moradi & Huang, 2008). Not applicable responses were coded as missing data, and negatively worded applicable items were reverse scored (McKinley & Hyde, 1996). Mean body surveillance ($\alpha = .85$) scores were calculated (see Table 1). No missing data were observed on this variable.

Objectification of others. The OOQ (Strelan & Hargreaves, 2005), an adaptation of the SOQ (Noll & Fredrickson, 1998), measures the degree to which participants rank five observable aspects of others' physical appearance (i.e., weight, physical attractiveness, muscular definition, measurements, and sex appeal) and five nonobservable aspects of others' physical competence (i.e., strength, energy, health, fitness, and coordination). Participants are instructed to separately rank these 10 body attributes with respect to other women (OOQ-W) and to other men (OOQ-M), using a 1 (least important) to 10 (most important) rank-order scale. However, similar to the SOQ in which participants often rate each attribute rather than rank each of them (Calogero, 2011; Calogero, Davis, & Thompson, 2005), participants can misinterpret the ranking instructions for the OOQ, yielding invalid scores (Lindner et al., 2012). Following Strelan and Hargreaves (2005), and based upon Noll and Fredrickson (1998), participants who did not utilize a ranking scale (e.g., assigned the same ranking to two items) were coded as missing data for the OOQ. More specifically for the current sample, rank-ordering was not correctly completed by 182 participants on the OOQ-W and 181 participants on the OOQ-M (similar to Lindner et al., 2012), and these were coded as missing data. As is the procedure for scoring the SOQ, rankings of the nonobservable, competence items and observable, appearance items were separately summed, and other-objectification scores were calculated by subtracting competence scores from appearance scores. This procedure was done separately for

rankings regarding other women and rankings regarding other men to provide scores for OOQ-W and OOQ-M, respectively. Scores can range from -25 to 25, with higher scores indicating more other objectification (see Table 1). Because the measure utilizes a rank-ordering of items, it is not feasible to examine internal consistency reliability via Cronbach's α . Regarding the SOQ that utilizes the same ranking and scoring procedures, Hill and Fischer (2008) indicated that the correlation between the appearance and the competence attributes serves as a suitable indicator of item interrelation. Moreover, they note that the two groups of items should be negatively correlated because participants who place primary significance on appearance attributes should value competence less. Utilizing this procedure to evaluate the reliability of the OOQ in their research, Swami et al. (2010) determined the correlation between the sum of appearance-based items and the competence-based items to be $-.89$. For the current investigation, appearance scores were negatively correlated with competence score for women (OOQ-W, $r = -.98$, $p < .001$) and for men (OOQ-M, $r = -.97$, $p < .001$).

Results

Prior to testing hypotheses, SHI total, verbal stranger harassment, sexual pressure, and body surveillance scores from participants who correctly and incorrectly completed the OOQ-W and OOQ-M were compared within dependent samples *t*-tests. No significant differences emerged between participants who correctly versus incorrectly completed the OOQ-W ($ts = -1.02$ to 1.08 , $ps = .28$ to $.82$) or the OOQ-M ($ts = -.53$ to $.99$, $ps = .33$ to $.97$). Additionally, the same pattern of significant correlations ($rs = .17$ to $.60$, $ps = .00$ to $.03$) emerged for participants who correctly and incorrectly completed the OOQ-W or the OOQ-M, with one exception. For participants who incorrectly completed the OOQ-W ($r = .09$, $p = .19$) and the OOQ-M ($r = .12$, $p = .09$), the relations between body surveillance and sexual pressure were not significant, whereas these relations were significant for participants who correctly completed the OOQ-W ($r = .21$, $p < .001$) and the OOQ-M ($r = .19$, $p = .001$). This slight difference is likely due to lack of power, given the small magnitude of the correlation between body surveillance and sexual pressure in the overall sample.

