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Understanding the Relation Between Sexual Objectification and Ostracism

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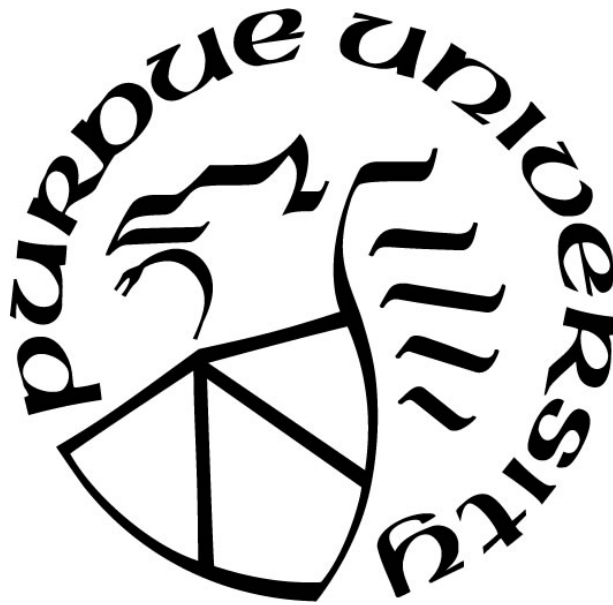
**UNDERSTANDING THE RELATION BETWEEN SEXUAL
OBJECTIFICATION AND OSTRACISM**

by
Maayan Dvir

A Dissertation

*Submitted to the Faculty of Purdue University
In Partial Fulfillment of the Requirements for the degree of*

Doctor of Philosophy



Department of Psychological Sciences

West Lafayette, Indiana

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אני רוצה להודות למנחיי ולהוריי האקדמאיים קיפלינג וויליאמס וג'ניס קלי. כל אחד מהם היווה עבורי דוגמא של מצוינות במחקר, תבונה ולב ענק; וביחד הם הפגינו חברות ושיתוף פעולה בין קולגות שתמיד אשאף להם. הם היו רשת ביטחון, מערכת תמיכה וקול ההיגיון עבורי. הם עודדו אותי לבטא את היצירתיות שלי ואת מי שאני בכל היבט של העבודה. הם תמיד היו שם בשבילי, בזמן שהם דחפו אותי למצוא את דרכי, ולהתפתח כחוקרת עצמאית. אני גאה שהם המנחים האקדמאיים שלי.

הרבה תודות להוריי דנה ויעקב דביר. הם האמינו שאני יכולה לעשות הכול, וגידלו אותי להאמין בעצמי. הם עשו כל שביכולתם כדי לאפשר לי לרדוף אחר כל חלום, כולל הדוקטורט, למרות שהאחרון שלה אותי הרחק מהבית. לאורך המסע הזה הם היו שם איתי ובשבילי בכל מכשול, בזמן שהם התמודדו עם כל כך הרבה מכשולים משל עצמם. הם גיבורי העל שלי, ואמא שלי היא הוונדר וומן הפרטית שלי, עם כוחות וחן שאני מעריצה. המסע הזה וההישג הזה הם שלהם באותה מידה שהם שלי.

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ABSTRACT

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Ostracism – being ignored and excluded – and sexual objectification – when an individual is regarded only as an object that exists for the use and pleasure of others – are conceptually related, yet the connections between the two phenomena have yet to be examined empirically. Both involve aspects of the self being ignored by others. Sexual objectification involves attention that focuses on one’s appearance while other characteristics of the individuals are ignored. This fits within the parameters of the definition of “partial ostracism” – in which the individual is acknowledged and included in some ways (or times), but not in others. Furthermore, some of the outcomes of being ostracized, such as negative affect, depression, and substance abuse, have also been identified as outcomes of sexual objectification. This dissertation, therefore, looks at potential connections between ostracism and sexual objectification. Studies 1 (A, B, & C) and 2 demonstrated that women feel ignored and excluded to a greater extent when men focus on the appearance of their body, signaling objectification, than when men focus on their face, signaling attention to their personality. These results establish that sexual objectification is experienced as a form of ostracism, and suggest that research regarding ostracism can be applied to sexual objectification. Because ostracism elicits behaviors that are meant to re-establish belongingness and reconnection and recognition by others, it is possible that portraying a sexualized image of oneself could achieve both goals.

Studies 3 and 4 examined whether ostracism causes women to self-objectify (i.e., present a sexual image of themselves). In these studies, included and ostracized women were asked how revealing they would like their clothing (Study 3) or their online artificial avatar's clothing (Study 4) to be. The results of these studies did not support the original prediction that ostracism would lead to more self-objectification, however they provided some initial evidence that hostile and benevolent sexism may play a role in the relation between ostracism and self-objectification. Study 5 examined whether ostracized individuals are also more tolerant of sexual objectification. Because ostracism induces an increased need for attention, individuals may view any type of attention as better than no attention at all. In this study ostracized and included women were asked to imagine having a conversation with a man in a pre-recorded video who was either focusing on their face, on their body, or who was looking away from them. They were then asked to rate their interaction partner and to indicate their willingness to interact with him in the future. I hypothesized that ostracized women would rate the interaction partner who was focusing on their body more positively than included women. However, this hypothesis was not supported because in this study ostracism did not significantly affect women's evaluation of their interaction partner. Women were most fond of their interaction partner and were most willing to interact with him when he was looking at their face and were most threatened by him when he was looking at their body. This work suggests that whereas sexual objectification makes women feel that their body is under the spotlight, they nevertheless feel ignored and unacknowledged.

INTRODUCTION

“I am, at this moment, what I have always been to him: an object of beauty.

He has never loved me as a woman.”

Philippa Gregory, The Lady of the Rivers

Sexual objectification is defined as when someone is treated as if they are merely a body that exists for the use and pleasure of others (Bartky, 1990). Sexual objectification often involves an increased attention by others to an individual’s physical characteristics, leading perhaps to the objectified individual feeling particularly conspicuous. Because the empirical and theoretical literature on sexual objectification focuses on the extensive attention the individual receives to her body¹ and its subsequent negative outcomes, sexual objectification is characterized as a distinct, and even opposite, phenomenon to ostracism – when one is being ignored and excluded. Research has established that individuals detect minimal signals of ostracism quickly and crudely. Therefore, I propose that whereas the sexually objectified individual is aware that at least part of her being is the focus of attention, usually unwanted, she is also aware that her personhood, her core, her *self*, are being ignored and excluded; and that these two seemingly opposing phenomena are actually conceptually related. There are extensive literatures devoted to each of these phenomena, demonstrating that both ostracism and sexual objectification are aversive interpersonal behaviors that are common and have severe and sometimes long-term consequences (Fredrickson & Roberts, 1997; Nezlek, Wesselmann, Wheeler, & Williams, 2012; Williams, 2009). However, the relation between the two has not yet been addressed. Understanding this relation will provide a broader framework in which to

investigate these two phenomena and suggest ways of applying knowledge gathered regarding one phenomenon to the other.

Three research questions guide my work: (1) Can sexual objectification be meaningfully understood as a form of ostracism? (2) Does ostracism cause women to present themselves in ways that would promote their sexual objectification? And finally, (3) Does ostracism increase women's tolerance to experiencing sexual objectification?

Can Sexual Objectification be Meaningfully Understood as a Form of Ostracism? Similarities in the Conceptual Definitions of Sexual Objectification and Ostracism

People experience ostracism on a daily basis and report being negatively affected by it (Nezlek, Wesselmann, Wheeler, & Williams, 2012). The temporal need-threat model of ostracism offers a framework to understand the effects of ostracism (Williams 1997, 2009). According to the model, the effects of ostracism occur in three distinct stages: the reflexive stage, the reflective stage, and the resignation stage. The immediate reactions to the experience of ostracism at the *reflexive stage* include negative affect, distress, feelings of pain, and threat to four fundamental needs: *belonging* – to have frequent interpersonal contacts and interactions and to maintain social bonds with others (Baumeister & Leary, 1995); *self-esteem* – the need to maintain a reasonably high self-esteem; *control* – the need to perceive control over one's social environment; and *meaningful existence* – the need to feel recognized for existing and being worthy of attention (Williams, 2009). In the *reflective stage*, ostracized individuals reflect on the event and try to make sense of the reasons for receiving this treatment. They also aim to cope with the threatened needs by seeking to fortify them. To fortify belonging and self-esteem needs, individuals may attempt to become more socially attractive and behave in

manners that will please people around them; and to fortify control and meaningful existence needs, individuals may try to provoke attention in different ways. If ostracism episodes persist, because of depleted resources to cope, targets of chronic ostracism enter the *resignation stage*, in which they will spiral downwards into feelings of helplessness, alienation, and worthlessness that may unveil in depression, eating disorders and substance abuse (Riva, Montali, Wirth, & Williams, 2017; Williams, 2009).

Ostracism experiences vary in their severity (Williams, 2007; 2009). Whereas most research has focused on instances of *complete* ostracism, when individuals are completely ignored and excluded, often people experience ostracism *partially*. Partial ostracism occurs when ostracizing behaviors are mixed with normal interaction behaviors, creating lesser forms of ignoring and excluding (Williams, 1997; 2009). Because affiliation to a group is evolutionarily essential to humans' survival, any hint of ostracism is detected and attended to (Williams, 2007; 2009). Thus, even partial ostracism elicits similar negative responses but to a lesser extent, as complete ostracism (Williams, Shore, & Grahe, 1998; Williams, Cheng, & Choi, 2000; Jones, Carter-Sowell, Kelly, & Williams, 2009; Iannone, Kelly, & Williams, 2018).

Thus far, partial ostracism has been regarded as sporadic attention. It has been operationalized in research as shorter word utterances by sources (Williams, Shore, & Grahe, 1998), being included to a lesser extent than others in the online ball tossing game Cyberball (Williams, Cheng, & Choi, 2000), or as being out of the loop on a certain piece of information or on information in a certain domain (Jones, Carter-Sowell, Kelly, & Williams, 2009; Iannone, Kelly, & Williams, 2018). Another possible manifestation of partial ostracism, that was not yet regarded as such, is when parts of the individual are

being ignored and excluded, while other parts are given attention – even beyond expected. Sexual objectification falls under this definition, as the individual's body, body parts or sexual function are being the focus of attention to the expense of all other parts of the individual (Bartky, 1990; Nussbaum, 1995; Fredrickson & Roberts, 1997).

Shared Outcomes Between Sexual Objectification and Ostracism

In addition to the parallels in the definitions, sexual objectification and ostracism have been found to have some common consequences, mainly for women. Similar to ostracism, sexual objectification has been shown to harm women's well-being by increasing feelings of anger, sadness and despair, and decreasing women's self-esteem (Swim, Hyers, Cohen, & Ferguson, 2001). Furthermore, women report feeling less secure and safe following a sexual objectification incident, which can be interpreted as feeling less control over their environment in a specific domain (Swim, Hyers, Cohen, & Ferguson, 2001). Sexual objectification experiences are positively correlated with substance abuse (Carr & Szymanski, 2011), and repeated experiences of sexual objectification, as well as exposure to sexual objectification of other women, may translate to mental health problems such as depression and eating disorders (Fredrickson & Roberts, 1997; Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Quinn, Kallen, & Cathey, 2006; Moradi & Huang, 2008). Finally, both ostracism and sexual objectification have been found to disrupt females' complex cognitive processes (Hawes et al., 2012; Fredrickson et al., 1998; Gervais, Vescio, & Allen, 2011; Moradi & Huang, 2008).

The parallels in the conceptual definitions of ostracism and sexual objection, as well as the common outcomes, led me to hypothesize that sexual objectification is experienced as a form of ostracism, and that reactions and behaviors related to sexual

objectification similarly follow the patterns predicted by the temporal need-threat model of ostracism. Examining whether targets of sexual objectification feel ignored and excluded, and undergo the same immediate effects of ostracism, will benefit our understanding of each phenomenon.

Does Ostracism Cause Women to Present Themselves in Ways That Would Promote Their Sexual Objectification?

Sexual Objectification Leads to Self-Objectification

Sexual objectification includes a wide range of behaviors, ranging from sexual assault, representing a blatant and violent form of sexual objectification, to sexual evaluation, representing a subtler form (Fredrickson & Roberts, 1997). A recurrent expression of sexual evaluation is the *objectifying gaze* – a gaze that is focused on one's body or sexualized body parts (Kaschak, 1992; Fredrickson & Roberts, 1997), as opposed to one's face that is considered a valid guide to personality (Penton-Voak, Pound, Little, & Perrett, 2006).

The vast majority of women have experienced sexual objectification, and all women and men are exposed to the sexual objectification of women on a daily basis. In a cross-cultural study surveying 16,607 women, 84% of women reported that their first experience of sexual objectification occurred before age 17 (Hollback!, 2016), and in a diary study women reported experiencing sexual objectification every other day on average, and being exposed to sexual objectification of other women more than once a day (Holland, Koval, Stratemeyer, Thomson, & Haslam, 2017). According to Fredrickson and Roberts (1997), the exposure to sexually objectifying behaviors in general and to the objectifying gaze in particular occur in interpersonal and social encounters, as well as

through the visual media. The media frequently portray interpersonal encounters containing sexually objectifying behaviors of women by men, or alternatively tends to spotlight women's body or body parts. In contrast, the head and face are usually emphasized in men's presentation (Archer, Iritani, Kimes, & Barrios, 1983; Plous & Neptune, 1997; Kilbourne & Jhally, 2000; Szillis & Stahlberg, 2007). Sexual objectification of women is prevalent, and nowadays infused to western cultures and to societal values: women are expected to maintain a feminine look that will appeal and be admired by men (Brownmiller, 1984; Paoletti & Kregloh, 1989). As a result of these repeated exposures to sexual objectification, and of socialization, women and girls come to internalize an observer's perspective on their body, treat themselves as objects to be looked at and evaluated based on their appearance – a phenomenon that is coined as *self-objectification* (Bartky, 1990; Fredrickson & Roberts, 1997).

