



Evidence for an Association between Men’s Spontaneous Objectifying Gazing Behavior and their Endorsement of Objectifying Attitudes toward Women

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Abstract

Despite growing scientific interest in the sexually objectifying male gaze, the relation between men’s gazing behavior and their sexually objectifying attitudes has not yet been examined. The present study addressed this gap in the literature. Sixty-one heterosexual Israeli men viewed photographs of female targets while their spontaneous eye movements were monitored to detect the amount of time they spent looking at the target’s sexual body parts versus face. They also completed a self-report measure of Men’s Objectification of Women. Consistent with feminist theorizing about the objectifying gaze, we found moderate associations between men’s gaze behavior and endorsement of sexually objectifying attitudes. These findings establish the construct validity of the measure of the *objectifying gaze* as the time spent staring at women’s bodies versus faces, which has been commonly used in previous research based on its face validity—yet without empirically testing whether it measures the theoretical construct of interest. Our findings contribute to the literature about the relations between attitudes and behaviors by shedding light on the association between explicit, self-reported versus more subtle, behavioral manifestations of men’s sexual objectification of women. Practically, they suggest that interventions to reduce sexual objectification should target both explicit attitudes and gaze behavior.

Keywords Sexual objectification · Male gaze · Objectifying gaze · Eye tracking · Explicit measures · Implicit measures

Sexual objectification is the perception of the human body merely as an object of sexual use. The targets of sexual objectification are represented and judged by the sexual parts or functions of their body, while their subjectivity is ignored (Bartky 1990; Langton 2009). That the primary target of sexual objectification in Western culture is the female body conveys, according to feminist theorizing, a clear message that women’s social value is determined by their appearance rather

than competence and that their wishes and desires are secondary to those of men (Jeffreys 2005; Wolf 1990). Women’s sexual objectification is highly prevalent, occurring both in the visual media (e.g., sexualizing advertisements) and in actual interpersonal and social interactions (e.g., cat calls) (Fredrickson and Roberts 1997). A major means through which it is enacted is the objectifying male gaze, namely, the visual inspection of women’s bodies or sexual body parts (Kaschak 1992).

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Consequences of the Objectifying Male Gaze

The *objectifying gaze* is a subtle yet pervasive sexually objectifying behavior in interpersonal encounters, known in the popular language as “ogle” and “leer” (Henley 1977). Empirical research has demonstrated that it has deleterious consequences for women recipients. In particular, exposure to an objectifying male gaze (e.g., being “checked out” by a trained male experimenter) impaired women’s cognitive

performance (Gay and Castano 2010; Gervais et al. 2011) and led them to experience heightened body shame and social physique anxiety (Calogero 2004). Another study found that when women were asked to introduce themselves to a male partner who looked at their body (as they were videotaped from the neck down), they “narrowed their presence” and spoke less as compared to women who introduced themselves to a male partner who looked at their faces (as they were videotaped from the neck up), or to women who introduced themselves to a female partner (regardless of whether she looked at their bodies or faces) (Saguy et al. 2010, p. 181). Men did not exhibit such narrowed presence when their bodies were videotaped, regardless of whether they engaged in cross- or same-gender interactions.

Other research has focused on the gazers, revealing that men’s self-reported gazing behavior (i.e., the frequency with which they report engaging in body evaluation) predicted the perpetration of sexual assaultive behaviors (Gervais et al. 2017; see also Gervais et al. 2014). Additional studies experimentally led participants to adopt the objectifying male gaze by exposing them to highly sexualized targets (e.g., a picture of a woman wearing revealing clothes), whose sexual body parts (e.g., breast) attract greater visual attention as compared to those of a non-sexualized target (Smith et al. 2018). Paying attention to women’s bodies comes at the expense of their faces, leading to interference with interpersonal communication (Hall et al. 2005; Knapp et al. 2013), as well as with processes of person perception (Berry 1991) and impression formation (Brewer 1988; Ekman 1993). This interference may explain the findings that objectified targets are attributed less moral entitlement and “mind” (i.e., experience of mental states such as perceptions, emotions, thoughts, and intentions) (Loughnan et al. 2010) and are perceived as less competent, warm, and moral (Heflick et al. 2011), as well as less suitable for leadership (Smith et al. 2018).

The Objectifying Gaze and Objectifying Attitudes

The growing understanding of the adverse consequences of the objectifying male gaze has led to increased scientific interest in directly observing and measuring men’s gazing toward women—which has become possible due to the development of eye tracking technologies. An important step in this direction was done by Gervais et al. (2013), who found that when participants (both men and women) were asked to evaluate the looks of female targets, they spent more time looking at the targets’ sexual body parts (breasts and waists) as compared to their faces than did participants who were asked to evaluate the personality of these female targets. Riemer et al. (2017) further found that gazing at women’s bodies is higher among intoxicated (vs. sober) men as well

as when the female target is attractive (vs. less attractive) and perceived to be low (vs. high) in warmth and competence (i.e., possessing less human attributes). Taken together, these studies demonstrate that evaluating women’s appearance is indeed associated with gazing at their bodies, and they shed light on the conditions under which men are more likely to engage in such evaluation.