Correlations

As can be seen in Table 1 and consistent with Hypothesis 1, stranger harassment was positively correlated with body surveillance (Hypothesis 1a) and other-objectification of women (Hypothesis 1b). However, inconsistent with this hypothesis, no significant association emerged between stranger harassment and other-objectification of men (Hypothesis 1c). Additionally, when the total score of stranger harassment was separated into its respective subscales of verbal stranger harassment and sexual pressure,

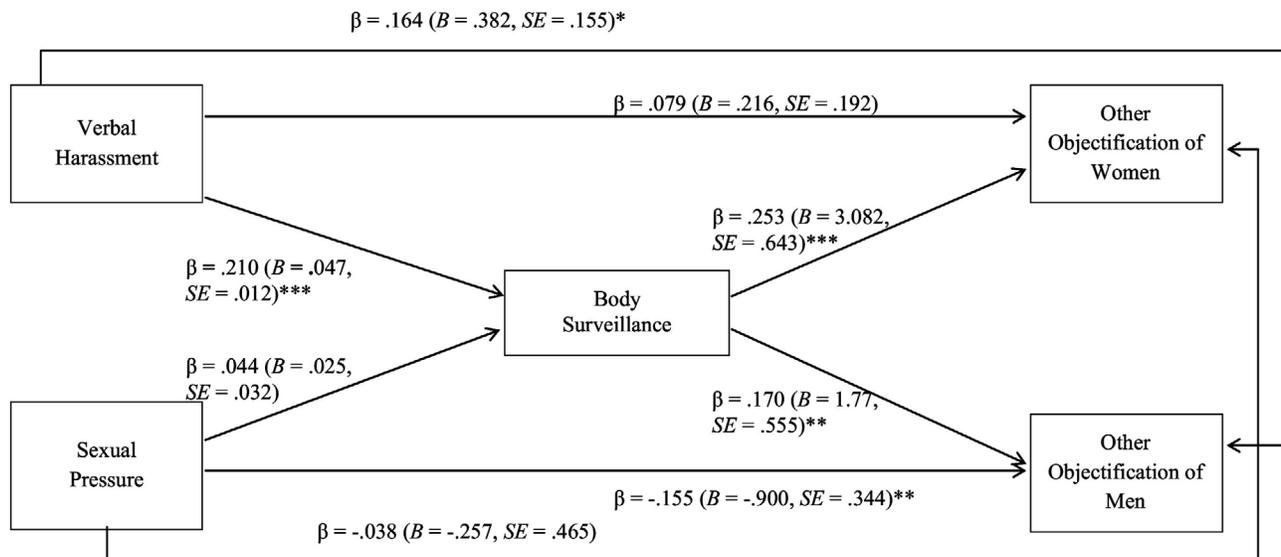


Figure 2. Empirical model of relations derived from Objectification Theory with Verbal Harassment and Sexual Pressure Subscales. Values represent the unstandardized coefficients and standard errors. * $p < .05$. ** $p < .01$. *** $p < .001$.

significant associations emerged between verbal harassment and body surveillance (Hypothesis 1a), other-objectification of women (Hypothesis 1b), and other-objectification of men (1c), whereas sexual pressure was only significantly associated with body surveillance (Hypothesis 1a). Bivariate correlations also revealed that more body surveillance was associated with more other-objectification of women (Hypothesis 2a) and other objectification of men (Hypothesis 2b), consistent with Hypothesis 2. Additionally, other-objectification of women and other-objectification of men were positively correlated with one another as were verbal stranger harassment and sexual pressure.

Path Analysis and Mediation

We used Mplus Version 6.11 (Muthen & Muthen, 1998–2010), utilizing full information maximum likelihood (FIML), to conduct observed variable path analyses testing the hypotheses regarding direct and indirect (i.e., mediated) relations. Figure 1 portrays the path model tested first in which stranger harassment was the predictor (X), body surveillance was the mediator (M), and other-objectification of women and other-objectification of men (Y1 and Y2) were the criterion variables. Further, a second path model was tested in which, instead of overall stranger harassment, verbal harassment and sexual pressure were included as separate predictors (X1 and X2), body surveillance was the mediator (M), and other-objectification of women and other-objectification of men (Y1 and Y2) were the criterion variables (see Figure 2). Importantly, fully saturated models, such as those tested in the present study, yield perfect fit by definition because all possible paths are estimated;

thus, the magnitude of path coefficients and variance accounted for in criterion variables, rather than fit index values, are evaluated as indicators of model quality.