Self-Objectification as a Means to Attract Attention

Self-objectification is theorized to be the immediate and most profound effect of sexual objectifying treatment (Fredrickson & Roberts, 1997; Moradi & Huang, 2008). Self-objectification is manifested in a preoccupation with self-appearance, that in turn attracts others' attention to her body (Fredrickson & Roberts, 1997; Calogero, 2004). This creates a cycle in which sexual objectification is not only the cause of self-objectification, but also the outcome (Fredrickson & Roberts, 1997; Fredrickson et al., 1998). Thus, situations that promote self-objectification may also promote one's sexual objectification by others.

Ostracism experience may promote women's self-objectification for several other reasons as well. In the reflective stage, ostracized individuals strive to fortify the

threatened needs. Women, in particular, may default to self-objectification. To fortify the need to belong, ostracized women try to behave in a likable manner. Williams and Sommer (1997) found that ostracized women contribute more than included women to a group task, presumably because they wish to be liked by the other group members (See also Bozin & Yoder, 2008). Ostracized women mimic nonconsciously others' behaviors more than included women – as mimicry promotes liking and trust and assist fortifying belonging needs (Lakin, Chartrand, & Arkin, 2008). Ostracized women also find the traditional feminine roles, such as the role of a mother or a housewife, more appealing than included women (Aydin, Graupmann, Fischer, Frey, & Fischer, 2011). Compliance with societal values such as the prescribed gender role may be a form of being a “good citizen” and a means to be liked and thus may increase one's sense of belonging to society. Because maintaining a feminine pleasing appearance is a part of the female gender role (Workman & Johnson, 1993), women may elicit attention and awareness to their physical appearance.

Ostracized women may self-objectify because they wish to fortify the need to maintain a reasonably high self-esteem and the need for control. Women are rewarded by society for physical beauty. Attractive women receive better education, better opportunities at the workplace, and better treatment in relationships than unattractive women (Margolin & White, 1987; Fiske, Bersoff, Borgida, Deaux, & Heilman, 1991). As a result, women learn that physical attractiveness is a currency (Unger, 1979), from which they can achieve control over their environment, and use as an indicator of self-worth. There is evidence that physical attractiveness and body-image satisfaction are positively related to women's self-esteem (Lerner, Orlos, & Knapp, 1976; Polivy,

Herman, & Pliner, 1990); and that women with low self-esteem engage more in appearance management behaviors, presumably to improve their esteem via the changes in their appearance (Lennon & Rudd, 1994). Although, in actuality self-objectification results in lower self-esteem (Mercurio & Landry, 2008), the association between self-worth, control and physical attractiveness may lead ostracized women to self-objectify.

To fortify the need for meaningful existence, ostracized individuals want to be visible, and therefore crave attention. In a study conducted by Schade and colleagues (2014), ostracized participants were more likely than included participants to behave in ways that had an impact on others, regardless if the impact was positive or negative. The authors suggested that this is because ostracized individuals will do whatever they can to feel acknowledged and receive attention from others. As a result of gender socialization, women learn that a pleasing physical appearance is essential to attract attention from others. Thus, as a strategy to attract attention and be acknowledged by others, women attend to their own looks (Silberstein, Striegel-Moore, & Rodin, 1987). Therefore, I hypothesized that following an ostracism experience, as a means to attract attention, women may self-objectify by being preoccupied with their physical appearance and present themselves in ways that would promote their own sexual objectification.

Self-Objectification as a Form of Self-Dehumanization

Sexual objectification can also be considered to be a special case of dehumanization. Per definition, sexual objectification happens when an individual's body, body parts or sexual function are treated as representing the individual. The individual is treated as an instrument, with no personality or personhood (Bartky, 1990; Fredrickson & Roberts, 1997). According to dehumanization theory, there are two

prevalent forms of dehumanization: in one, the dehumanized individual is perceived as lacking the ability to experience emotions; whereas in the other, the dehumanized individual is perceived as lacking agency, will, and the ability to think (Gray, Gray, & Wegner, 2007; Vaes, Loughnam, & Puvia, 2014). Sexual objectification is considered a severe form of dehumanization as all the different characteristics of humanity are denied to the objectified individual (Vaes, Loughnam, & Puvia, 2014). For example, in two studies, sexually objectified women were attributed less ability to think and to feel, and were perceived as having less free will and as less deserving of moral consideration; all important characteristics of humanity (Loughnan et al., 2010). Furthermore, self-objectification is considered a form of self-dehumanization, as women who self-objectify put more emphasis on the appearance of their body than on what their body can do or how it feels (Fredrickson et al., 1998). Bastian and Haslam (2010) have shown in their research that targets of ostracism judge themselves as being less human. Because self-objectification is a form of self-dehumanization, ostracism may also lead to self-objectification. Whereas dehumanization is another point of overlap between sexual objectification and other social psychological theories, dehumanization is not examined within this thesis

Does Ostracism Increase Women's Tolerance to Experiencing Sexual Objectification?

Some Attention (Sexual Objectification) is Better Than no Attention (Ostracism)

In a related vein, in the reflective stage ostracized individuals crave attention to fortify their threatened needs (Williams, 2009). As ostracized individuals wish to have an impact on others, regardless of whether it is positive or negative (Schade et al., 2014),

they may welcome, value, and positively distort objectifying attention. Sexual objectification, although demeaning and sometimes offensive and dangerous, involves acknowledgment of parts of the individual (Bartky, 1990; Fredrickson & Roberts, 1997). Thus, I hypothesized that when individuals are ostracized, they may tolerate and positively (or less negatively) interpret sexual objectification.

Ostracism causes individuals to be more susceptible to social influence (Williams, 2009). There is some empirical evidence that ostracized individuals conform more and comply to persuasion techniques more than included individuals (Williams, Cheung, & Choi, 2000; Carter-Sowell, Chen, & Williams, 2008), as well as obey experimenter's requests, even when such obedience is personally destructive (Riva, Williams, Tortrick, & Montali, 2014). A strong source of social influence is established societal norms. In fact, ostracism is theorized to be a punishment tactic that brings targets to correct their behavior and adhere to societal norms (Williams, 1997; 2009). There is some evidence that ostracism leads women to find the nurturing roles of a mother and a housewife more appealing than included women (Aydin et al., 2011). These studies suggest that women may be more inclined to follow societal norms, and the prescribed gender role more if ostracized. As the feminine gender role includes submissiveness, and appreciation of male attention (Eagly, 1983), ostracized women may interpret sexually objectifying behaviors less negatively as they follow the established gender roles.

This dissertation illustrates that sexual objectification can be conceptualized as partial ostracism: a useful framework to examine sexual objectification. It may also shed light on situational factors that make women behave in ways that will increase their likelihood of being sexually objectified by others, and on circumstances that increase the

likelihood of tolerating negative and even abusive treatment from others. I propose a destructive cycle: sexual objectification induces feeling of ostracism, which encourages displaying oneself in a sexually objectified manner and tolerating sexually objectifying treatment.

RESEARCH QUESTION 1

Study 1A

The purpose of this study was to examine whether sexual objectification could be meaningfully understood as a form of ostracism. To establish this, I examined whether sexually objectified women feel ignored and excluded in at least one domain, and whether the fundamental needs threatened by ostracism – belonging, control, self-esteem and meaningful existence – are also threatened by sexual objectification. College women were recruited to participate in a mental visualization exercise in which they were asked to mentally visualize an interaction with the person who is captured in a video. Because averted eye gaze to the side has been shown to elicit feelings of ostracism (Wirth, Sacco, Hugenberg, & Williams, 2010) and downward eye gaze is characteristic of the objectifying gaze (Fredrickson & Roberts, 1997), the eye gaze of the man captured in the video was used as the manipulation. Participants were randomly assigned to watch one of three versions of a video: (1) *Face* – the man’s gaze is directed toward the participant’s eyes; (2) *Body* – the man’s gaze alternates between the participant’s eyes and down at her body; or (3) *Away* – the man’s gaze alternates between the participant and to the side as if he is distracted by something or someone in the background. I predicted that both objectified women (body) and ostracized women (away) would report feeling more ostracized than women in the control condition (face) and will experience less satisfaction of the fundamental needs than women in the control. I hypothesized that sexual objectification is a form of partial ostracism, as some parts of the individual are being ignored others are being the focus of attention. Thus, I predicted that sexually

objectified women (body), compared to ostracized women (away), will feel less ostracized and experience higher need satisfaction.

Method

Participants and design. Seventy-four female undergraduate students at Purdue University ($M_{age} = 20.03$, $SD = 1.35$; 67.6 % Caucasian; 89.2% US born) were recruited from a social psychology class as volunteers for this study. For educational purposes, the study was open to all of the students in the class over 3 days, but only data from female participants was included in the analyses (11 males and 2 who indicated that their gender is other than male or female were removed from the analyses). No formal a-priori power analysis was conducted because I attempted to recruit as many participants as possible within the time constraints (this is also the case for Studies 1b and 1c). Participants were randomly assigned to one of three² conditions in a mental visualization task: face, body, or away.

Procedure. Participants completed the study using their personal computers. They were asked to complete the study using a computer (avoid other electronic devices), to close all other active windows on their computer and maximize the survey window to occupy the entire computer screen, to ensure that participants' experience of the study was identical. Participants were told that as a part of the study we needed them to practice their mental visualization skills while watching a video. They were instructed to imagine that they are having an interaction with the person in the video (their *interaction partner*) that they just met. The importance of mentally visualizing the entire experience was emphasized, and they were asked to imagine the situation in which they were having the interaction, where it takes place, who is the other person, and the subject of the

conversation. Then, participants watched a two minutes video portraying a man where the man's eye gaze was manipulated. They were randomly assigned to watch one of three versions of the video:

- (1) *Face* – the man's gaze is directed toward the participant's eyes;



- (2) *Body* – the man's gaze alternates between the participant's eyes and down at her body;



- (3) *Away* – the man’s gaze alternates between the participant and to the side as if he is distracted by something or someone in the background.



After watching the video, participants described what they mentally visualized during the task and completed several measures.

Manipulation checks and dependent measures.

Need satisfaction. Participants indicated their agreement with 12 items ($\alpha = .88$) that were designed to assess the satisfaction of four fundamental needs from the Need Satisfaction Scale (Williams, 2009): belonging (3 items; e.g., “I felt disconnected”), control (3 items; e.g., “I felt that I have control over the course of my interactions with others”), self-esteem (3 items; e.g., “I felt good about myself”) and meaningful existence (3 items; e.g., “I felt invisible”). Participants rated their agreement with each statement on a 5-point scale ranging from *not at all* (1) to *extremely* (5).

Ostracism. Participants indicated to what extent they felt ignored and excluded during the introduction task (2 items; $\alpha = .84$) on a 5-point scale ranging from *not at all* (1) to *extremely* (5).

Need satisfaction and ostracism measures appeared first to prevent participants’ answers to these measures being affected by the objectification measures that followed.

Self-objectification. To assess participants' self-objectification, participants indicated their agreement with a few statements on the State Self-Objectification Scale (Saguy, Quinn, Dovidio, & Pratto, 2010; 3 items; e.g. "Right now, how I look is more important to me than how I think or feel"; $\alpha = .69$) on a 7-point scale ranging from *strongly disagree* (1) to *strongly agree* (7).

Sexual objectification. Participants responded to a scale inspired by the above item in which they indicated the extent to which their interaction partner cared about and liked their looks (2 items; "My interaction partner liked the way I looked"; $\alpha = .68$) and the extent to which their interaction partner cared about what they had to say and how they felt (2 items; e.g., "My interaction partner cared about how I felt"; $\alpha = .95$) separately on a 5-point scale ranging from *not at all* (1) to *extremely* (5). Participants also indicated the extent to which they felt objectified and sexually objectified during the interaction (2 items; $\alpha = .89$) on a 5-point scale ranging from *not at all* (1) to *extremely* (5).

Mood. Participants indicated their mood by rating their agreement with statements with respect to their emotions (positive and negative; positive emotions were reversed scored) as they experienced them during the task (13 items; e.g., "I felt sad"; $\alpha = .89$). Participants rated their agreement with each statement on a 5-point scale ranging from *not at all* (1) to *extremely* (5).

Manipulation check. Participants were asked to indicate where their interaction partner looked at during the interaction: Mostly at their eyes, body, away or if they do not remember.

At the end of the survey participants answered a demographic questionnaire (See measures in Appendix C).

Results and Discussion

Manipulation check. A Chi-Square Test of Independence was performed to examine the relation between the condition and the participant's perception of the man's eye gaze direction. The relation between these variables was significant ($\chi^2(4, 74) = 41.61, p < .001$), indicating that the majority of the participants in each condition correctly identified the direction of the man's eye gaze in the video: face (direct eye gaze; 86.7%), body (down eye gaze; 57.6%), and away (side eye gaze; 61.5%). It is of importance to note that because the eye gaze direction alternates in the body and away conditions there was more variability in the answers of participants in those conditions. The analyses presented includes all of the participants in the study, although eliminating those who did not correctly identified the direction of the eye gaze in the manipulation improved the effect sizes and the significance levels of the results that are reported below.

Main analyses. To examine the effects of the condition (face, body, away) on the outcome variables a series of one-way analysis of variance (ANOVA) was conducted (See Table 1 for means and standard deviations).