Yet engaging in evaluating someone’s appearance is not equal to viewing this person as an object denied of subjectivity and humanity. For example, when people look for romantic relationships they engage in assessing the potential partner’s appearance (Regan et al. 2000), as well as many other attributes, such as intelligence or sense of humor. The question remains, then, as to whether and to what extent gazing at women’s bodies indeed reflects their sexual objectification in the sense of treating women as bodies that exist for the use and pleasure of others.

According to objectification theory, “always present in contexts of sexualized gazing is the *potential* for sexual objectification” (Fredrickson and Roberts 1997, p. 175, italics in the original). Put differently, the male gaze creates the possibility for treating a woman’s body, body parts, or sexual functions as separated out from her person or as if they are capable of representing her (see Bartky 1990). Yet whether this potential is *actualized*, that is, whether men who look at women’s bodies also view and treat women as objects (e.g., make sexually evaluative comments; Gardner 1980) is an open empirical question.

Initial evidence that men who tend to look at women’s bodies are also likely to treat women as objects was gained in the abovementioned study by Gervais et al. (2017), which pointed to a link between self-reported gazing behavior and sexual violence. Yet their study is limited for two reasons. First, it focused on sexual violence specifically rather than on sexual objectification more broadly. Sexual objectification is a multi-faceted construct, including non-violent aspects such as the belief that women’s value is determined by their physical appearance. Second, it relied on men’s self-report about their gazing behavior rather than on their actual behavior. The use of explicit self-reports of gazing behavior can be problematic because people have limited introspective awareness of how they behave. Furthermore, explicit self-reports are heavily influenced by social desirability concerns (Hofmann et al. 2005)—especially when asked about socially sensitive issues (Dovidio and Fazio 1992), such as “ogling” at women’s bodies. The literature on the complex association between explicit attitudes and actual behavior is highly relevant in this regard. A critical lesson of scientific psychological research is that, despite common intuition, attitudes often do not correlate with corresponding behavior (Ajzen 2001). One reason for this lack of correlation is that people tend to exhibit behaviors that function without their full awareness or control (Greenwald and Banaji 1995). For example, the literature on

aversive racism tells us that U.S. Whites' nonverbal behaviors toward Blacks (e.g., blinking rates, associated with discomfort) is not correlated with their explicit racial attitudes (Dovidio et al. 1997).

In the literature on men's sexual objectification of women, some studies measured this construct with self-report questionnaires that tap into explicit attitudes (e.g., Curran 2004; Swami and Voracek 2013), whereas others measured this construct using eye tracking technology to assess the enactment of the objectifying male gaze as the amount of time participants looked at women's bodies rather than their faces (e.g., Karsay et al. 2018; Smith et al. 2018). However, perhaps because the latter measure has high face validity that masks the need for direct empirical validation, no known research to date has examined the relations between the two types of measures. The absence of such examination has been identified by objectification researchers as a critical lacuna in the literature (see Loughnan and Pacilli 2014). Specifically, the existence of such relations is by no means self-evident for two reasons. First, there are generally complex relations between explicit attitudes and actual behavior. Second and more specifically, although the objectifying male gaze has the potential to facilitate women's sexual objectification (in the sense of viewing and treating them as objects; Fredrickson and Roberts 1997), it is not equivalent to sexual objectification itself.

The Current Research

The goal of the present research was to examine the association between men's gazing behavior—specifically, their tendency to look at female targets' bodies versus faces—and men's explicit, self-reported objectifying attitudes. We measured men's spontaneous gazing behavior using Gervais et al.'s (2013) eye tracking paradigm. Employing this paradigm requires defining the areas of interest, namely, women's sexual body parts (gazing at which would be considered a manifestation of sexual objectification). Based on evolutionary research, as well as on research about women's experiences (e.g., that people stare at their breasts; Kozee et al. 2007), we defined two areas of sexual interest—the chest and the waist-to-hip areas.

The chest area was chosen because breasts are the most sexualized part of the female body (Dettwyler 1995; Young 2003). This is especially so in modern society in which the natural function of the breasts is often denied and breasts are viewed as if their main purpose is to be looked at and enjoyed by men (Johnston-Robledo et al. 2007; Ward et al. 2006). The waist-to-hip area was chosen because the waist-to-hip ratio, an indicator of body fat distribution, is a critical determinant of women's physical attractiveness in the eyes of men (Singh 1993). Women with a low waist-to-hip ratio, associated with

better health status and therefore potentially better reproductive capacity, are perceived as most attractive (Dixson et al. 2010, 2011) and their bodies are gazed at more than the bodies of women with a high waist-to-hip ratio (Gervais et al. 2012, 2013). We thus conceptualized men's objectifying gaze as their tendency to spend time looking at women's chest and waist-to-hip areas as compared to women's faces.