Using FIML within Mplus, missing data were handled in two ways depending on which variables the missingness occurred. First, participants with missing data on the predictor variables (i.e., stranger harassment–X, verbal harassment–X1, sexual pressure–X2) were excluded completely from the path analyses because FIML in Mplus does not allow for missingness on the predictor variables. Second, participants with missing data on criterion variables (i.e., other-objectification of women–Y1 and other objectification of men–Y2) were excluded from those analyses specifically related to the criterion variables; however, these participants were included in the path analyses to estimate those relations for which data were present (i.e., predictor and mediator variables). Schlomer, Bauman, and Card (2010) describe FIML as a preferred method for handling missing data because it retains the sample size and yields appropriate standard errors and confidence intervals. Rather than imputing missing values, as is the case with other methods of handling missing data, FIML estimates parameters based on the available complete data (Schlomer, Bauman, & Card, 2010). For the current sample, six participants were excluded completely from the path analyses because they had missing data on the predictor variables. As well, 182 participants with missing data on the OOQ–W and 181 participants with missing data on the OOQ–M were not included in the estimated paths regarding those criterion variables specifically – thus leaving 319 participants in these OOQ–W and 320 in these OOQ–M analyses.

Table 2. Bootstrap Analysis of Magnitude and Significance of Indirect Effects.

Predictor	Mediator	Criterion	Standardized		Unstandardized		95% Confidence Interval	
			β	SE	<i>B</i>	SE	Lower	Upper
3a. SHI	Body Surv	OOQ–W	.060	.017***	.130	.037**	.057	.204
3b. SHI	Body Surv	OOQ–M	.040	.015**	.074	.028**	.019	.129
3a. Verbal	Body Surv	OOQ–W	.053	.018**	.144	.048**	.049	.239
3b. Sexual	Body Surv	OOQ–W	.011	.015	.076	.101 -	.121	.273
3a. Verbal	Body Surv	OOQ–M	.036	.015*	.083	.034*	.016	.150
3b. Sexual	Body Surv	OOQ–M	.008	.010	.044	.060	-.074	.162

SHI = total Stranger Harassment Index; Verbal = verbal harassment; Sexual = sexual pressure; Body Surv = body surveillance; OOQ–W = other objectification of women; OOQ–M = other-objectification of men. * $p < .05$. ** $p < .01$. *** $p < .001$.

Direct effects, specifically unstandardized and standardized parameter estimates and errors, are shown in Figures 1 and 2, respectively, with a summary of the indirect effects appearing in Table 2. Following recent recommendations for testing mediation (Mallinckrodt, Abraham, Wei, & Russell, 2006), the significance of indirect effects were examined using 10,000 bootstrap samples. The bootstrapped unstandardized indirect path coefficients, standard errors, and 95% bias-corrected confidence intervals are reported (Williams & MacKinnon, 2008). The indirect effects are considered significant and indicate full mediation if the 95% confidence interval does not contain zero (Mallinckrodt et al., 2006).

Unique direct relations. In the first model examining total stranger harassment as the predictor (see Figure 1), a positive direct relation emerged between stranger harassment with body surveillance (Hypothesis 1a). As predicted, positive direct relations emerged between body surveillance with (a) other-objectification of women (Hypothesis 2a) and (b) other-objectification of men (Hypothesis 2b). The proportions of variance explained in the model were $R^2 = .058$ for body surveillance, $R^2 = .071$ for other-objectification of women, and $R^2 = .034$ for other-objectification of men. In the second model examining verbal harassment and sexual pressure as separate predictors (see Figure 2), positive direct relations emerged between verbal harassment and both body surveillance and other-objectification of men. Additionally, positive direct relations emerged between sexual pressure and other-objectification of men. Similar to the first model, positive direct relations emerged between body surveillance with (a) other-objectification of women and (b) other-objectification of men, also consistent with Hypotheses 2a and 2b. The proportions of variance explained in the model were $R^2 = .056$ for body surveillance, $R^2 = .075$ for other-objectification of women, and $R^2 = .057$ for other objectification of men.

Mediation. Regarding the examination of total stranger harassment as the single predictor variable, the indirect effect of body surveillance emerged as significant for both criterion variables (see Table 2), consistent with Hypothesis 3. More specifically, an indirect effect emerged between

stranger harassment with other-objectification of women through body surveillance (Hypothesis 3a). Similarly, an indirect effect emerged between stranger harassment with other-objectification of men through body surveillance (Hypothesis 3b).

When stranger harassment was parceled into two predictors (verbal harassment and sexual pressure), the indirect effect of body surveillance emerged for both criterion variables (see Table 2), similar to those that were demonstrated in the first model. First, an indirect effect emerged between verbal harassment with other-objectification of women through body surveillance. Second, an indirect effect emerged between verbal harassment with other-objectification of men through body surveillance. No significant indirect effects were observed between sexual pressure and other-objectification of women or other-objectification of men through body surveillance.