Sexual objectification. To examine whether women in the body condition felt more objectified during the task than participants in the other conditions, a mean score of the participants agreement to the statements "I felt objectified" and "I felt sexually objectified" was computed. A one-way ANOVA revealed that participants in the body condition felt more objectified than participants in the face and participants in the away

conditions ($F(2, 71) = 6.49, p = .003, \text{partial } \eta^2 = .16$; Bonferroni simple effect p 's < .03), which did not significantly differ from one another. Participants in the body condition also felt that their interaction partner cared about and liked their looks more than participants in the away condition ($F(2, 71) = 7.99, p = .001, \text{partial } \eta^2 = .18$; Bonferroni simple effect $p < .001$), whereas participants in the face condition did not significantly differ from participants in the other conditions. However, it was participants in the face condition who felt that their interaction partner cared about what they had to say and how they felt ($F(2, 71) = 3.90, p = .02, \text{partial } \eta^2 = .10$) more than participants in the away condition (Bonferroni simple effect $p = .02$) and marginally more than participants in the body condition (Bonferroni simple effect $p = .08$). This implies that when women are sexually objectified they notice the extra attention to their bodies, and similarly to ostracized women they also notice the lack of attention to their core self.

Self-objectification. Participants in the body condition self-objectified to a greater extent than participants in the face condition ($F(2, 71) = 3.19, p < .05, \text{partial } \eta^2 = .08$; Bonferroni simple effect $p = .04$). Participants in the away condition did not significantly differ from participants in the other conditions.

Ostracism. To examine whether women in the body, face and away conditions differed in the extent to which they felt ostracized, a mean score of the items "I felt ignored" and "I felt excluded" was computed. A one-way ANOVA revealed a significant effect ($F(2, 71) = 3.96, p = .02, \text{partial } \eta^2 = .10$), such that both participants in the away and in the body conditions felt more ostracized than participants in the face condition (Bonferroni simple effect p 's < .05). Participants in the away and body conditions did not significantly differ.

Need satisfaction. A mean score of the items from the need satisfaction scale was computed as an index of need satisfaction. A significant effect was found ($F(2, 71) = 3.86, p = .03, \text{partial } \eta^2 = .10$) such that participants in the face condition experienced higher need satisfaction than participants in the away condition (Bonferroni simple effect $p = .02$). Participants in the body condition did not significantly differ from participants in the other conditions.

Mood. A mood index was computed with higher scores representing worsened mood. A significant effect was found ($F(2, 71) = 3.30, p = .04, \text{partial } \eta^2 = .08$) such that participants in the away condition and participants in the body condition experienced worsened and marginally worsened mood, respectively, than did participants in the face condition (Bonferroni simple effect p 's = .05, .08, respectively). Participants in the away and body conditions did not significantly differ. This supports the notion that both sexual objectification and ostracism are aversive.

Mediation analysis. Because the lack of a direct effect does not rule out the possibility of a significant indirect effect, a mediation analysis was conducted to examine whether sexual objectification leads to feeling sexually objectified, which in turn leads to feelings of ostracism, which in turn leads to less need satisfaction. For this analysis a multiple mediation model with a 3-level categorical independent variable (condition: face, body, away) was conducted (using Model 6 in the PROCESS macro for SPSS; Hayes, 2013). A bootstrapping procedure of 10,000 re-samples was used to generate 95% confidence intervals around the coefficients, and the direct and indirect effects for inference testing. Ninety-five percent confidence intervals not containing zero indicate a significant effect.

As can be seen in Figure 1, participants in the body condition (compared to participants in the face condition) felt more objectified. That led them to feel more ostracized, and as a result they experienced lower need satisfaction (indirect effect = $-.38$, 95% CI = $[-.63, -.16]$). Participants in the away condition did not significantly differ from participants in the face condition in the extent to which they felt objectified, and thus the overall indirect effect was not significant (indirect effect = $-.10$, 95% CI = $[-.27, .06]$). This implies that, as hypothesized, women experience sexual objectification as a form of ostracism and experience lower need satisfaction as a result. Because the indirect effect was only significant for women in the body condition, it demonstrates that this psychological process is unique to sexual objectification. Supporting the temporal need threat model (Williams, 2009), ostracism did mediate the effect on need satisfaction for participants in the away condition, such that they felt ostracized and that resulted in lower need satisfaction (indirect effect = $-.60$, 95% CI = $[-1.04, -.10]$).

Study 1B

Study 1A provided evidence that women experience sexual objectification as a form of ostracism, and that to the extent they feel ostracized as a result of sexual objectification, they also experience the immediate effects that are associated with ostracism – threat to fundamental needs. Study 1B was conducted to replicate the previous study and to examine the robustness of this effect across different contexts using a slightly different method. College women were recruited to participate in a mental visualization exercise in which they were asked to mentally visualize an interaction with a person who is captured in a video. This time, the participants were asked to imagine that the interaction with the man in the video occurred either as a part of a blind date or as

a part of a study in psychology in which they were asked to introduce themselves to another participant. Participants then watched one of three versions of a video in which the man looked like he was looking at the participant's face, the participant's body, or away from the participant.

Method

Participants and design. Four hundred and ten women ($M_{age} = 19.98$, $SD = 1.91$; 71.5 % Caucasian; 79.5% US born) were recruited to participate in the study as volunteers from public spaces at Purdue University. Six women who were recruited to this study were either under 18 years of age or did not report their age, and so their data is not reported. Participants were randomly assigned to one of two framings of the task: blind date or psychology study, and to one of three² conditions in a mental visualization task: body, face, or away.

Procedure. A female experimenter approached women who were alone at public spaces in the university (buildings' lobbies, cafeterias, study spaces, etc.) and asked if they would be willing to participate in a short study that would include watching a video as a mental visualization exercise and answering some questions (67% of the women approached by the experimenter agreed to participate). After signing an informed consent form, the participants were given an iPad and were asked to follow the instructions on the screen. To practice their mental visualization skills, participants were instructed to imagine that they were having an interaction with the person in the video (their *interaction partner*). Participants were randomly assigned to read one of two versions of the instructions: one that instructed the participants to imagine that their interaction partner was their blind date partner, or another that described the interaction partner as a

fellow participant in a psychology study. Both versions of the instructions emphasized the importance of mentally visualizing the entire interaction. Then, as in the previous study, participants were randomly assigned to watch one of the three versions of the video portraying a man where the man's eye gaze was manipulated to seem as if the man was looking at the participant's face, body, or away from the participant. While watching the video, participants were instructed to hold the iPad at their eye level so that they would experience the full effect of the manipulation provided in the video. After watching the video, participants described what they had mentally visualized during the task and completed several measures.

Manipulation checks and dependent measures. Participants completed the same measures as in the previous study, including measures of: need satisfaction, ostracism, sexual objectification, self-objectification, mood, the extent to which their interaction partner cared about their looks, and the extent to which their interaction partner cared about what they said and how they felt (see measures in Appendix C; see reliabilities of these scales in Table 2).

Manipulation check. As in Study 1A, participants were asked to indicate where their interaction partner looked during the interaction: Mostly at their eyes, body, away or if they do not remember.

At the end of the survey participants answered a demographic questionnaire.

Results and Discussion

Manipulation check. A Chi-Square Test of Independence was performed to examine the relation between the condition and the participant's perception of the man's eye gaze direction. The relation between these variables was significant ($\chi^2(6, 410) =$

258.68, $p < .001$), indicating that there was a significant difference in the eye gaze direction that the participants perceived in the different videos. Participants in the face condition (direct eye gaze; 89.9%) and participants in the away condition (side eye gaze; 74%) were most likely to indicate the correct direction of the man's eye gaze.

Participants in the body condition were more likely to indicate that the man looked mostly at their bodies (42%), then at their eyes (20.4%) or away (32.7%). The analyses presented below includes all of the participants in the study. Eliminating those who did not correctly identify the gaze direction according to the manipulation improved the effect sizes and the significance levels of the results that are reported below.

Main analyses. To examine the effects of condition (face, body, away) and framing (blind date, psychology study) on the outcome variables a series of two-way ANOVAs was conducted (see Table 2 for means and standard deviations).

Sexual objectification. Participants in the body condition felt more objectified than participants in the face and participants in the away conditions ($F(2, 404) = 28.64$, $p < .001$, $partial \eta^2 = .12$; Bonferroni simple effect p 's $< .001$), who did not significantly differ from one another. Framing did not yield a significant effect on the extent to which participants felt objectified ($F(1, 404) = .13$, ns , $partial \eta^2 = .00$) nor a significant interaction with condition ($F(2, 404) = .27$, ns , $partial \eta^2 = .00$). Participants in the body condition also felt that their interaction partner cared about their look more than participants in the away condition and participants in the face condition ($F(2, 404) = 23.52$, $p < .001$, $partial \eta^2 = .10$; Bonferroni simple effect p 's $< .01$), who did not significantly differ from one another. Participants in the blind date framing ($M = 2.44$, $SD = .85$) were marginally more likely to think that their interaction partner cared more about

their looks than participants in the psychology study framing ($M = 2.33$, $SD = 1.00$; $F(2, 404) = 3.43$, $p = .06$, $partial \eta^2 = .01$), which makes sense as physical attraction is relevant when exploring potential romantic partners. More importantly, there was no significant interaction between framing and condition ($F(2, 404) = .27$, ns , $partial \eta^2 = .00$). Participants in the face condition felt that their interaction partner cared more about what they had to say and how they felt than participants in the away condition and participants in the body condition ($F(2, 404) = 13.99$, $p < .001$, $partial \eta^2 = .06$; Bonferroni simple effect p 's $< .001$). Framing did not yield a significant effect on the extent to which participants felt that their interaction partner cared about their thoughts and feelings ($F(1, 404) = .25$, ns , $partial \eta^2 = .00$) nor a significant interaction with condition ($F(2, 404) = .35$, ns , $partial \eta^2 = .00$).

Self-objectification. Participants in the body condition ($M = 3.85$, $SD = 1.28$) self-objectified to a greater extent than participants in the face condition ($M = 3.20$, $SD = 1.17$; $F(2, 404) = 7.04$, $p = .001$, $partial \eta^2 = .03$; Bonferroni simple effect $p = .001$), and marginally more than participants in the away condition (Bonferroni simple effect $p = .06$). Framing did not yield a significant effect on self-objectification ($F(1, 404) = 1.02$, ns , $partial \eta^2 = .00$) nor a significant interaction with condition ($F(2, 404) = .29$, ns , $partial \eta^2 = .00$).

Ostracism. A two-way ANOVA revealed a significant effect of condition ($F(2, 404) = 19.63$, $p < .001$, $partial \eta^2 = .09$), such that participants in the away condition felt more ostracized than participants in the body condition, who felt more ostracized than participants in the face condition (Bonferroni simple effect p 's $< .02$). Framing did not

yield a significant effect on ostracism ratings ($F(1, 404) = 1.48, ns, partial \eta^2 = .00$) nor a significant interaction with condition ($F(2, 404) = .35, ns, partial \eta^2 = .00$).

Need satisfaction. A significant main effect was found ($F(2, 404) = 12.70, p < .001, partial \eta^2 = .06$) such that participants in the face condition experienced higher need satisfaction than participants in the away condition and participants in the body condition (Bonferroni simple effect p 's $< .001$). Framing did not yield a significant effect on need satisfaction ($F(1, 404) = .89, ns, partial \eta^2 = .00$) nor a significant interaction with condition ($F(2, 404) = 1.06, ns, partial \eta^2 = .00$).

Mood. A significant main effect was found for mood ($F(2,404) = 12.26, p < .001, partial \eta^2 = .06$), such that participants in the away condition and participants in the body condition experienced worsened mood than participants in the face condition (Bonferroni simple effect p 's $< .001$). Framing did not yield a significant effect on mood ($F(1, 404) = .07, ns, partial \eta^2 = .00$), nor a significant interaction with condition ($F(2, 404) = .81, ns, partial \eta^2 = .00$).

Mediation analysis. A multiple mediation analysis using the same specifications as in the previous study was conducted. Because framing did not yield significant interactions with condition on any of the dependent variables it was not included in the model.

As can be seen in Figure 2, the results of this analysis replicated the results of Study 1A. Participants in the body condition (compared to participants in the face condition) felt more objectified. That led them to feel more ostracized, and as a result they experienced lower need satisfaction (indirect effect = $-.10, 95\% CI = [-.15, -.05]$). Participants in the away condition did not significantly differ from participants in the face

condition in the extent to which they felt objectified, and thus the overall indirect effect was not significant (indirect effect = $-.01$, 95% CI = $[-.04, .01]$). However, ostracism did mediate the effect on need satisfaction for participants in the away condition, such that they felt ostracized and that resulted in lower need satisfaction (indirect effect = $-.46$, 95% CI = $[-.61, -.31]$).

This study was a highly powered replication of Study 1A. In addition to producing a similar pattern of results, it also demonstrated that across several different contexts, the effects of sexual objectification remain the same.

Study 1C

The previous studies provided consistent evidence that supports the research hypotheses. In both studies it was shown that sexually objectified women experience the treatment as a form of ostracism, and that as a result they experience threat to their fundamental needs: belonging, control, self-esteem, and meaningful existence. The same manipulation of sexual objectification was used in both studies, with the only difference being the framing of the mental visualization exercise. In Study 1A open framing was used, asking the participants to imagine that the man in the video is someone they just met, without defining the situation or the identity of the man. In contrast, in Study 1B the framing itself was manipulated to one of two real life situations in which one may need to introduce herself to a stranger. For generalizability purposes, Study 1C followed the same procedure as Study 1B with one exception: The framing was manipulated to examine open framing, blind date, and a job interview situation.

Method

Participants and design. Two hundred and sixty women ($M_{age} = 19.81$, $SD = 1.80$; 70.6 % Caucasian; 78.6% US born) were recruited to participate in the study as volunteers from public spaces at Purdue University. Two women who were recruited to this study were under 18 years of age, and so their data is not reported. Participants were randomly assigned to one of three framings of the task: open framing, blind date, or job interview, and to one of three conditions in a mental visualization task: face, body, or away.