As for men's explicit, self-reported objectifying attitudes, three measures have been reported in the literature. Several studies (e.g., Swami and Voracek 2013) used a modified version of the Self-Objectification Questionnaire (SOQ; Fredrickson et al. 1998) in which male respondents are asked to rank the importance of ten observable (e.g., weight) and non-observable (e.g., health) body attributes in their judgment of women. Higher rankings to observable over non-observable attributes indicate greater objectification of women. A limitation of the modified SOQ is that when judging others, as opposed to the self (as in the original SOQ), one has fairly limited knowledge (if any) of non-observable physical attributes. In addition, like the original SOQ, the rank-order format of this measure has psychometric limitations (see Calogero 2011).

Gervais et al. (2017) used a modified version of the Interpersonal Sexual Objectification Scale (ISOS-P; Kozee et al. 2007). This construct taps into engagement in the evaluation of targets' bodies through gazing and commenting behavior and in initiating unwanted sexual advances. Notably, the modified ISOS-P does not attempt to capture objectifying attitudes (e.g., beliefs that commenting on women's bodies is natural and that women feel flattered when receiving such comments, or that pornography and strip shows are fun). Finally, a third measure reported in the literature is the Men's Objectification of Women scale, developed by Curran (2004). This scale measures objectifying attitudes and behaviors by assessing men's belief that the objectification of women is natural and entertaining, internalized sexual objectification, commenting and flirting with attractive women, and crudeness toward unattractive women. We used this measure in the present study both because it captures diverse objectification-related attitudes and because it has been translated and successfully used among Israeli participants (Bareket et al. 2018).

We predicted moderate correlations between the behavioral (i.e., gazing at women's bodies rather than their faces) and the self-report measure. In particular, because people's non-verbal behavior (including gazing behavior) occurs, at least to some degree, without full conscious awareness (Knapp et al. 2013), men are probably unable to fully conform their objectifying gazing behavior to social desirability pressures, even if they are motivated to do so. Support for this assumption can be found in eye tracking research utilizing gaze patterns to assess visual perception without awareness (for reviews, see Gamer and Pertzov 2018; Spering and Carrasco 2015). This research

shows that certain types of eye movements are uninfluenced by explicit response strategies (Hannula et al. 2012; Lancry-Dayan et al. 2018) and can therefore be used to detect concealed knowledge in crime-related settings (Schwedde and Wentura 2012). Hence, the measurement of men's objectifying behavior using eye tracking technology can be conceptualized as implicit (i.e., spontaneous, non-deliberate, not fully available for introspection; Dovidio et al. 1997; Forscher et al. 2018) in its nature. Whereas initial research reported zero to very low correlations between implicit and explicit measures of similar theoretical constructs, such as racial bias (Blair 2001; Dovidio et al. 2001), subsequent research revealed significant moderate correlations (Hofmann et al. 2005). Based on this more recent research, we expected moderate correlations in the present study.

We tested the hypothesis that the time Israeli heterosexual male participants would spend looking at women's chests and waist-to-hip areas as compared to their faces would correlate with their self-reported attitudes pertaining to the sexual objectification of women. In line with the importance of conducting conceptual replications (i.e., testing the same hypothesis with different methods or materials; see Schmidt 2009), we tested our hypothesis using two photograph sets of women, with either standard or realistic natures. It is important to clarify that, although our hypothesis was derived from research conducted among North American, West European and Australian/New Zealand samples, we believe this research to be relevant to Israeli participants as well due to two reasons. First, Israel scores similarly to Western countries (and differently from non-Western countries, such as geographically adjacent Arab states) in the Gender Development Index and the Gender Inequality Index (see the United Nations' Human Development Report 2016). Second, recent research that examined self-reported objectification of women (using Curran's 2004, measure) among Israeli men found patterns that are consistent with those reported among North American samples (e.g., association with sexist attitudes; Bareket et al. 2018). Using a correlational design, participants first viewed photographs of female targets while their eye movements were monitored, and then they completed a self-report measure of their sexual objectification of women.

Method

Participants

In line with Hofmann et al.'s (2005) meta-analysis of the relations between implicit and explicit measures of intergroup attitudes, we aimed to detect medium effect sizes ($r = .300$; Cohen 1988). An a priori power analysis conducted using the G*Power calculator (Faul et al. 2009) revealed that the

required sample size for a 5% significance level (one-sided) and power of 80% was 67.

To recruit the required sample, we advertised our study in the social media groups of a large Israeli university. To conceal the study's purpose, it was presented as a study about first impressions. Potential participants were asked to contact the research assistants (RAs) through email. The RAs responded to these emails by asking the participants to complete a short online questionnaire in which they indicated their gender, sexual orientation, quality of vision, and academic major. Potential participants who indicated that they were men, heterosexual, with normal vision, and majoring in disciplines other than psychology (because psychology students might be suspicious of the cover story) were invited to take part in the study in exchange for 40 NIS (about \$10 USD); the study took place in the lab and took about 45 min. Other potential participants (i.e., women, gays and bisexuals, participants with corrected vision and psychology students) were referred to a different study with a similar length and compensation. This procedure allowed us to recruit only the relevant population, yet without (a) discriminating against people belonging to a non-relevant population and (b) exposing the true purpose of our study (advertising the study only to heterosexual men might raise the suspicion that it is actually not intended to examine first impressions). In addition, potential participants who arrived at the lab wearing eyeglasses or contact lenses (indicating that they might not have normal vision) were referred by the RA to a different study (equal in terms of length and compensation).