Discussion

The purpose of the current study was to examine an innovative model with women's experiences of stranger harassment predicting objectification of other people with self-objectification as the mechanism. Consistent with Hypotheses 1 and 2, significant positive correlations emerged between each of the key constructs including stranger harassment, body surveillance, and other-objectification of women. With respect to other-objectification of men, a more nuanced pattern of results emerged. Overall stranger harassment was unrelated to other-objectification of men. When the components of stranger harassment were considered separately, however, verbal harassment predicted other objectification of men whereas sexual pressure did not. Regarding parsing stranger harassment into its components in relation to other-objectification of women, a similar pattern emerged, demonstrating significant associations with verbal harassment but not with sexual pressure.

With respect to testing the mediation model of the association between stranger harassment and other-objectification, the indirect effect of self-objectification manifested

because body surveillance emerged as a significant mediator of the relation between stranger harassment and both other objectification of women and other-objectification of men. These results are consistent with Hypothesis 3. As well, when stranger harassment was examined in terms of its component parts, body surveillance emerged as a significant mediator of the relation between verbal harassment and both other objectification of women and other-objectification of men.

The present findings contribute to the extant objectification literature in several theoretically novel ways. First, although previous researchers have found stranger harassment to be an extremely common form of sexual objectification that women experience in their everyday lives (Fairchild, 2010; Fairchild & Rudman, 2008; MacMillan et al., 2000), with stranger harassment representing one of the most prototypical objectification experiences posited by objectification theorists (Bartky, 1990), only a handful of studies have examined stranger harassment explicitly and its consequences through the objectification framework (Fairchild, 2010; Fairchild & Rudman, 2008). Consistent with both previous research and objectification theory, the current study's findings revealed that more stranger harassment predicted more self-objectification as evidenced by more body surveillance (Fairchild & Rudman, 2008). Extending and elaborating the objectification model, the present research revealed the ripple effects of stranger harassment, with this type of sexual objectification contributing to objectified views not only of the self but also of other people. Consistent with our suggestion that sexual objectification experiences fundamentally change the lens through which women see their worlds, in addition to self-objectification, stranger harassment predicted women's heightened other objectification of both women and men.

Second, whereas the scant previous research has focused on stranger harassment in general, we also parsed out this construct, examining the unique effects of verbal harassment and sexual pressure. Our results demonstrated that verbal harassment predicted women's other-objectification of both women and men, whereas sexual pressure predicted other objectification of men in the mediation model but neither other-objectification of men nor other-objectification of women at a bivariate level. The null effects regarding sexual pressure and other-objectification of women should be interpreted with caution, given that women reported low levels of sexual pressure on average as indicated by the restricted range of scores as well as by low means and SDs (see Table 1). Although these results clearly demonstrate that verbal harassment is a more common form of stranger harassment than sexual pressure among college women, the nonsignificant effect regarding sexual pressure and other objectification of women could partially represent a measurement artifact (i.e., floor effect). Further, although the lack of body surveillance mediating the link between sexual pressure and other-objectification could be due to measurement issues, this finding is consistent with the notion posited by Fredrickson and

Roberts (1997) that more extreme forms of sexual objectification may bypass self-objectification processes altogether, directly causing negative effects (see also Gervais & Davidson, 2013).

Finally, regarding the mechanism of the association between stranger harassment and other-objectification, with the present research we integrated two literatures that have developed relatively separately in parallel. That is, the present research is consistent with, but importantly incorporates and extends the research on predictors of self-objectification in general (Moradi & Huang, 2008) and relations between interpersonal sexual objectification experiences and self-objectification specifically (Fairchild & Rudman, 2008; Kozee et al., 2007; Moradi et al., 2005; Swim et al., 2001). Likewise, the current work elaborates research on predictors of other objectification in general (Gervais et al., 2012b; Loughnan et al., 2010; Vaes et al., 2011) and relations between self-objectification and other-objectification, specifically (Strelan & Hargreaves, 2005). The present study contributes to these existing separate literatures, but also integrates them in an innovative way to test a new mediation model. Specifically, our study revealed that sexual objectification experiences manifested as stranger harassment contributed to other-objectification through a self-objectification mechanism. As an indicator of self-objectification, body surveillance emerged as a significant mediator linking total stranger harassment to both other-objectification of women and men as well as linking the component of verbal harassment to other-objectification of both women and men. Although Fredrickson and Roberts (1997) did not originally posit other-objectification as a specific outcome of objectification experiences and resulting self-objectification because they were focused on mental health consequences, the present research extends this theory to consider how objectification experiences and related self-objectification changes social perception as well. Indeed, research on chronic accessibility (Bruner, 1957; Fiske & Taylor, 1991), social comparison (Lindner et al., 2012), and mating motives (Zurbriggen et al., 2011) provide complementary rationales for why self-objectification may be linked to objectified views of other people. Given that other potential variables could help explain more of the variance in the models examined in the present study, future research should further determine the social cognitive and motivational processes that underlie the links between stranger harassment and self-objectification as well as self-objectification and other-objectification.