Procedure. The procedure was identical to the procedure in Study 1B. A female experimenter approached women who were alone at public spaces in the university and asked them if they would be willing to participate in a short study that would include watching a video as a mental visualization exercise and answering some questions (61% of the women approached by the experimenter agreed to participate). Participants completed the study using an iPad. To practice their mental visualization skills, participants were instructed to imagine that they were having an interaction with the person in the video (their *interaction partner*). Participants were randomly assigned to read one of three versions of the instructions: (1) *open framing* –imagine that you are having an interaction with a person that you just met; (2) *blind date* - imagine that you are meeting this person for the first time, as a part of a blind date; or (3) *job interview* - imagine that you are meeting this person for the first time, and that this person is interviewing you for a desirable job. All versions of the instructions emphasized the importance of mentally visualizing the entire interaction. Then, as in the previous studies, participants were randomly assigned to watch one of the three versions of the video

portraying a man where the man's eye gaze was manipulated. After watching the video, participants described what they had mentally visualized during the task and completed several measures.

Manipulation check and dependent measures. Participants completed the same measures as in the previous studies, including a manipulation check and measures of: need satisfaction, ostracism, sexual objectification, mood, the extent to which their interaction partner cared about their looks, and the extent to which their interaction partner cared about what they said and how they felt (see measures in Appendix C; see reliabilities of these scales in Table 3).

At the end of the survey participants answered a demographic questionnaire.

Results and Discussion

Manipulation check. A Chi-Square Test of Independence was performed to examine the relation between the condition and the participant's perception of the man's eye gaze direction. The relation between these variables was significant ($\chi^2(6, 260) = 185.31, p < .001$), indicating that there was a significant difference in the eye gaze direction that the participants perceived in the different videos. Participants in the face condition (direct eye gaze; 82%) and participants in the away condition (side eye gaze; 82.4%) were most likely to indicate the correct direction of the man's eye gaze. Participants in the body condition were more likely to indicate that the man looked mostly at their bodies (40%) than mostly at their eyes (21%) or away (37%). The analyses presented includes all of the participants in the study. Eliminating those who did not correctly identified the gaze direction according to the manipulation improved the effect sizes and the significance levels of the results that are reported below.

Main analyses. To examine the effects of condition (face, body, away) and framing (open, blind date, job interview) on the outcome variables, a series of two-way ANOVAs was conducted (see Table 3 for means and standard deviations).

Sexual objectification. Participants in the body condition felt more objectified than participants in the face and participants in the away conditions ($F(2, 251) = 18.02, p < .001, \text{partial } \eta^2 = .13$; Bonferroni simple effect p 's $< .001$), who did not significantly differ from one another. Framing did not yield a significant effect on the extent to which participants felt objectified ($F(2, 251) = 1.01, ns, \text{partial } \eta^2 = .01$) nor a significant interaction with condition ($F(4, 251) = .44, ns, \text{partial } \eta^2 = .01$). Participants in the away condition felt that their interaction partner cared less about their looks than participants in the body condition and participants in the face condition ($F(2, 251) = 9.51, p < .001, \text{partial } \eta^2 = .07$; Bonferroni simple effect p 's $< .001$), who did not significantly differ from one another. Framing did not yield a significant effect on the extent to which participants felt that their looks was important to their interaction partner ($F(2, 251) = .50, ns, \text{partial } \eta^2 = .00$) nor a significant interaction with condition ($F(4, 251) = .24, ns, \text{partial } \eta^2 = .00$). Participants in the face condition felt that their interaction partner cared more about what they had to say and how they felt than participants in the away condition and participants in the body condition ($F(2, 251) = 17.16, p < .001, \text{partial } \eta^2 = .12$; Bonferroni simple effect p 's $< .001$). Framing did not yield a significant effect on the extent to which participants felt that their interaction partner cared about their thoughts and feelings ($F(2, 251) = 1.75, ns, \text{partial } \eta^2 = .01$) nor a significant interaction with condition ($F(4, 251) = 1.98, ns, \text{partial } \eta^2 = .03$).

Ostracism. A two-way ANOVA revealed a significant effect of condition ($F(2, 251) = 13.13, p < .001, \text{partial } \eta^2 = .10$), such that participants in the away and body conditions felt more ostracized than participants in the face condition (Bonferroni simple effect p 's $< .001$). Framing did not yield a significant effect on ostracism ratings ($F(2, 251) = 2.27, ns, \text{partial } \eta^2 = .02$) nor a significant interaction with condition ($F(4, 251) = .92, ns, \text{partial } \eta^2 = .01$).

Need satisfaction. A significant main effect was found ($F(2, 251) = 10.70, p < .001, \text{partial } \eta^2 = .08$) such that participants in the face condition experienced higher need satisfaction than participants in the away condition and participants in the body condition (Bonferroni simple effect p 's $< .01$). Framing did not yield a significant effect on need satisfaction ($F(2, 251) = 1.07, ns, \text{partial } \eta^2 = .01$) nor a significant interaction with condition ($F(4, 251) = 1.28, ns, \text{partial } \eta^2 = .02$).

Mood. A significant main effect was found for mood ($F(2, 251) = 10.03, p < .001, \text{partial } \eta^2 = .07$), such that participants in the away condition and participants in the body condition experienced worsened mood than participants in the face condition. Framing did not yield a significant effect on mood ($F(2, 251) = 1.58, ns, \text{partial } \eta^2 = .01$), nor a significant interaction with condition ($F(4, 251) = 2.03, ns, \text{partial } \eta^2 = .03$).

Mediation analysis. A multiple mediation analysis using the same specifications as in previous studies was conducted. Because framing did not interact with condition on any of the dependent variables it was not included in the model.

As can be seen in Figure 3, participants in the body condition (compared to participants in the face condition) felt more objectified. That led them to feel more ostracized, and as a result they experienced lower need satisfaction (indirect effect = $-.15$,

95% CI = [-.26, -.06]). Participants in the away condition did not significantly differ from participants in the face condition in the extent to which they felt objectified, and thus the overall indirect effect was not significant (indirect effect = -.004, 95% CI = [-.05, .04]). However, ostracism did mediate the effect on need satisfaction for participants in the away condition, such that they felt ostracized and that resulted in lower need satisfaction (indirect effect = -.64, 95% CI = [-.90, -.39]).

Study 1C provided further replication of the previous studies. It also increased the generalizability of the findings, as it demonstrated that the pattern of the results remains regardless of whether or not a context is provided, and regardless of the context (blind date, job interview). Women in the body condition felt more sexually objectified than women in the other conditions, and more ostracized than participants in the face condition which is a more common gaze direction for interpersonal interactions.

Study 2

The previous studies supported the prediction that women experience sexual objectification as a form of ostracism, and as a result experience threat to their fundamental needs. In those studies participants were asked to imagine an interaction with a man who was portrayed in a pre-recorded video. The aim of Study 2 was to examine sexual objectification and its effects when it occurs in real life. College women were recruited to participate in a study about social interactions. To do so, a method used by Saguy, Quinn, Dovidio and Pratto (2016) that successfully increased self-objectification was modified and employed. In the original method, participants were told that their male interaction partner would be viewing a videotaped recording of only her body or only her face. Instead of telling the participants that the condition is assigned

randomly as Saguy et al. did, in the current study the experimenter told each participant that the condition would be determined according to her interaction partner's preference. This was done to create the perception that the male partner was responsible for the sexually objectifying treatment. I predicted that believing that the male partner chose to view only her body would not only increase sexual objectification but would also result in consequences similar to being ostracized: feelings of (at least partially) being ignored and excluded, threatened needs of belonging, self-esteem, control, and meaningful existence, and worsened mood.

Method

Participants and design. A hundred and twenty-four women ($M_{age} = 18.92$, $SD = .99$; 71 % Caucasian; 87.9% US born) were recruited to participate in the study in exchange for course credit. Data from three women who were under 18 years of age, a participant who did not provide consent that her data could be used for analysis, and 13 participants who did not recall that the condition was determined by her interaction partner are not reported. Power analysis using simulation was conducted to determine the desired sample size ($n = 120$) that would be required to achieve 83% power to the indirect effect of condition on ostracism via sexual objectification, assuming the effect size would be comparable to the effect detected in Study 1A (Lane & Hennes, 2017). Participants were randomly assigned to one of two conditions of the introduction task: face or body.

Procedure. Upon the participant's arrival at the waiting room for the experimental session, she met another ostensible participant—her “interaction partner” (a male confederate³). After a couple of minutes, a female experimenter arrived at the waiting room and escorted both the participant and the confederate to separate lab rooms.

The experimenter joined the participant in the lab and provided her with information regarding the study. Following the method of Saguy and colleagues (2010), the experimenter explained to the participant that the study was concerned with “what makes an interaction successful” and that the participant in the other room would be her interaction partner. The experimenter further explained that the study was examining how people use different channels of communication (e.g., facial gestures, body language, and vocal cues). The experimenter conducted a bogus draw in which the participant drew a note that determined that she would introduce herself to her interaction partner first, and that later the roles would be switched. The participant was asked to introduce herself using a video camera to her interaction partner, and that after her introduction, the male participant would introduce himself. Then, the experimenter mentioned that she would deliver the same instructions to the participant in the other room, and that because he would be the participant’s interaction partner, he would be given a choice as to how he would like to experience the introduction: either by (1) having the video camera angled to capture only the introducer’s face (*face*), (2) having the video camera angled down to capture the introducer’s body from the neck down (*body*), or (3) choosing not to have a camera image and only hearing the introducer’s voice (*voice*). In actuality, participants were assigned randomly to either face or body.

The experimenter then left the room allegedly to deliver the instructions to the other participant and to check for his preference regarding the condition. The experimenter got back to the participant room and informed her of the condition her interaction partner allegedly chose for her and set up the equipment for the appropriate condition: *face* – the video captured the participant’s face (neck up); or *body* – the video

camera captured the participant's body (neck down). The camera's screen was rotated to face the participant, such that during the introduction the participant could see what was being captured in the recording.

Before the recording began, the experimenter explained that regardless of whether or not the participant was talking, the camera would keep rolling for the entire 2-minute time, provided the participant with a list of topics she could refer to in her introduction, and left the room for the duration of the introduction. Upon completing the introduction, the participant was asked to complete several measures, while the experimenter was presumably setting up the equipment for filming the other participant's introduction.

Manipulation checks, dependent measures, and predictor measures.

Participants completed the same measures as in the previous studies, including measures of: need satisfaction, mood, ostracism, self-objectification, sexual objectification, the extent to which their interaction partner cared about their looks, and the extent to which their interaction partner cared about what they said and how they felt (see reliabilities of these scales in Table 4).

Attractiveness. For exploratory purposes, participants were asked to indicate their physical attractiveness at the moment on a 10-point scale ranging from *not at all* (1) to *very much so* (10). In addition, participants indicated the extent to which they felt socially attractive (3 items; e.g., "right now, I think that I am a socially attractive individual") on a 7-point scale ranging from *not at all* (1) to *very much so* (7).

Ambivalent sexism. For exploratory purposes, participants completed the Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996). They indicated their agreement with 22 items ($\alpha = .88$) that are designed to assess hostile sexism (11 items;

e.g., “Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for “equality.””; $\alpha = .89$), and benevolent sexism (11 items; e.g., “Women should be cherished and protected by men.”; $\alpha = .83$). Participants rated their agreement with each statement on a 6-point scale ranging from *disagree strongly* (1) to *agree strongly* (6).

Contingent self-worth. For exploratory purposes, participants completed a subscale of the Contingencies of Self-Worth Scale (CSW; Crocker, Luhtanen, Cooper, & Bouvrette, 2003) to assess the extent to which their self-worth was contingent on their appearance (5 items; e.g., “When I think I look attractive, I feel good about myself”; $\alpha = .77$). Participants rated their agreement with each statement on a 7-point scale ranging from *strongly disagree* (1) to *strongly agree* (7). Items from other subscales of this scale were used as fillers to disguise the purpose of this measure.

Condition preference. Participants were asked to indicate that if they could choose which condition they would be assigned to (face, body or voice), which would be their preference. They rated the three conditions from *most desirable* (1) to *least desirable* (3).

Manipulation checks. Participants were asked to recall the condition they were assigned to, and whether they remember how this condition was determined (randomly, by the experimenter, or by their interaction partner).

Finally, the experimenter fully debriefed the participants, explained that the condition was randomly determined and that the other participant was a confederate in the study, and asked for the participants’ consent to use their data in the analysis (see measures in Appendix C).

Results and Discussion

Manipulation check. A Chi-Square Test of Independence was performed to examine the relation between the condition and the participant's recollection of the condition. The relation between these variables was significant ($\chi^2(1, 124) = 124.00, p < .001$) such that the all of the participants correctly recalled the condition they were assigned to.

Replication of previous findings.

Self-objectification. A one-way ANOVA yielded a significant effect ($F(1, 122) = 24.66, p < .001, partial \eta^2 = .17$) such that participants in the body condition self-objectified to a greater extent than participants in the face condition. It provides support that the modification of the method used by Saguy and colleagues (2010) still successfully elicited self-objectification among the participants in the body condition (See Table 4 for means and standard deviations).

Speech length. To examine whether, as in Saguy and colleagues work (2010), participants in the body condition spent less time talking than participants in the face condition, a one-way ANOVA on talking time, measured in seconds, was conducted. The analysis yielded a marginal effect ($F(1, 122) = 3.40, p = .07, partial \eta^2 = .03$), such that participants in the body condition ($M = 100.3, SD = 21.20$) spent marginally less time talking than participants in the face condition ($M = 107.95, SD = 20.69$).

Preferred conditions. To determine whether interacting with a man who was looking at one's body is aversive, a Chi-Square for Goodness of Fit Test was conducted. The test yielded a significant effect ($\chi^2(2, 124) = 48.50, p < .001$), as 57% of the participants indicated that the body condition was the least favored condition, compared

to 6.5% who indicated that this was the most favorable condition, and 36.3% who indicated that this was neither their most nor the least favorite. The most favorable condition according to analysis ($\chi^2(2, 124) = 39.11, p < .001$), was the audio condition (that was solely a part of the cover story) according to 59% of the participants.