Following the implementation of these screening procedures, we managed to recruit 61 heterosexual men with normal vision. This sample is slightly smaller than the target sample size, yet the pool of potential participants seemed to be exhausted (there were no new sign-ups of participants belonging to the target population). Notably, eye tracking studies often include several within-participants' variables, allowing researchers to detect effects with relatively small samples (e.g., Dixson et al. 2010, used 30 participants). As such, our sample is substantially larger than the samples typically used in research employing eye tracking technology to measure men's viewing patterns of female bodies. The sample included 57 (93%) undergraduate students and the rest (four participants) employed in various domains (e.g., Hi-Tech, data security) ($M_{\text{age}} = 26.43$, $SD = 5.27$, $Mdn = 25$, range = 19–44 years-old). More specifically, 53 participants (87%) were under 30 (one participant younger than 20 and the rest in their 20s), five participants (8%) were in their 30s, and three participants (5%) were 40 years or older. In terms of relationship status, 40 (66%) participants were single, 17 (28%) were in a relationship, 3 (5%) were married, and one (1%) was divorced. All participants were Jewish. Finally, 57 participants (93%) reported Hebrew as their native tongue; the rest, English and Russian. The study was conducted in Hebrew.

Apparatus

Participants were seated in a room with their head supported by a chin and forehead rest at a viewing distance of 1 m from a 24-in. LCD monitor (ASUS VG248QE) with 120 Hz refresh rate and a resolution of 1920/1080. The experimental procedure was programmed in Matlab (version 2014a, Mathworks Inc.) using the Psychtoolbox. Binocular eye movements were monitored using infrared video-oculographic system (Eyelink 1000 Plus, SR Research), with a spatial resolution smaller than .01 and average accuracy of .25–.5 when using a headrest, sampled at 1000 Hz. Gaze positions were inferred based on a 9-point calibration procedure performed at the beginning of every session and repeated when necessary.

Stimuli

As we mentioned, in order to conduct a conceptual replication, we used two sets of stimuli. The first set, taken from Gervais et al. (2013), consisted of 10 *standardized* photographs of White, college-aged, women with, according to Western cultural standards, an ideal body shape. All targets were wearing white tank tops and blue jeans or grey sweatpants, modeling the same neutral body positions and neutral facial expressions. Due to our wish to examine sexual objectification as occurring in mundane social interactions, we used as stimuli photographs of “regular,” fully clothed women (rather than highly sexualized, partially clothed professional models, as commonly done in objectification research; e.g., Bernard et al. 2012; Loughnan et al. 2010).

The second set, taken from Riemer et al. (2017), consisted of 30 photographs of White, college-aged, women who exhibited natural and more *realistic* posing (dressed in their own clothes and smiling). Photographs sizes were adjusted to a common height while maintaining their original aspect ratio. The photographs, as presented on the computer monitor, subtended 14 visual degrees vertically and varied from 4.03 to 8.83 visual degrees horizontally. All photographs were presented centrally on matching-color backgrounds: the standardized set had a white background and the realistic set had a light grey background (For example photographs see Resource 1 in the online supplement; all stimuli are available for research purposes on request from the fourth author).

Measures

Sexual Objectification of Women

Using a 1 (*strongly disagree*) to 5 (*strongly agree*) scale, participants completed an 18-item Hebrew version of Men’s Objectification of Women measure (Curran 2004; translated by Bareket et al. 2018). Sample items are: “If a woman is attractive, she doesn’t need to have anything interesting to

say”; “Women are usually flattered when men look at them”; “I would enjoy watching a female stripper”; “Commenting on women’s physical features is only natural”; and “My friends and I tease each other about unattractive women with whom we have had romantic encounters.” (See Resource 2 in the online supplement for the full English research protocol which includes all items of this measure and Resource 3 for the Hebrew version of this measure.) Items were averaged such that higher scores indicated a stronger tendency to sexually objectify women (e.g., endorse attitudes that justify and normalize women’s sexual objectification).

The internal consistency reliability obtained in the present study was good ($\alpha = .88$) and similar to that observed in a recent study using an Israeli convenience sample ($\alpha = .82$; Bareket et al. 2018). Notably, research among a U.S. student sample also revealed that the scale has good test-retest reliability ($r = .88$; Curran 2004). Although predictive validity of this scale has not been established, research has demonstrated discriminant validity from sexual harassment measures (Curran 2004) and convergent validity with conceptually related measures (e.g., Sexual Double Standards; Bareket et al. 2018).