Practice Implications

The relations revealed in the present study may also have important practice and real-world implications. Understanding how stranger harassment is associated with body surveillance and other-objectification can inform interventions that practitioners may employ with clients in the areas of violence and body image. For example, if a client presents with body image issues, practitioners may

want to explore experiences with sexual objectification, specifically stranger harassment. Similarly, if a client seeks therapy to address issues related to interpersonal violence (e.g., stranger harassment, sexual harassment, intimate partner violence, sexual violence), practitioners should explore concomitant body image issues. Further, practitioners may also want to consider women's interpersonal relations with others. Because stranger harassment experiences are associated with other-objectification, clients who have such experiences and related self-objectification may feel less connected with others (Bastian & Haslam, 2010). That is, as women focus primarily on the superficial appearance attributes of themselves and other people, their ability to develop meaningful relationships may be hindered. Indeed, recent research shows that self-objectification is associated with less hope in social and romantic relationships (Cole, Davidson, & Gervais, 2013). Understanding the relations between these factors may provide clinicians with greater opportunities to intervene when a client presents with concerns related to these objectifying experiences and self- and other-objectification.

Limitations and Future Directions

Despite the important findings of our study, it is not without limitations. The number of participants who incorrectly responded to the OOQ-W and the OOQ-M (i.e., failing to use a rank-order) presents a limitation to the study. The rating of each attribute rather than assigning a rank is a similar problem found in research using the SOQ (Calogero, 2011; Calogero et al., 2005) as well as the few studies using the OOQ (Lindner et al., 2012). Participants who misinterpret the ranking instructions on the SOQ and/or OOQ are typically coded as having missing data for this scale and excluded from analyses involving this scale or excluded from analyses altogether (Daubemier, 2005; Grippo & Hill, 2008; Langdon & Petracca, 2010; Lindner et al., 2012; Myers & Crowther, 2007; Nowatzki & Morry, 2009; Sanchez & Broccoli, 2008). Following Strelan and Hargreaves (2005), and based upon the work of Noll and Fredrickson (1998), we coded participants who incorrectly completed the OOQ as missing and excluded their responses for analyses including the OOQ-W or OOQ-M but retained their responses for all other analyses. These missing data then present challenges to the research. Although this issue is typical among research utilizing the SOQ (Calogero, 2011), and will likely persist with use of the OOQ, the extent of the problematic data and how it was managed in respective studies is most often not addressed in the published literature. We have attempted to retain the data and sample size in the current study using utilizing FIML as well as to present these issues in a transparent way.

Some additional limitations are worth noting. Given the use of self-report measures in the study, the truthfulness of participants' responses is somewhat uncertain despite the anonymity provided by the online survey. Additionally,

although we tested a meditational model derived from objectification theory, the data were cross-sectional; thereby any causal implications of this work must be interpreted with caution. Future research utilizing experimental or longitudinal designs could examine causality directly. As well, the existing measure of other-objectification used in our study (OOQ; Strelan & Hargreaves, 2005) poses some limitations, because it does not measure how frequently or the degree to which people engage in objectifying behaviors toward others. Although the OOQ is the most common self-report measure of other-objectification, future research could employ other measures that assess the degree to which people persistently focus on other people's appearance (Lindner et al., 2012) or the frequency with which people perpetrate objectifying behaviors toward others (Gervais, DiLillo, & McChargue, 2013). Finally, the current sample was composed of college women who were primarily young and White, and thus, it remains unclear whether the same relations would emerge among stranger harassment, self-objectification, and other objectification with noncollegiate women as well as women representing broader racial, age, and educational diversity. Future research should examine whether these same relations emerge for more diverse samples of women as well as begin to explore these relations among samples of men (Davidson, Gervais, Canivez, & Cole, 2013).