Main analyses. To examine whether women in the body condition felt more sexually objectified, more ostracized, and experienced the immediate effects that are associated with ostracism (negative affect, lower need satisfaction) than women in the face condition, a series of one-way ANOVAs was conducted (See Table 4 for means and standard deviations).

Sexual objectification. Participants in the body condition felt more sexually objectified than participants in the face condition ($F(1, 122) = 20.09, p < .001, partial \eta^2 = .14$). However, there was no significant difference between participants in the face and body conditions in the extent to which they felt that their interaction partner cared about their looks ($F(1, 122) = .15, ns, partial \eta^2 = .00$), or about what they had to say and how they felt ($F(1, 122) = .87, ns, partial \eta^2 = .01$).

Ostracism. Participants in the body condition felt more ostracized than participants in the face condition ($F(1, 122) = 3.93, p = .05, partial \eta^2 = .03$).

Need satisfaction. There was no significant difference between participants in the face and body conditions in the extent to which their fundamental needs were satisfied ($F(1, 122) = .79, ns, partial \eta^2 = .01$).

Mood. Participants in the body condition experienced marginally worsened mood than participants in the face condition ($F(1, 122) = 3.37, p = .07, partial \eta^2 = .03$).

Mediation analysis. Because the lack of a direct effect does not rule out the possibility of a significant indirect effect, a multiple mediation analysis was conducted to examine the psychological process of whether sexual objectification leads to feeling sexually objectified, which in turn leads to feelings of ostracism, which in turn leads to less need satisfaction. A multiple mediation model with a bootstrapping procedure of 10,000 re-samples was used to generate 95% confidence intervals around the coefficients, and the direct and indirect effects for inference testing.

As can be seen in Figure 4, participants in the body condition (compared to participants in the face condition) felt more objectified. That led them to feel more ostracized, and as a result they experienced lower need satisfaction (indirect effect = $-.13$, 95% CI = $[-.28, -.03]$).

Exploratory analyses.

Attractiveness. To examine whether the condition to which the participants was assigned affected how attractive they felt, a series of one-way ANOVAs was conducted. Condition did not yield a significant effect on how physically attractive ($F(1, 122) = .84$, *ns*, *partial* $\eta^2 = .00$) or socially attractive ($F(1, 122) = 2.31$, *ns*, *partial* $\eta^2 = .02$) participants felt. To examine whether controlling for the extent to which participants felt physically or socially attractive affected the pattern of results reported with respect to the effects of condition on the key dependent measures (sexual objectification, and ostracism), a series of Analysis of Covariance (ANCOVA) was conducted. Neither physical nor social attractiveness were significant covariates (all p 's $> .22$) and controlling for them did not change the pattern nor the significance of the results reported above.

Ambivalent sexism. Multiple-linear regression analyses were computed to examine whether benevolent and hostile sexism moderated the effect of condition on the key dependent measures. With respect to the effect on sexual objectification, the regression model yielded significant results ($F(5, 118) = 4.85, p < .001, R^2 = .17$). Condition was the only significant predictor of sexual objectification ($B = .88, SE = .20, t(118) = 4.48, p < .001$). Neither benevolent sexism, hostile sexism, nor the interaction between condition and benevolent sexism or with hostile sexism, predicted sexual objectification (all p 's $> .16$). With respect to the effect on ostracism, the regression model did not yield significant results ($F(5, 118) = 1.95, ns, R^2 = .08$). Condition was the only significant predictor of ostracism ($B = .52, SE = .24, t(118) = 2.18, p = .03$; all other p 's $> .23$).

Contingent self-worth. Multiple-linear regression analyses were conducted to examine whether the extent to which the participants' self-worth is contingent on their appearance moderates the effect of condition on the key dependent measures. With respect to the effect on sexual objectification, the regression model yielded significant results ($F(3, 120) = 8.04, p < .001, R^2 = .17$). Condition was the only significant predictor of sexual objectification ($B = .93, SE = .20, t(120) = 4.71, p < .001$). Neither the extent to which the participants' self-worth is contingent on their appearance, nor the interaction between condition and contingent self-worth, predicted sexual objectification (all p 's $> .36$). With respect to the effect on ostracism, the regression model did not yield significant results ($F(3, 120) = 1.62, ns, R^2 = .04$). Condition was the only significant predictor of ostracism ($B = .50, SE = .24, t(120) = 2.08, p = .04$; all other p 's $> .60$).

Implications of Research Question 1

Four studies supported the hypothesis that sexual objectification can be meaningfully understood as a form of ostracism. Women across the four different studies reported feeling sexually objectified and ostracized to a greater extent in the body condition than in the face condition. Whereas the direct effect of condition on need satisfaction was significant in some studies but not in others, mediation analyses revealed consistent support the hypothesized psychological process: Women in the body condition felt more sexually objectified, that led them to feel more ostracized, and that in turn led them to feel more ostracized.

The studies utilized two novel methods to empirically test the effects of sexual objectification, each of them with different advantages. The mental visualization exercise that included videos of a man in which the direction of his eye gaze was manipulated was utilized in Studies 1a, 1b and 1c. This method allowed for a comparison of sexual objectification and ostracism, both to one another and to a control condition. This comparison illustrated the complexity of the sexual objectification phenomenon. On one hand, women in the body condition felt that their interaction partner cared more about their appearance than women in the away condition, implying that sexually objectified women are aware that they receive some attention. On the other hand, both women in the body condition and women in the away condition, in comparison to women in the face condition, felt that their interaction partner did not care about what they had to say or how they felt, implying that sexually objectified women are also aware that they do not receive attention to core aspects of their personality. This method also allowed for the testing of the hypotheses across different contexts. It provided evidence that sexual

objectification is experienced as a form of ostracism, regardless of the context and the identity of the perpetrator.

Study 2 utilized an elaborated method with higher ecological validity, as the sexual objectification occurred in real life by an actual person. In addition, this method eliminated any ambiguity regarding the experimental condition. The data from this study provided additional support for hypotheses. As in Studies 1a, 1b, and 1c, women in the body condition felt sexually objectified and ostracized to a greater extent than women in the face condition; and the mediation analysis revealed the same psychological process. These effects occurred even though women in the two conditions did not differ in the extent to which they felt that their interaction partner cared about them and about what they said. This may be a result of the compelling cover story, that provided an alternative explanation (the interest in body language) to the behavior of the interaction partner.

These studies provide further evidence that both sexual objectification and ostracism are upsetting, and that sexual objectification by others elicits self-objectification (Fredrickson & Roberts, 1997; Swim, Hyers, Cohen, & Ferguson, 2001; Nezlek, Wesselmann, Wheeler, & Williams, 2012; Williams, 2009).

In conclusion, the research described in these studies expands the current definition of partial ostracism, which is currently focused on sporadic ostracism treatment, to include ignoring parts of an individual while attending other parts. At the same time, it suggests the application of the broader context of ostracism to sexual objectification and the exploration of potential outcomes that have so far been beyond the realm of sexual objectification research.

RESEARCH QUESTION 2

Study 3

Study 3 addresses the second research question. It examines whether ostracism causes women to self-objectify and present themselves in ways that would promote their sexual objectification. Female participants were asked to relive a time in which they felt ostracized or a time in which they felt included. Self-objectification is often expressed in the form of presenting oneself sexually, presumably to garner attention from others (Fredrickson & Roberts, 1997). Therefore, after the reliving exercise, participants were asked to choose how they would like to wear a button-up shirt if they were going to a social event. The participants were asked to indicate which buttons they would choose to close, and which they would choose to keep open. I predicted that ostracized women would choose to close fewer buttons as this is a way to reveal more skin and to sexualize their appearance.

Method

Participants and design. One hundred and sixty-three women ($M_{age} = 19.00$, $SD = 2.30$; 71.2 % Caucasian; 83.4% US born) were recruited to this study in exchange for course credit. Data from five participants is not reported: One who reported her gender as other than female, and four who were under 18 years of age or did not report their age. The desired sample size ($n = 146$) was determined using power analysis, anticipating a medium effect size (*partial* η^2) of .05, power of .80, and $p = .05$. Data collection continued till the end of the week in which the desired sample size was obtained. Participants were randomly assigned to one of two conditions: Inclusion or ostracism.

Procedure. Participants were recruited for a study on how mental visualization of social interactions affects their perceptions of those interactions. Upon arrival, a female experimenter greeted them and led them to the lab where they were seated in individual cubicles. The entire study was programmed through Qualtrics, and the participants were asked to follow the instructions on the computer monitor.

Participants were asked to recall and write about an experience from their past (Knowles & Gardner, 2016). They were instructed to try to fully engage in that memory and to mentally visualize the entire situation as vividly as they could in their head. Participants were randomly assigned to one of two sets of instructions. In the ostracism condition participants were asked to

Think about a time in which you felt intensely rejected in some way, a time that you felt as if you did not belong. This rejection can be interpersonal in nature (e.g., a time in which someone broke up with you, or no longer wanted to be your friend) or can be a rejection from a group (e.g., a time in which you were chosen last for a team or excluded from a clique).

Participants in the inclusion condition were asked to

Think about a time in which you felt very accepted in some way, a time that you felt as if you belonged. This acceptance can be interpersonal in nature (e.g., a time in which someone wished to date you or wanted to be your friend) or can be an acceptance by a group (e.g., a time in which you were chosen for a team or included in a clique).

Participants were instructed write about the experience in detail, including the circumstances of the event, as well as the thoughts and feelings they experienced at the time.

Reflexive need satisfaction and mood. On the same scales as in the previous studies, participants reported their need satisfaction and their mood during the task to examine their feelings in the reflexive stage of the ostracism experience (see reliabilities of these scales in Table 5).

Ostracism. Participants reported the extent to which they felt ostracized on the same scale as in the previous studies.

Choice of outfit. After completing the mood, need satisfaction, and ostracism measures, participants were introduced to their second mental visualization exercise. In this task they were asked to mentally visualize that they decided to attend an open party on campus that everyone was invited to. The task instructed the participants to mentally visualize different aspects of the party (venue, distance, guests, etc.) using several guiding questions. The first question instructed them to imagine the outfit they would be wearing: They were presented with an image of a standard white button up shirt with seven buttons. The participants were asked to indicate for each button whether they would close it or leave it open.

Wish to be noticed. After finishing the task, participants were asked how important it is to them to be noticed and to be perceived as attractive by others (3 items; e.g., “It is important for me to be noticed”) on a 7-point scale ranging from *not at all* (1) to *very much* (7).

Self-objectification. To further examine self-objectification, participants completed the self-objectification measure as in the previous studies.

Reflective need satisfaction and mood. Participants reported their need satisfaction and mood at the moment, to assess their feelings at the reflective stage.

As in Study 2, some exploratory measures were collected including physical and social attractiveness, benevolent and hostile sexism ($\alpha = .79, .84$; respectively) and contingent self-worth ($\alpha = .72$).

At the end of the survey participants answered a demographic questionnaire (see measures in Appendix C).

Results and Discussion

Process check. To examine whether the reliving manipulation resulted in lower need satisfaction, worsened mood and feelings of ostracism, a series of one-way ANOVAs was conducted (See Table 5 for means and standard deviations).

Ostracism. Women who were asked to relive an episode of ostracism successfully relived the feelings of being ostracized, as they felt more ostracized than participants who relived an episode of inclusion ($F(1, 161) = 534.27, p < .001, partial \eta^2 = .77$).

Reflexive need satisfaction and mood. Ostracized participants experienced the effects that are associated with the reflexive stage of ostracism. They reported lower need satisfaction and worsened mood than included participants ($F(1, 161) = 917.80, p < .001, partial \eta^2 = .85$; $F(1, 161) = 1139.85, p < .001, partial \eta^2 = .88$; respectively).

Main analyses. To examine whether ostracized women choose to dress in a more revealing manner, self-objectify to a greater extent, and seek to be noticed more than

included women, a series of one-way ANOVAs was conducted with condition (ostracism, inclusion) as the independent variable.

Choice of outfit. Contradicting the hypothesis, included participants chose to leave more shirt buttons open than ostracized participants ($F(1, 161) = 6.00, p = .01, partial \eta^2 = .04$).

Wish to be noticed. There was no significant difference in the extent to which included and ostracized participants wished to be noticed and be perceived as attractive by others ($F(1, 161) = 1.80, ns, partial \eta^2 = .01$).

Self-objectification. There was no significant difference in the extent to which included and ostracized participants self-objectified ($F(1, 161) = .12, ns, partial \eta^2 = .00$).

Reflective need satisfaction and mood. To examine recovery of participants in terms of their need satisfaction, a mixed ANOVA with condition as the between subject variable and stage (reflexive vs. reflective) as the within subject variable was conducted. The analysis revealed a main effect for condition ($F(1, 161) = 283.34, p < .001, partial \eta^2 = .64$) and a main effect for stage ($F(1, 161) = 60.65, p < .001, partial \eta^2 = .27$) that were qualified by a two-way interaction of condition and stage ($F(1, 161) = 403.73, p < .001, partial \eta^2 = .72$). These results indicated that ostracized participants' need satisfaction improved more over time than did included participants'. A one-way ANOVA revealed that there was no significant difference in need satisfaction between included and ostracized participants at the reflective stage ($F(1, 161) = .71, ns, partial \eta^2 = .00$), indicating that by the reflective stage ostracized participants recovered completely in terms of need satisfaction.