Procedure

Participants were invited to a lab in which they were seated in a room and asked to read computerized instructions. As a cover story, participants were told that they would take part in two unrelated studies, the first examining first impression patterns and the second examining “social attitudes.” As part of the “first impressions” study, participants were asked to look at photographs of people and report their general impression of them. Participants’ eye movements while looking at the photographs were monitored using the eye tracker. To conceal the study’s purpose, participants were told that the eye tracker is intended to ensure that they actually looked at the stimuli on the computer screen. The eye tracker was located on the computer desk, not on participants’ heads—making this explanation believable. Also, it was explained to participants that if they shifted their gaze outside the borders of the photographs, a continuous sound would be played to remind them that they should look only inside the photographs’ area.

After a short calibration procedure of the eye tracker, participants were presented with the following instructions:

You will now take part in a “first impression” task. As part of the task, you will be presented with photographs of people. Each photograph will appear only for a few seconds. After each photograph, you will be asked to indicate your general impression of the person presented in the photograph. Specifically, you will have to indicate if this person left a positive or a negative impression on you. You must respond as quickly as possible, according to your gut feeling.

After a practice trial of two photographs, participants were presented with the set of highly standardized photographs of 10 clothed women. To bolster the cover story, participants were additionally presented with standardized photographs of 10 clothed men (taken from Gervais et al. 2013). The target and filler photographs appeared in a random order. Following a 500 ms fixation cross which appeared in the middle of the screen, each photo was displayed for 5000 ms. We used this relatively long display time because gazing patterns are rather consistent across participants in early viewing stages, varying only in later stages (Tatler et al. 2005). As part of the cover story, after each photograph, participants indicated their impression of the target using a 9-point scale from -4 (*extremely negative*) to 4 (*extremely positive*). Next, participants completed the same task using the set of realistic photographs, consisting of 30 photographs of women and 30 filler photographs of men.

Following the eye tracking measure, participants proceeded to the second, ostensibly unrelated study in which they were seated in front of a laptop and completed the Men's Objectification of Women measure (Curran 2004). Upon completion, participants were probed for suspicion and thanked. Due to our concern that they might talk among themselves, we debriefed the participants by sending them an e-mail only after completion of the whole data collection.

Visual Interest

In terms of eye movements, there are two primary temporal phases that can be assessed: fixations and saccades. *Fixations* are periods of time when the gaze is nearly static while focusing on a specific point, whereas *saccades* are periods of time when the eye is moving rapidly, redirecting the gaze from one focus point to another (Henderson and Hollingworth 1998; Liversedge et al. 2011). Because in the present study we were interested in the time participants' spent looking at women's sexual body parts as compared to their faces, our dependent variables were the differences between durations of participants' fixations on sexual body parts versus faces during the task.

Three regions of interest—face (from the forehead to the chin and between the ears), chest (from below the neck to below the breasts and between the shoulders), and waist-to-hip area (from below the breasts to below the pelvis and between the hips)—were defined for each photograph. In line with Gervais et al. (2013), during the data analysis phase we created templates of the regions of interest by drawing three rectangular boxes around the target's face and sexual body parts to assess participants' dwell time (an indicator of interest; Holmqvist et al. 2012). *Dwell time* was calculated as the total time (in milliseconds) participants fixated on the targets' faces or sexual body parts. For each participant, dwell times for each area of interest (face, chest, and waist-to-hip)

were averaged across photographs. Because we had two sets of photographs, this resulted in six dwell time scores. In addition, to establish that the results do not depend on a particular definition of areas of sexual interest, for the two sets of stimuli we calculated the average dwell time participants fixated on the targets' entire bodies. Because in the set of realistic photographs there was a considerable variation in targets' footwear, such that some displayed substantially more salient visual characteristics (e.g., in terms of color) than others, we did not include the feet area in this calculation (consistent with Riemer et al. 2017).

In line with previous research (Gervais et al. 2013; Riemer et al. 2017), participants' sexually objectifying gaze was defined as the differences between dwell times at the targets' sexual body parts as compared to faces. This resulted in three difference scores: chest vs. face, waist-to-hip vs. face, and entire body vs. face. Higher difference scores indicated greater sexual objectification.

Data Pre-Processing

Data were analyzed using a custom Matlab code (version 2014a, Mathworks Inc.). The eye data were first segmented into trial-epochs ranging from photograph onset to 5000 ms post-presentation. Saccades, defined as samples that exceeded the trials' average velocity by six standard deviations (median based) for at least six data samples, were detected using an established velocity based algorithm (Engbert and Kliegl 2003; Engbert and Mergenthaler 2006). Blinks were defined as segments containing no eye-information for at least 50 consecutive samples (50 ms). Fixations were defined as the epoch between two consecutive eye events (saccades or blinks). Fixations that started before stimulus presentation were discarded from further analysis because they did not reflect selection processes relevant to the presented photographs.

Results

The data file can be accessed through the Open Science Framework (osf.io/3kr7b). There were no missing data in the dataset. Table 1 presents means and standard deviations for all calculated eye data variables. It also presents the correlations between the explicit Men's Objectification of Women measure and all dwell times (raw and difference scores) for the two sets of photographs (see Table 1a and b for the standardized and realistic sets of photograph, respectively).