We also focused our investigation specifically on stranger harassment, so it remains unclear whether the same mediation model would hold for other objectification experiences (e.g., objectification enacted by romantic partners, friends, or coworkers). Although our specific focus on stranger harassment could be considered a limitation, we believe it is an important first step toward understanding the potentially similar, but also different consequences of objectification experiences from various sources in different contexts. Using sexual objectification as an overarching construct may reduce its usefulness and impede opportunities that could be gained by more fully considering the related subconstructs that compose it. For example, trying on a swimsuit in a dressing room in front of mirror (Fredrickson, Roberts, Noll, Quinn & Twenge, 1998), receiving a catcall from a stranger on the street (Fairchild & Rudman, 2008), and overhearing "fat talk" from a friend (Gapinski, Brownell, & LaFrance, 2003) all represent objectification experiences, but also differ with respect to source (e.g., self, stranger, friend), context (e.g., private, public), and valence (positive, negative). Taken together with existing research suggesting that different types of objectification experiences can have distinct consequences (Fuller-Tyskiewicz et al., 2012), the present work suggests that sexual objectification experiences as an umbrella concept should be further delineated in future research. Regarding stranger harassment specifically, the current study demonstrated differential mediation and outcomes of verbal harassment compared to sexual pressure. Although null effects should be interpreted with caution, sexual pressure was associated

directly with women's other-objectification of men, but not women, whereas verbal harassment was associated directly with both, suggesting that different degrees of objectification may produce different consequences.

The current investigation also paves the way for future research. For example, future studies may investigate whether other-objectification following from stranger harassment manifests in observable behaviors perpetrated by women. The present research suggests that stranger harassment, particularly verbal harassment, predicts objectified views of others – that is, regarding women's and men's appearance attributes as more important than their nonappearance attributes. Yet, it remains unclear whether these objectifying perspectives result in actual objectifying behaviors toward others as well. It is possible, for example, that when women experience stranger harassment and adopt an objectifying lens toward themselves and others, they also engage in more interpersonal objectification such as exhibiting objectifying gazes or making appearance commentary during social interactions. The objectifying experiences that women perpetrate as a result of their own experiences with sexual objectification may trigger subsequent self- and other-objectification in others, contributing to the vicious cycle of objectification. Relatedly, future work could examine whether women have difficulty in relationships because they are viewing others in an objectified and dehumanized way due to self-objectification.

Our study also begs for future research to further examine the relations between self- and other-objectification. Although recent research reveals that women are objectified by others including being implicitly associated with objects (Rudman & Mescher, 2012) and reduced to their sexual body parts (Gervais et al., 2012b) to a greater degree than men, the psychological factors that contribute to objectification in the first place have received considerably less attention (cf. Gervais et al., 2012b; Gruenfeld, Inesi, Magee, & Galinsky, 2008). The present research suggests that sexual objectification experiences and/or self-objectification may be important predictors of other-objectification. Future research could experimentally introduce sexual objectification (e.g., experiencing the objectifying gaze from another person; Gervais, Vescio, & Allen, 2011) or self-objectification (e.g., donning a swimsuit in front of mirror; Fredrickson et al., 1998), and measure the degree to which people subsequently objectify others (e.g., an experimental confederate) during their interactions. Additional research should also provide comparisons with stranger harassment and other objectification experiences that differ in terms of valence such as appearance compliments (Calogero, Herbozo, & Thompson, 2009; Herbozo & Thompson, 2006). It is possible that positively valenced objectification experiences are more common than negative experiences and thereby exert an even stronger effect on recipients. Finally, directly comparing sexual objectification experiences from strangers and nonstrangers would illuminate potential differences in the outcomes associated with objectification (Fuller-Tyszkiewicz et al., 2012).

Conclusion

In the current study, we utilized objectification theory to integrate research on relations between sexual objectification experiences and self-objectification with the research on associations between self-objectification and other-objectification to posit a novel mediational model regarding the link between stranger harassment and women's other-objectification of women and men. Our findings demonstrated significant relations between stranger harassment, particularly verbal harassment, and women's other-objectification of both women and men, with body surveillance as an indicator of self-objectification serving as a critical mechanism explaining these relations. Our work illuminates the potential ripple effects of stranger harassment: Stranger harassment might not only result in immediate negative consequences with regard to women's self-views but also may manifest in additional consequences downstream as women both self-objectify and objectify other people.

The authors have no potential conflicts of interest with respect to the research, authorship, or publication of this article. They received no financial support for the research, authorship, or publication.

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