Similar results were found for mood. To examine recovery of participants in terms of their mood, a mixed ANOVA was conducted. The analysis revealed a main effect for condition ($F(1, 161) = 423.12, p < .001, \text{partial } \eta^2 = .72$) and a main effect for stage ($F(1, 161) = 206.57, p < .001, \text{partial } \eta^2 = .56$) that were qualified by a two-way interaction of condition and stage ($F(1, 161) = 476.59, p < .001, \text{partial } \eta^2 = .75$). These results indicated that ostracized participants' mood improved more between measurements than included participants'. A one-way ANOVA revealed that there was no significant difference in need satisfaction between included and ostracized participants at the reflective stage ($F(1, 161) = .01, ns, \text{partial } \eta^2 = .00$), indicating that by the reflective stage ostracized participants recovered completely in terms of mood as well.

Exploratory analyses.

Attractiveness. I hypothesized that ostracized women would choose to leave more buttons open as a means to attract attention and thus fortify their fundamental needs. The data from the current study did not support this hypothesis, as it was included women who chose to leave more buttons open. Another possibility is that women's outfit choice was influenced by how attractive they felt. To examine whether the condition to which the participants were assigned affected how attractive they felt, a series of one-way ANOVAs was conducted. Condition did not affect how physically attractive ($F(1, 161) = .09, ns, \text{partial } \eta^2 = .00$) or socially attractive ($F(1, 161) = .66, ns, \text{partial } \eta^2 = .00$) participants felt. To examine whether controlling for the extent to which participants felt physically or socially attractive affected the pattern of results reported with respect to the effects of condition on the key dependent measures (outfit choice, self-objectification, wish to be noticed), a series of Analysis of Covariance (ANCOVA) were conducted. The

extent to which participants felt physically attractive was a significant predictor for choosing a more revealing outfit ($F(1, 160) = 9.53, p = .002, \text{partial } \eta^2 = .06$), for self-objectification ($F(1, 160) = 4.21, p = .04, \text{partial } \eta^2 = .03$), and for the extent to which they wanted to be noticed ($F(1, 160) = 6.25, p = .01, \text{partial } \eta^2 = .04$). The extent to which participants felt socially attractive was also a significant predictor for choosing a more revealing outfit ($F(1, 160) = 7.44, p = .007, \text{partial } \eta^2 = .04$), for self-objectification ($F(1, 160) = 4.06, p < .05, \text{partial } \eta^2 = .03$), and for the extent to which they wanted to be noticed ($F(1, 160) = 18.32, p < .001, \text{partial } \eta^2 = .10$). However, controlling for either physical or social attractiveness did not change the pattern nor the significance of the effects of condition on these independent measures.

Ambivalent sexism. Multiple-linear regression analyses were computed to examine whether benevolent and hostile sexism moderated the effect of condition (inclusion/ostracism) on the key dependent measures. For outfit choice, the analysis yielded marginal significance ($F(5, 112) = 2.16, p = .06, R^2 = .09$). Condition was a significant predictor of number of buttons left open ($B = -.34, SE = .16, t(112) = -2.15, p = .03$); and hostile sexism was a marginally significant predictor of number of buttons left open ($B = .23, SE = .12, t(112) = 1.88, p = .06$) such that higher hostile sexism predicted leaving more buttons open. Benevolent sexism did not significantly predict the number of buttons left open ($p > .14$). This was qualified by significant interactions. The interaction of condition with hostile sexism was significant ($B = -.41, SE = .18, t(112) = -2.22, p = .03$), such that for included women higher hostile sexism was associated with leaving more buttons open while for ostracized women higher hostile sexism was associated with leaving fewer buttons open. The interaction of condition with benevolent sexism was

marginally significant ($B = .39, SE = .21, t(112) = 1.89, p = .06$), such that for included women higher benevolent sexism was associated with leaving fewer buttons open while for ostracized women higher benevolent sexism was associated with leaving more buttons open. With respect to the effect on the desire to be noticed and perceived as attractive the regression model did not yield significant results ($F(5, 112) = 1.72, ns, R^2 = .07$). Although the model was not significant, condition was a significant predictor ($B = -.50, SE = .24, t(112) = -2.09, p = .04$) such that participants in the inclusion condition had a stronger desire to be noticed, and benevolently sexist participants had stronger desire to be noticed ($B = .44, SE = .22, t(112) = 1.98, p = .05$; all other p 's $> .12$). With respect to the effect on self-objectification, the model was not significant ($F(5, 112) = .54, ns, R^2 = .02$) and neither were the individual components (all p 's $> .28$).

Contingent self-worth. Multiple-linear regression analyses were conducted to examine whether the extent to which the participants' self-worth is contingent on their appearance moderated the effect of condition on the key dependent measures. With respect to the effect on outfit choice the model did not yield significant results ($F(3, 112) = 2.13, ns, R^2 = .05$), however condition was a significant predictor of number of buttons open ($B = -.34, SE = .16, t(112) = -2.09, p = .04$; all other p 's $> .14$). With respect to the effect on self-objectification the regression model did not yield significant results ($F(3, 112) = 1.90, ns, R^2 = .05$). The extent to which participants' self-worth was contingent on their appearance was a significant predictor of self-objectification ($B = .32, SE = .16, t(112) = 2.02, p = .05$) such that participants for whom their self-worth is more contingent on their appearance self-objectified a greater extent (all other p 's $> .46$). With respect to the effect on the desire to be noticed and perceived as attractive, the regression model

yielded significant results ($F(3, 112) = 8.04, p < .001, R^2 = .18$). The extent to which participants' self-worth was contingent on their appearance was a significant predictor of the desire to be noticed ($B = .58, SE = .17, t(112) = 3.34, p = .001$) such that participants who their self-worth is more contingent on their appearance desired to be noticed to a greater extent (all other p 's $> .30$).

This study did not provide support to the hypothesis that ostracism would lead to self-objectification and to present a more sexualized image. Contradicting the hypothesis, it suggests that ostracized women choose to present a less sexualized image of themselves. Benevolent and hostile sexism moderated the effect of ostracism on presenting a sexualized image. These findings were further examined in Study 4.

Study 4

The current study, similarly to Study 3, was designed to examine whether ostracism leads women to present themselves in ways that would promote their sexual objectification. In Study 3, ostracized and included participants were asked to choose their own clothing. On one hand, this measure is realistic and intuitive as people choose their own clothing on a daily basis. On the other hand, body image sensitivities may affect one's decisions regarding their clothing in addition to the ostracism manipulation. Study 4 followed a similar procedure to the one introduced in the previous study: Women were recruited to participate in the study, were either included or ostracized, and completed self-objectification measures. To manipulate ostracism, the virtual ball tossing game Cyberball was used (Williams, Cheung, & Choi, 2000; Williams & Jarvis, 2006). Participants were told that they were playing the game with two other players as a means to practice their mental visualization skills for an upcoming task. In reality the game was

pre-programed to randomly include or ostracize participants from the game. To measure self-objectification, instead of asking participants to choose their own clothing, participants were asked to choose the clothing of an avatar that would represent them in a future online interaction. I predicted that ostracized women would choose more revealing clothing for their online avatars than included women.

Method

Participants and design. One hundred and forty-six women ($M_{age} = 18.69$, $SD = .94$; 84.2% Caucasian; 92.5% US born; 93.2% Heterosexual) were recruited to this study in exchange for course credit. The desired sample size ($n = 146$) was determined using power analysis, anticipating a medium effect size (*partial* η^2) of .05, power of .80, and $p = .05$. Participants were randomly assigned to one of two conditions: Inclusion or ostracism.

Procedure. Participants completed the study using their personal computers. They were recruited to a study about the effects of mental visualization on social interactions. The study was programed through Qualtrics, and participants were asked to follow the instructions on the computer monitor.

A description of the study was presented to the participants. The description said that the researchers are interested in examining different aspects of social interactions, and that they will participate in interpersonal dynamic tasks that involve others over the network and would also respond to questions at different stages of the study. The first interpersonal dynamic task was Cyberball. Cyberball is a ball tossing game that participants play with allegedly two other players (Williams, Cheung, & Choi, 2000; Williams & Jarvis, 2006). Participants were instructed to focus on mentally visualizing

the scenario in which they play the game (who are the other players, what is the weather like, where they are playing, etc.). They were told that mental visualization is important, rather than who throws to whom. Participants were randomly assigned to be either included in the game, such that they received one third of the ball tosses for a total of thirty throws, or ostracized, such that they received only one throw at the beginning of the game and never again.

Reflexive need satisfaction and mood. On the same scales as in the previous studies, participants reported their need satisfaction and their mood during the game to examine their feelings in the reflexive stage of the ostracism experience (see measures in Appendix C; see reliabilities of these scales in Table 6).

Ostracism. Participants reported the extent to which they felt ostracized on the same scale as in the previous studies.

After completing the mood, need satisfaction, and ostracism measures, participants were told that they would complete the next task with another participant who was connected to our network using an online chat. They were told that before they would receive further information regarding the task they would have a couple of minutes to chat with the other participant and to introduce themselves to one another. Participants were asked to provide some information (e.g., nickname, age, gender, major, and year in college) to create an online profile that would be presented to the other participant. After providing this information, and after a minute in which the program was allegedly searching for another participant over the network, an announcement that a participant was found appeared on the screen including a profile with his information. The profile

presented the alleged participant as a man in his junior/senior year majoring in biochemistry/civil-engineering (counterbalanced).

Choice of outfit. Participants were then instructed to choose an avatar that would represent them during their interaction with the other participant. Choosing the avatars was divided into stages: First, participants chose the face of their avatar from different options that were designed to allow for different appearances, races and ethnicities; Then, an avatar with the chosen face was presented in seven different outfits that varied in the amount of body coverage⁴, and ranged from fairly modest coverage to fairly revealing coverage (see Appendix C for stimuli). Regardless of the face chosen, the body of the avatar was constant. The choice of outfit, as an indicator of self-objectification, was measured according to the outfit that the participant chose from *least revealing* (1) to *most revealing* (7).

After building their avatar, participants were told that before the chat begins would complete several measures. Participants completed the same measures described in Study 3, including: wish to be noticed, self-objectification, reflective need satisfaction and mood, physical and social attractiveness, benevolent and hostile sexism ($\alpha = .76, .89$; respectively) and contingent self-worth ($\alpha = .80$).

At the end of the survey participants answered a demographic questionnaire. The debriefing was presented to the participants, explaining that the condition was randomly determined, that Cyberball was a pre-programmed game, and that the other participants in the game and in the chat were not real. After revealing this information, participants were asked to provide their consent to use their data in the analysis.

Results and Discussion

Process check. To examine whether Cyberball condition resulted in affected need satisfaction, mood and feelings of ostracism, a series of one-way ANOVAs was conducted (See Table 6 for means and standard deviations).

Ostracism. Participants who were ostracized in a Cyberball game felt more ostracized than participants who were included in the game ($F(1, 144) = 258.71, p < .001, partial \eta^2 = .64$).

Reflexive need satisfaction and mood. Ostracized participants experienced the effects that are associated with the reflexive stage of ostracism. They reported lower need satisfaction and worsened mood than included participants ($F(1, 144) = 151.04, p < .001, partial \eta^2 = .51$; $F(1, 144) = 128.29, p < .001, partial \eta^2 = .47$; respectively).

Main analyses. To examine whether ostracized women chose to dress in a more revealing manner, self-objectify to a greater extent, and seek to be noticed more than included women, a series of one-way ANOVAs was conducted with condition (ostracism, inclusion) as the independent variable.

Choice of outfit. Although included and ostracized participants did not significantly differ in how revealing the outfit they chose was ($F(1, 141) = 2.18, ns, partial \eta^2 = .02$), the pattern of results was consistent with Study 3, such that included participants ($M = 3.60, SD = 1.46$) chose more revealing outfits than ostracized participants ($M = 3.21, SD = 1.66$).

Wish to be noticed. There was no significant difference in the extent to which included and ostracized participants wished to be noticed and be perceived as attractive by others ($F(1, 144) = .01, ns, partial \eta^2 = .00$).

Self-objectification. There was no significant difference in the extent to which included and ostracized participants self-objectified ($F(1, 144) = .28, ns, partial \eta^2 = .00$).

Reflective need satisfaction and mood. To examine recovery of participants in terms of their need satisfaction, a mixed ANOVA with condition as the between subject variable and stage (reflexive vs. reflective) as the within subject variable was conducted. The analysis revealed a main effect for condition ($F(1, 144) = 56.14, p < .001, partial \eta^2 = .28$) and a main effect for stage ($F(1, 144) = 260.49, p < .001, partial \eta^2 = .64$) that were qualified by a two-way interaction of condition and stage ($F(1, 144) = 109.94, p < .001, partial \eta^2 = .43$). These results indicated that ostracized participants' need satisfaction improved more between measurements than included participants'. A one-way ANOVA revealed that there was no significant difference in need satisfaction between included and ostracized participants at the reflective stage ($F(1, 144) = .67, ns, partial \eta^2 = .00$), indicating that by the reflective stage ostracized participants recovered completely in terms of need satisfaction.

Similar results were found for mood. To examine recovery of participants in terms of their mood, a mixed ANOVA was conducted. The analysis revealed a main effect for condition ($F(1, 144) = 55.52, p < .001, partial \eta^2 = .28$) and a main effect for stage ($F(1, 144) = 142.95, p < .001, partial \eta^2 = .49$) that were qualified by a two-way interaction of condition and stage ($F(1, 144) = 92.02, p < .001, partial \eta^2 = .39$). These results indicated that ostracized participants' mood improved more between measurements than included participants'. A one-way ANOVA revealed that there was no significant difference in need satisfaction between included and ostracized participants

at the reflective stage ($F(1, 144) = .06, ns, partial \eta^2 = .00$), indicating that by the reflective stage ostracized participants recovered completely in terms of mood as well.

Exploratory analyses.