As a preliminary descriptive analysis, we conducted two repeated-measures ANOVAs (one for each photograph set) with Area of Interest (face, chest, waist-hip) as a within-subjects factor. The purpose of these analyses was to obtain a general sense of participants' gazing patterns and to verify that these patterns are consistent with previous research on

Table 1 Descriptive statistics and correlations for study variables

Variables	Dwell time			Dwell time differences against face		
	<i>M</i> (<i>SD</i>)	Range	<i>r</i> with self-reported objectification	<i>M</i> (<i>SD</i>)	Range	<i>r</i> with self-reported objectification
(a) Set 1 (standardized photographs)						
Face	2608.96 (761.60)	243.57–4382.56	-.33**	0	0	–
Chest	1031.73 (479.17)	.00–2204.50	.19	–1577.23 (1136.90)	–4201.44–1198.20	.30*
Waist-to-hip	487.73 (467.07)	.00–3110.86	.25*	–2121.23 (1141.88)	–4382.56–2867.29	.33*
Body	1522.83 (725.79)	69.10–3930.29	.29*	–1086.13 (1448.01)	–4201.44–3686.71	.32*
(b) Set 2 (realistic photographs)						
Face	2736.43 (780.17)	1082.00–4550.08	-.34**	0	0	–
Chest	642.50 (359.81)	33.47–1689.43	.10	–2093.93 (1031.30)	–4454.68–252.36	.29*
Waist-to-hip	537.48 (380.91)	40.70–2249.87	.30*	–2198.95 (1092.25)	–4509.00–1167.87	.34**
Body	1353.54 (623.00)	74.14–2967.53	.30*	–1382.89 (1368.01)	–4413.60–1885.53	.33*

$n = 61$. *r* with self-reported objectification refers to the correlations between Men's Objectification of Women measure and all dwell times (raw and difference scores). For Men's Objectification of Women, the scale ranged from 1 to 5 ($M = 2.72$, $SD = .61$, actual range = 1.06 to 4.17). Dwell times are in milliseconds. Dwell time differences are calculated as the difference between dwell times of sexual body parts and faces. Body dwell time is calculated as the sum of dwell times for the chest, waist-to-hip, and legs (not including the feet area)

* $p < .05$. ** $p < .01$

gazing behavior (according to which participants generally gaze more at faces than at the bodies of human targets; Hewig et al. 2008).

For the first photograph set, Mauchly's test indicated that the assumption of sphericity had been violated for Area of Interest, $\chi^2(2) = 29.42$, $p < .001$, and therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = .718$). A significant Area of Interest main effect, $F(1.44, 86.17) = 149.81$, $p < .001$, $\eta_p^2 = .71$, was found. Pairwise comparisons revealed that participants dwelled for significantly longer durations at the targets' faces than at their chests, $p < .001$, Cohen's $d = 1.36$, and waist-hip areas, $p < .001$, Cohen's $d = 1.82$, and that the targets' chests were gazed at for longer durations than their waist-hip areas, $p < .001$, Cohen's $d = .90$.

For the second photograph set, Mauchly's test also indicated that the assumption of sphericity had been violated for Area of Interest, $\chi^2(2) = 49.32$, $p < .001$, and therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = .638$). A significant Area of Interest main effect, $F(1.28, 76.60) = 228.50$, $p < .001$, $\eta_p^2 = .80$, was found. Again, participants dwelled for significantly longer durations at the targets' faces than at their chests, $p < .001$, Cohen's $d = 1.94$, and waist-hip areas, $p < .001$, Cohen's $d = 1.92$; dwell times for the chest and waist-hip areas did not significantly differ, $p = .231$, Cohen's $d = .23$.

Most importantly, as can be seen in the rightmost column of Table 1 and consistent with our hypothesis, men's self-

reported objectifying attitudes correlated positively and significantly with the three difference scores; namely, chest vs. face ($r^2 > .08$, $p < .03$), waist-to-hip vs. face, ($r^2 > .11$, $p < .01$), and entire body vs. face, ($r^2 > .10$, $p < .01$). Effect sizes were medium (according to Cohen's 1988, guidelines for evaluating effect sizes). In addition, as can be seen in the fourth column on the right of Table 1, men's self-reported objectifying attitudes correlated negatively and significantly with the raw time men spent looking at women's faces ($r^2 > .11$, $p < .01$), and correlated positively and significantly with the raw time men spent looking at women's waist-to-hip areas ($r^2 > .06$, $p < .05$) and entire bodies ($r^2 > .08$, $p < .03$). Unexpectedly, the correlation between men's self-reported objectifying attitudes and the raw time men spent looking at women's chests was not significant ($r^2 > .01$, $p < .47$). As can be seen from the upper (Table 1a) and lower (Table 1b) parts of the table, the direction and significance of all of the previously mentioned correlations were consistent across the two sets of photographs.

Discussion

The findings of the present study support the hypothesis that men's direction of more visual attention to female targets' sexual body parts (i.e., chests, waist-to-hip areas, and entire bodies) at the expense of the attention paid to their faces correlate with their explicit, self-reported sexually objectifying attitudes toward women. Underscoring the robustness of our

findings, this pattern of results was consistent across two photograph sets, with either standard or realistic natures. The only exception to this general pattern was the non-significant correlation between the raw time men spent looking at women's chests in the two photograph sets and their self-reported sexually objectifying attitudes. This exception likely has a methodological reason. As we explained in the Method, and consistent with common practice in eye tracking research (e.g., DeWall and Maner 2008), the fixation crosses were located in the middle of the screen, and we discarded fixations that began before stimulus presentation (because these fixations were not actively chosen by the participant). This means that participants' first fixations were always on the target's chest, and these fixations were not included in the analysis. This omission might have affected the calculated dwell times on the targets' chests, making them harder to interpret. In future research on sexually objectifying gaze behavior, it may be advisable to divert from the common practice and avoid locating the fixation cross in the middle of the screen.

All in all, however, our findings suggest that men who are likely to gaze at women's bodies at the expense of their faces also endorse attitudes that justify and normalize the sexual objectification of women. These findings support Fredrickson and Roberts (1997) claim that the male gaze carries the potential to lead to women's sexual objectification in the sense of treating women as if they lack the mental states and moral status associated with personhood, thus denying their subjectivity and humanity (Nussbaum 1999).

Our results extend Gervais et al.'s (2017) finding on the link between self-reported gazing behavior and sexual violence in two ways. First, we measured actual gazing behavior in line with the call to pay greater attention to actual behavior in psychological research (Baumeister et al. 2007). Second, we showed that the male gaze is also associated with non-violent aspects of sexual objectification. Indeed, sexual objectification can take blatant or subtle forms, as well as be hostile or ostensibly benevolent in its intention (e.g., well-intentioned appearance compliments; Kahalon et al. 2018). Considering sexual objectification only in its blatant and hostile forms risks not recognizing the negative consequences associated with its subtle and seemingly benevolent forms (Loughnan and Pacilli 2014). This notion is consistent with findings that subtle forms of sexism may be more damaging than overtly hostile forms because the former are harder to recognize and resist (Barreto and Ellemers 2005; see also Dovidio et al. 2002, for a similar observation about racism).

By examining men's spontaneous gazing behavior, our study extends previous eye tracking research on objectification. In particular, previous research has examined the factors that influence men's tendency to look at women's bodies using experimental paradigms, demonstrating that it increases in response to instructions to evaluate the targets' looks (vs. personality; Gervais et al. 2013), following the consumption

of alcohol (Riemer et al. 2017), and when the targets are highly sexualized (Karsay et al. 2018; Smith et al. 2018). However, it is possible that participants' increased gazing at women's sexual body areas in these experiments occurred due to other reasons besides objectification per se. For example, perhaps participants in the "looks" (vs. "personality") condition in Gervais et al.'s (2013) study gazed more at the targets' bodies simply because they were trying to comply with the instructions they got (i.e., to evaluate the targets' attractiveness). Our study thus complemented this previous research by examining the spontaneous occurrence of men's gazing behavior at women, demonstrating that it is indeed associated with objectifying attitudes.

As such, our findings provide validity information of the objectifying gaze paradigm, which could represent an important methodological advance in and of itself. In addition, the observed association strengthens the predictive validity of the self-report questionnaire by showing that men's explicit sexually objectifying attitudes are indeed associated with their objectifying gazing behavior. An alternative way to interpret this association is that men who do not endorse sexually objectifying attitudes are *less* likely to exhibit sexually objectifying gazing behavior. This finding further validates the self-report questionnaire by showing that low scores are not necessarily the result of social desirability concerns (e.g., a motivation to be perceived as not sexist), but in fact represent a *low* tendency to behave in an objectifying manner toward women. Notably, despite the consensus about the importance of using validated measures in psychological research (see Zumbo and Chan 2014), some of the common objectification measures fail to address construct validity issues (for an exception see Gervais et al. 2017).

That our findings were consistent across two photograph sets strengthens ecological validity by demonstrating that this association emerges not only when using standardized photographs but also with more realistic photographs of college women who posed naturally and wore their own outfits. Whereas much of the objectification research has focused on the sexual objectification of models or very attractive women (for a review, see Heflick and Goldenberg 2014), we examined the objectifying gaze directed toward ordinary, "real" women. Our findings show that ordinary women, who are not overly sexualized, are also objectified. These findings are consistent with objectification theory (Fredrickson and Roberts 1997) and research (e.g., Kozee et al. 2007) that objectification experiences are common for most women, not just very attractive ones.