Attractiveness. To examine whether the condition to which the participants were assigned affected how attractive they felt a series of one-way ANOVAs was conducted. Condition did not significantly affect how physically attractive ($F(1, 144) = .04, ns, partial \eta^2 = .00$) or socially attractive ($F(1, 144) = .80, ns, partial \eta^2 = .01$) participants felt. To examine whether controlling for the extent to which participants felt physically or socially attractive affected the pattern of results reported with respect to the effects of condition on the main dependent measures (outfit choice, self-objectification, wish to be noticed) a series of Analysis of Covariance (ANCOVA) was conducted. The extent to which participants felt physically attractive was a significant predictor for self-objectification ($F(1, 143) = 4.23, p = .04, partial \eta^2 = .03$), and for the extent to which they wanted to be noticed ($F(1, 143) = 7.17, p = .008, partial \eta^2 = .05$). The extent to which participants felt socially attractive was also a significant predictor for self-objectification ($F(1, 143) = 5.64, p = .02, partial \eta^2 = .04$), and for the extent to which they wanted to be noticed ($F(1, 143) = 6.38, p = .01, partial \eta^2 = .04$). However, controlling for either physical or social attractiveness did not significantly change the pattern nor the significance of the effects of the condition on these independent measures. Neither physical attractiveness nor social attractiveness were significant predictors for choosing a more revealing outfit ($F(1, 140) = 1.75, ns, partial \eta^2 = .01$; $F(1, 140) = 1.24, ns, partial \eta^2 = .01$; respectively), probably because the participants chose the outfit for their avatar and their own appearance was irrelevant to the task.

Ambivalent sexism. Multiple-linear regression analyses were conducted to examine whether benevolent and hostile sexism moderated the effect of condition on the key dependent measures. With respect to the effect on outfit choice, the regression model was not significant ($F(5, 137) = .58, ns, R^2 = .02$) and neither were the individual components (all p 's $> .13$). With respect to the effect on self-objectification, the regression model was not significant ($F(5, 140) = .73, ns, R^2 = .02$), and neither were the individual components (all p 's $> .10$).

With respect to the effect on the desire to be noticed and perceived as attractive the regression model yielded significant results ($F(5, 140) = 2.47, p = .04, R^2 = .08$), however, none of the individual components was a significant predictor of the desire to be noticed and perceived as attractive (all p 's $> .09$).

Contingent self-worth. Multiple-linear regression analyses were conducted to examine whether the extent to which the participants' self-worth was contingent on their appearance moderated the effect of condition on the key dependent measures. With respect to the effect on outfit choice, the regression model did not yield significant results ($F(3, 139) = 2.01, ns, R^2 = .04$). Although the model was not significant, contingent self-worth was a significant predictor of the outfit of choice ($B = .31, SE = .16, t(139) = 1.98, p = .05$), such that participants whose self-worth was more contingent on their appearance chose a more revealing outfit (all other p 's $> .12$). With respect to the effect on self-objectification, the regression model yielded significant results ($F(3, 142) = 6.18, p < .001, R^2 = .12$). The extent to which participants' self-worth was contingent on their appearance was a significant predictor of the extent to which they self-objectified ($B = .48, SE = .12, t(142) = 4.09, p < .001$), such that participants whose self-worth was more

contingent on their appearance self-objectified to a greater extent (all other p 's > .09). Lastly, with respect to the effect on the desire to be noticed and perceived as attractive, the regression model yielded significant results ($F(3, 142) = 14.23, p < .001, R^2 = .23$). The extent to which participants' self-worth was contingent on their appearance was a significant predictor of the desire to be noticed ($B = .73, SE = .13, t(142) = 5.67, p < .001$), such that participants whose self-worth was more contingent on their appearance desired to be noticed to a greater extent (all other p 's > .19).

Implications of Research Question 2

Two studies were designed to examine whether ostracism causes women to self-objectify and present themselves in ways that would promote their sexual objectification, presumably as a means to attract attention. Different ostracism manipulations were used in the two studies. Each successfully manipulated ostracism and resulted in lower need satisfaction and worsened mood. However, in both studies there was no significant evidence for an effect of ostracism on self-report measures of self-objectification and of desire to be noticed. This implies that either ostracism does not affect the women's tendency to self-objectify nor the desire to be noticed or that the effect is too subtle for the self-report measures that were used to detect.

The effects found regarding the behavioral measures of how women would choose to present themselves (a proxy to self-objectification) were not consistent between the two studies. Participants were asked to choose how revealing they would like their own outfit (Study 3) or their online avatar's outfit (Study 4) to be. Each of these measures had its strengths and limitations. Although choosing one own outfit is a realistic and common task, women's responses may be affected by body-image sensitivities. On the

other hand, although choosing an avatar's outfit with a constant body outline controls for those sensitivities, it lacks the realism obtained by the first method. Furthermore, although the outfits that the participants choose from were pilot tested for how sexy and revealing they were, they were not tested and controlled for other parameters that might have influenced participants' outfit choice – such as how casual they were, or how stylish they were.

In Study 3, I found that included women chose to leave more buttons open, and thus reveal more, than ostracized women who chose to be more covered. This finding is against my initial prediction. The reason for this effect may be that ostracism led to lower self-esteem, and thus ostracized women might not have felt confident about revealing their body for potential criticism from others. Another possibility might be that leaving buttons open on a button-up shirt is considered loose and casual, whereas the opposite is considered formal and uptight. It may be that included women feel more comfortable in social situations and thus chose a more casual look.

One other interesting finding emerged in Study 3. An exploratory analysis provided some initial evidence that hostile and benevolent sexism moderate the effect of ostracism on the tendency to dress in a revealing manner. Benevolent sexism, for ostracized women, was associated with choosing a more revealing outfit. In contrast, hostile sexism, for ostracized women, was associated with choosing a less revealing outfit.

Because these effects did not replicate across studies, more research is needed to explore how ostracism affects women's self-objectification and self-presentation, and to determine the role of ambivalent sexism in that relationship.

RESEARCH QUESTION 3

Study 5

Study 5 addressed Research Question 3 and examined whether ostracism increases women's tolerance to sexual objectification. Women who were recruited to participate in this study were either included or ostracized in a Cyberball game (Williams, Cheung, & Choi, 2000; Williams & Jarvis, 2006). After the game, participants were asked to imagine having a conversation with the person who would be presented in a video on the screen and would evaluate him after the interaction (the same manipulation that was used in Studies 1a-c). The participants were randomly assigned to watch a video of a man who either looked directly at the participant's face, looked down at the participant's chest, or looked to the side away from the participant. Participants were then asked to evaluate the man from the video and indicate their willingness to engage in further interactions with him. I hypothesized that ostracized women would evaluate an objectifying man more positively than included women.

Method

Participants and design. Two hundred and forty women ($M_{age} = 19.08$, $SD = 1.01$; 76.6% Caucasian; 85.8% US born; 92.9% Heterosexual) were recruited to this study in exchange for course credit. Data from two participants was not reported: One who did not report her age, and one who did not consent that her data will be used in analyses. The desired sample size ($n = 235$) was determined using power analysis, anticipating a medium effect size (*partial* η^2) of .04, power of .80, and $p = .05$. Data collection continued till the end of the week in which the desired sample size was obtained. Participants were randomly assigned to be either included or ostracized, and to

imagine interacting with a man who is either looking directly at their face, looking down toward their body, or looking to the side (2 X 3 design).

Procedure. Participants were recruited to a study about mental visualization of social interactions. Upon arrival, a female experimenter led the participants to the lab, and asked them to take a seat in individual cubicles. The entire study was programmed through Qualtrics, and the participants were asked to follow the instructions on the monitor.

First, participants played Cyberball, in which they were either ostracized or included during the game (Williams, Cheung, & Choi, 2000; Williams & Jarvis, 2006). The participants were instructed to focus on their mental visualization processes, and not on their performance in the game. After completing manipulation checks and reporting their mood and need satisfaction (on the measures described in the previous studies), participants were introduced to the second mental visualization task. In that task, participants were asked to mentally visualize having a conversation with the person who would be presented on the screen. To reduce participants' suspicion regarding the purpose of the study, participants were told that if a man was portrayed in the video, his name was Ben, and if a woman was portrayed in the video, her name was Jen. The videos used in this study were the same videos that were tested and used in Studies 1a-c. The participants were randomly assigned to watch one of three versions of the video: (1) *Face* – the man's gaze is directed toward the participant's eyes; (2) *Body* – the man's gaze alternates between the participant's eyes and down at her body; or (3) *Away* – the man's gaze alternates between the participant and to the side as if he was distracted by something or someone in the background. After watching the video, participants

described what they mentally visualized during the task and completed several measures (see measures in Appendix C; see reliabilities of these scales in Table 7).

Willingness to interact. Participants then rated Ben (the man in the video) on several measures. They indicated the extent to which they would like to engage in future interactions with Ben on 6 items taken from a social distance questionnaire (Snyder & Haugen, 1994; e.g., “I would hang out with Ben”), as well as the extent to which they would feel threatened by Ben (3 items; e.g., “I would feel threatened by Ben”) on a 7-point scale ranging from *not at all* (1) to *very much so* (7).

Partner’s evaluations⁵. Participants also rated the extent to which Ben seemed likeable (5 items: Friendly, likeable, kind, responsive, respectful), sexy (2 items: sexy, good looking) and creepy (2 items: creepy, inappropriate) on a 7-point scale ranging from *not at all* (1) to *extremely* (7).

Then, participants completed the same measures as in the previous studies, including measures of: Need satisfaction and mood (post eye gaze video), sexual objectification, self-objectification, the extent to which Ben cared about their looks, and the extent to which he cared about what they said and how they felt (see reliabilities of these scales in Table 2).

Iceberg measure. To examine the extent to which participants felt that Ben knows, understands, and “sees” them, I adopted and modified the iceberg measure from Pronin, Kruger, Savitsky, and Ross (2001). Participants were presented with diagrams of 10 submerged icebergs in which the portion of the iceberg that was visible differed (see Appendix C) and were asked to indicate how much of them they thought that Ben saw.

Thus, the images created a scale from *my task partner does not see me at all* (1) to *my task partner sees me completely* (10).

Manipulation check. Finally, as a manipulation check, participants indicated where Ben looked during the interaction (in the video): Mostly at their eyes, body, away or they don't remember.

At the end of the survey participants responded to a demographic questionnaire. The experimenter fully debriefed the participants and asked for the participants' consent to use their data in the analysis (see measures in Appendix C).

Results and Discussion

Manipulation checks.

Cyberball. Participants were asked to indicate the percentage of ball tosses they received during the Cyberball game. Participants in the inclusion condition ($M = 26.15$, $SD = 9.34$) reported receiving more ball tosses than participants in the ostracism condition ($M = 8.69$, $SD = 7.54$; $F(1, 237) = 253.08$, $p < .001$, *partial* $\eta^2 = .52$).

Eye gaze videos. A Chi-Square Test of Independence was performed to examine the relation between the condition and the participant's perception of the man's eye gaze direction. The relation between these variables was significant, $\chi^2(6, 240) = 235.49$, $p < .001$, indicating that the majority of the participants in each condition: face (direct eye gaze; 85.9%), body (down eye gaze; 64.2%), and away (side eye gaze; 77.8%), correctly identified the direction of the man's eye gaze in the video. The analyses presented includes all of the participants in the study, although eliminating those who did not correctly identified the correct direction of the manipulation improved the effect sizes and the significance levels of the results that are reported below.

Process checks. To examine whether Cyberball condition affected need satisfaction, mood, and feelings of ostracism, a series of one-way ANOVAs was conducted (see Table 7 for means and standard deviations).

Ostracism. Participants who were ostracized in the Cyberball game felt more ostracized than participants who were included in the game ($F(1, 237) = 246.08, p < .001, partial \eta^2 = .51$).

Need satisfaction and mood. Ostracized participants experienced the effects that are typically associated with the reflexive stage of ostracism. They reported lower need satisfaction and worsened mood than included participants ($F(1, 237) = 216.82, p < .001, partial \eta^2 = .48$; $F(1, 237) = 107.26, p < .001, partial \eta^2 = .31$; respectively).

Main analyses. To examine whether ostracized women tolerate sexually objectifying treatment more than included women, two-way ANOVAs were conducted, with Cyberball condition (ostracism, inclusion) and eye gaze condition (face, body, away) as the independent variables (see Table 7 for means and standard deviations).

Willingness to interact. The analyses revealed only main effects for the eye gaze condition. Participants who were in the face condition were more willing to interact with Ben than participants in the body and away conditions ($F(2, 234) = 8.36, p < .001, partial \eta^2 = .07$; Bonferroni simple effect p 's $< .003$), who did not significantly differ from one another. Ostracism condition did not yield a significant effect on the willingness to interact with Ben ($F(1, 234) = .71, p < .001, partial \eta^2 = .00$), nor a significant interaction with eye gaze condition ($F(2, 234) = 1.33, p < .001, partial \eta^2 = .01$). Participants in the body condition felt more threatened by Ben than participants in the away condition, who felt more threatened than participants in the face condition ($F(2, 234) = 18.32, p < .001,$

partial $\eta^2 = .14$; Bonferroni simple effect p 's $< .01$). Ostracism condition did not yield a significant effect on the extent to which they were threatened by Ben ($F(1, 234) = .68$, *ns*, *partial* $\eta^2 = .00$), nor a significant interaction with eye gaze condition ($F(2, 234) = .22$, *ns*, *partial* $\eta^2 = .00$). This suggests that women are more likely to seek future interaction with men who look at their faces and are most threatened by men who glance at their bodies.