From a broader perspective, the present study extends previous social psychological research, which found associations between non-verbal racist behavior and explicit attitudes of prejudice (Hofmann et al. 2005) by showing that a similar association exists for the sexual objectification of women. So far, existing work in the field has used either self-report

measures (e.g., Swami and Voracek 2013) or behavioral measures (e.g., implicit associations of female targets with less human concepts, such as object and animal related-words; Vaes et al. 2011). The present study is the first known to demonstrate the association between explicit and implicit measures of heterosexual men's sexual objectification of women. Consistent with other types of prejudice and bias (Hofmann et al. 2005; McConnell and Leibold 2001), the effect size in the present study was medium. That the observed correlations were obtained despite the relatively low overlap between the implicit and explicit measures (e.g., gazing at women's bodies is not equivalent to being crude to unattractive women) is noteworthy.

Limitations and Future Research Directions

The present study has some limitations that point to a number of future research directions. First, as a correlational study, we cannot conclude causality. Gazing at women's bodies comes at the expense of directing visual attention to their faces—yet the latter is critical for accurate person perception (Berry 1991) and effective face-to-face communication (Knapp et al. 2013). For example, gazing at one's interaction partner's eyes plays a role in facilitating interpersonal empathy (Dadds et al. 2008), which may explain why exposure to sexually objectified women reduced empathic responses for female targets (Cogoni et al. 2018). It is, therefore, likely that gazing at women's bodies leads to the endorsement of sexually objectifying attitudes. At the same time, however, it is also likely that objectifying attitudes lead into an objectifying gaze—which can be exhibited without full awareness (e.g., involuntary gazing at women's body parts) but also with awareness (e.g., misogynistic men may purposefully exhibit the gaze toward women for aggressive reasons, and some men may think that if sexually objectifying women is “cool,” and women enjoy it when men stare at their bodies, why not do it?). In fact, classical feminist theorizing discusses both directions. For example, in her analysis of pornography, Dworkin (1981, 1985) argues that patriarchal arrangements lead to objectifying representations of women in this industry, but at the same time, exposure to such representations leads viewers to more strongly endorse these representations. Future research may use experimental designs to determine causality, including the possibility of a reciprocal relationship.

Another direction for future research may be to identify the conditions under which the correlation between men's directed visual attention to women's bodies and their sexually objectifying attitudes intensifies or weakens. One such moderator may be one's ideology pertaining to gender roles. On one side of the continuum, religious men, who typically hold more traditional attitudes toward gender roles and equality (Bettencourt et al. 2011; Seguino 2011), may endorse strong religious prohibitions against sexually objectifying women, considering it to be

immoral (Boulton 2008; Loughnan et al. 2015). On the opposite side of the continuum, men who identify themselves as feminists may also endorse strong prohibitions against sexually objectifying women, which would contradict their egalitarian values (Boulton 2008; Swami and Voracek 2013). Thus, both religious and feminist men may exhibit lower scores on the self-reported measure of women's sexual objectification. However, these men may still exhibit a sexually objectifying gazing behavior because this behavior is less controllable or influenced by social desirability motivations—resulting in a lower correlation between their actual gazing behavior and self-reported attitudes toward the sexual objectification of women.

Finally, whereas the present study focused on revealing the basic commonalities of explicit and implicit measures of sexual objectification, it may be interesting to examine in future research whether these measures are associated with *different* cognitive processes and behavioral outcomes. For example, it may be interesting to examine whether implicit and explicit measures of sexual objectification are differentially related to participants' processing of visual information in rape crime scenes, such as the time spent on inspecting the victim (e.g., what did she wear?) versus the defendant (Süssenbach et al. 2017; see also Süssenbach et al. 2012).

Practice Implications

Our findings support the understanding that women's sexual objectification can take both an explicit form, which is sometimes overtly hostile and even violent, and a behavioral form, which is more subtle. This understanding provides some insights to the development of interventions to reduce women's sexual objectification, suggesting that they should target both explicit attitudes—for example, by teaching about the negative implications for women of receiving (even positive) comments about their bodies (Kahalon et al. 2018) or teaching about the dark side of strip clubs and pornography (Farley 2006)—and objectifying behavior—for example, by educating about the meaning of the objectifying gaze and how it is manifested in mundane interactions. A similar dual-target approach has been used in interventions to reduce sexism, which aim to educate about the harm and prevalence of sexist beliefs (Becker and Swim 2012) as well as to increase sensitivity for sexism in everyday lives (Becker and Swim 2011) and raise awareness to the existence of more elusive and unconscious sexist behaviors (Shields et al. 2011).

Conclusion

The present study has presented evidence for an association between heterosexual Israeli men's sexually objectifying gaze toward women and explicit, self-reported endorsement of sexually objectifying attitudes. In light of the rapid growth of empirical research in the field of sexual objectification, our

findings have important theoretical and methodological implications. It may open the door to future research, which would use validated empirical tools to measure sexual objectification. Such research may also test ways to reduce the sexual objectification of women; given its devastating effects on cross-gender interactions (for a review, see Heflick and Goldenberg 2014), this is an important social goal.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Research Involving Human Participants and/or Animals The research involved human participants.

Informed Consent All participants gave their informed consent to participate in the research.

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