Partner's evaluations. The analyses revealed only main effects for the eye gaze condition. Participants in the face condition perceived Ben as more likeable than participants in the body and away conditions ($F(2, 234) = 10.67$, $p < .001$, *partial* $\eta^2 = .08$; Bonferroni simple effect p 's $< .001$), who did not significantly differ from one another. Ostracism condition did not yield a significant effect on the extent to which they perceived Ben as likeable ($F(1, 234) = .28$, *ns*, *partial* $\eta^2 = .00$), nor a significant interaction with eye gaze condition ($F(2, 234) = .92$, *ns*, *partial* $\eta^2 = .01$). Participants in the face condition also perceived Ben as sexier than participants in the body and away conditions ($F(2, 234) = 8.65$, $p < .001$, *partial* $\eta^2 = .07$; Bonferroni simple effect p 's $< .006$), who did not significantly differ from one another. Ostracism condition did not yield a significant effect on the extent to which they perceived Ben as sexy ($F(1, 234) = 1.63$, *ns*, *partial* $\eta^2 = .01$), nor a significant interaction with eye gaze condition ($F(2, 234) = .92$, *ns*, *partial* $\eta^2 = .01$). Participants in the body condition perceived Ben as creepier than participants in the other conditions ($F(2, 234) = 22.29$, $p < .001$, *partial* $\eta^2 = .16$; Bonferroni simple effect p 's $< .001$), who did not significantly differ from one another. Ostracism condition did not yield a significant effect on the extent to which they perceived Ben as creepy ($F(1, 234) = .34$, *ns*, *partial* $\eta^2 = .00$), nor a significant

interaction with eye gaze condition ($F(2, 234) = .66, ns, partial \eta^2 = .01$). This suggests that women were most likely to find men who looked at their faces to be likeable and attractive, and most likely to perceive men who glanced at their bodies to be creepy and inappropriate.

Need satisfaction and mood (post eye gaze video). The analyses revealed only main effects for the eye gaze condition. Participants in the face condition experienced higher need satisfaction than participants in the body and away conditions ($F(2, 234) = 10.22, p < .001, partial \eta^2 = .08$; Bonferroni simple effect p 's $< .02$), who did not significantly differ from one another. Ostracism condition did not yield a significant effect on need satisfaction ($F(1, 234) = .12, ns, partial \eta^2 = .00$), nor a significant interaction with eye gaze condition ($F(2, 234) = .39, ns, partial \eta^2 = .00$). A similar pattern of results emerged with respect to mood. Participants in the face condition experienced better mood compared to participants in the body and away conditions ($F(2, 234) = 9.79, p < .001, partial \eta^2 = .08$; Bonferroni simple effect p 's $< .01$), who did not significantly differ from one another. Ostracism condition did not yield a significant effect on mood ($F(1, 234) = .23, ns, partial \eta^2 = .00$), nor a significant interaction with eye gaze condition ($F(2, 234) = .63, ns, partial \eta^2 = .01$).

Sexual objectification. The analyses revealed only main effects for the eye gaze condition. Participants in the body condition felt more sexually objectified than participants in the face and participants in the away conditions ($F(2, 234) = 45.08, p < .001, partial \eta^2 = .28$; Bonferroni simple effect p 's $< .001$), who did not significantly differ from one another. Ostracism condition did not yield a significant effect on the extent to which participants felt sexually objectified ($F(1, 234) = .24, ns, partial \eta^2 = .00$).

nor a significant interaction with eye gaze condition ($F(2, 234) = .89$, *ns*, *partial* $\eta^2 = .01$). Participants in the body condition felt that Ben cared about their looks more than participants in the face and away conditions ($F(2, 234) = 31.40$, $p < .001$, *partial* $\eta^2 = .21$; Bonferroni simple effect p 's $< .001$), who did not significantly differ from one another. Ostracism condition did not yield a significant effect on the extent to which participants felt that their looks were important to Ben ($F(1, 234) = .29$, *ns*, *partial* $\eta^2 = .00$) nor a significant interaction with eye gaze condition ($F(2, 234) = 2.35$, *ns*, *partial* $\eta^2 = .02$). Participants in the face condition felt that Ben cared about what they had to say and how they felt more than participants in the away condition and participants in the body condition ($F(2, 234) = 16.21$, $p < .001$, *partial* $\eta^2 = .12$; Bonferroni simple effect p 's $< .001$). Ostracism condition did not yield a significant effect on the extent to which participants felt that Ben cared about their thoughts and feelings ($F(1, 234) = .06$, *ns*, *partial* $\eta^2 = .00$) nor a significant interaction with eye gaze condition ($F(2, 234) = 1.38$, *ns*, *partial* $\eta^2 = .01$).

Self-objectification. The analysis revealed only main effects for the eye gaze condition. Participants in the body condition self-objectified more than participants in the face and participants in the away conditions ($F(2, 234) = 9.67$, $p < .001$, *partial* $\eta^2 = .08$; Bonferroni simple effect p 's $< .001$), who did not significantly differ from one another. Ostracism condition did not yield a significant effect on the extent to which participants self-objectified ($F(1, 234) = 1.10$, *ns*, *partial* $\eta^2 = .01$) nor a significant interaction with eye gaze condition ($F(2, 234) = .49$, *ns*, *partial* $\eta^2 = .01$).

Exploratory analysis.

Iceberg measure. Neither eye gaze condition nor ostracism condition yielded significant effects on the extent to which participants felt that Ben understood, knew and was able to “see” them ($F(2, 234) = 2.37, ns, partial \eta^2 = .02$; $F(1, 234) = .03, ns, partial \eta^2 = .00$; respectively). However, a significant interaction emerged ($F(2, 234) = 3.12, p < .05, partial \eta^2 = .03$). When included, eye gaze condition did not significantly affect the extent to which participants felt that Ben understood, knew and was able to “see” them. However, when ostracized, participants in the face condition felt that Ben understood, knew and was able to “see” them to a greater extent than participants in the body condition, whereas participants in the away condition did not significantly differ from either of the other two conditions.

Implications of Research Question 3

The last study was designed to address the third research question and examine whether ostracism alters women’s tolerance for experiencing sexual objectification. The results did not support the hypothesis that ostracism would increase women tolerance to sexual objectification, and thus would evaluate a man who sexually objectifies them less negatively and be more willing to interact with him. Cyberball successfully manipulated ostracism and led to lower need satisfaction and worsened mood among women who were ostracized during the game. However, being ostracized did not affect women’s evaluations of their interaction partner, or their willingness to interact with him.

The direction in which their interaction partner looked at affected women’s evaluations. Women found their interaction partner to be most likeable and attractive and were most willing to engage in further interactions with him when he seemed to focus on

their faces. When their interaction partner glanced at their bodies, women found him to be the creepiest and most threatening. As in Studies 1 (a, b, & c) and 2, women in the body condition felt most sexually objectified by their interaction partner and felt that their interaction partner cared about their looks the most. Similar to women in the away condition, women in the body condition also experienced lower need satisfaction and worsened mood in comparison to women in the face condition. Together, these results replicate the results of Studies 1 (a, b, & c) and 2, and provide further evidence that sexual objectification, like ostracism, results in threats to fundamental needs and mood. These results also expand on Studies 1 (a, b, & c) and 2, as they imply that women have less favorable evaluations of a man who either ostracizes or sexually objectifies them but feel particularly threatened when they are being sexually objectified.

Finally, exploratory analyses revealed a joint effect of ostracism and eye gaze direction on women's perception of how well they think that their interaction partner understands, knows, and "sees" them. Ostracized women, but not included women, perceived that their interaction partner was able to "see" more of them if he focused on their face than if he glanced at their body. Because ostracism elicits attention to social cues (Bernstein, Young, Brown, Sacco, & Claypool, 2008; Bernstein, Sacco, Brown, Young, & Claypool, 2010), it may be the case that ostracized individuals were better able to detect the intention and authenticity of the attention they received.

GENERAL DISCUSSION

In past research, sexual objectification and ostracism were considered distinct phenomena. Because sexual objectification often entails unwarranted attention, and ostracism concerns lack of attention all together, bridging the two phenomena and exploring their similarities did not seem sensible. I proposed three different ways in which sexual objectification and ostracism may be related to one another, that together have the potential to create a self-destructive cycle: sexual objectification may induce feeling of ostracism; ostracism may encourage displaying oneself in a sexually objectified manner as well as tolerance to sexually objectifying treatment. To examine these relations, I developed novel methods to manipulate sexual objectification, and to measure whether participants would display themselves in ways that would promote sexual objectification by others. These new methods are both part of the strengths and the limitations of this work, and ideas to improve them are discussed.

Can Sexual Objectification be Meaningfully Understood as a Form of Ostracism?

Sexual objectification research focuses on the consequences of the excessive unwanted attention a woman receives to her body when she is sexually objectified. This work demonstrates that sexual objectification is experienced as a form of ostracism. When women experienced sexual objectification, they reported feeling that their bodies received excessive attention, while at the same time their thoughts and feelings were disregarded. They felt ostracized, and as a result experienced threat to their fundamental needs: Belonging, control, self-esteem, and meaningful existence. It may be the case that in addition to the negative outcomes that sexually objectified individual experience because of the excessive attention to their body, body parts and sexual functions, they

experience additional outcomes because of the ostracizing treatment of all other parts of who they are. This research suggests that adopting the ostracism framework to examine sexual objectification may be beneficial, and that the temporal need threat model of ostracism (Williams, 2009) can further our understanding of sexual objectification.

Applying the ostracism framework to sexual objectification implies additional outcomes for sexual objectification. For example, like ostracism it may be the case the sexual objectification is a painful experience, as ostracism has been found to elicit feelings of social pain, as well as an increase in neurological functions that are associated with physical pain (Eisenberg, Lieberman, & Williams, 2003). In the current work, I demonstrated that targets of sexual objectification experience the immediate effects that are associated with the reflexive stage of the temporal need threat model of ostracism, including negative mood and threat to fundamental needs. Applying the rest of the temporal need threat model to sexual objectification suggests that in the reflective stage targets of sexual objectification will attempt to fortify their threatened needs. Sexually objectified individuals may provoke, aggress and lash out, even at innocent others (Chow, Tiedens, & Govan, 2008; Gaertner, Iuzzini, & O'Mara, 2008; Twenge, Baumeister, Tice, & Stucke, 2001; Warburton, Williams, & Cairns, 2006; Wesselmann, Butler, Williams, & Pickett, 2010; See Ren, Wesselmann, & Williams, 2017, for review), or seek solitude (Ren, Wesselmann, & Williams, 2016), to fortify the need for control and meaningful existence. While they may also attempt to reconnect with others, to attend to social cues, and to prove their social value, to fortify their need to belong and to restore their self-esteem (Williams & Sommer, 1997; Gardner, Pickett, & Brewer, 2000; Lakin,

Chartrand, & Arkin, 2008; Bernstein, Young, Brown, Sacco, & Claypool, 2008; DeWall, Maner, & Rouby, 2009; Bernstein, Sacco, Brown, Young, & Claypool, 2010).

The application of the temporal need threat model to sexual objectification may have benefits beyond research. Although not intuitive to many, victims of sexual assault vary in their social reactions to the incident, as sometimes victims become more withdrawn and sometimes more outgoing (Campbell, Ahrens, Sefl, Wasco, & Barnes, 2001). Understanding that multiple fundamental needs are being threatened, and that attempts to fortify those needs may result in a variety of different behaviors may add reasoning and evidence that the behavioral consequences of sexual objectification vary. Potential implication of the application of the temporal need threat model to interventions include providing constructive tools to fortify the threatened needs, to assist targets of sexual objectification, harassment, and assault coping and hopefully reduce substance abuse (Carr & Szymanski, 2011).

The fact that women experience sexual objectification as a form of ostracism expands the definition of partial ostracism. Partial ostracism has so far been conceptualized as a form of sporadic attention. The current research suggests that another form of partial ostracism may be when parts of an individual are attended to while other parts are being ignored and excluded. In addition to sexual objectification, there are other experiences that fit under this definition, and may result in feelings of ostracism. For example, when individuals feel that they receive attention based on a single skill or a role, while all other parts of who they are being ignored, they may experience the consequences of partial ostracism. Targets of prejudice and discrimination may also feel

partially ostracized, as they are acknowledged based on their group affiliation or superficial characteristic, whereas their personality is disregarded.

Does Ostracism Cause Women to Present Themselves in Ways That Would Promote Their Sexual Objectification?

The hypothesis that ostracized women would self-objectify and present themselves in ways that would promote their sexual objectification was not supported. In fact, in Study 3, it was actually included women who chose a more revealing outfit. One potential explanation for this effect may be that ostracized women experience lower self-esteem, and thus are less confident to dress in a revealing manner that exposes more of their body to scrutiny. Another possibility is that the methods used in these studies were not appropriate to test this research question. Opening more buttons on a white button-up shirt is a way to make the outfit more revealing, but also more casual. To eliminate this confound and to allow for more variability in responses, future research may be conducted using a different item of clothing that is not as common and does not have strong norms regarding the proper and formal way to wear. For example, instead of measuring the number of buttons participants choose to open in a shirt, participants can be asked to indicate how high they would like a slit in a skirt to be.

Ambivalent sexism was found to alter the effect of ostracism on the tendency to dress in a revealing manner. Among ostracized women benevolent sexism was associated with choosing a more revealing outfit, and hostile sexism was associated with choosing a less revealing outfit. Whereas both types of sexism are associated with support of traditional gender roles and lead to stereotypic views of women, benevolent sexism is a subjectively positive view of women and femininity, whereas hostile sexism is

antagonistic and associated with the belief that women try to unfairly control men using sexual seduction (Glick & Fiske, 1996). This differential view may lead women who are high in benevolent sexism to use their femininity as a means to attract attention, whereas women who are high in hostile sexism will avoid it. Sexism was found to moderate the effect of ostracism on the outfit of choice in a single study, and so additional research is needed to bolster the reliability of this effect.

There may be additional individual differences that alter whether and how ostracized women would choose to utilize their appearance as a means to attract attention that should be explored in future research. For example, some women may choose an outfit that they identify with most in an effort to attract attention to their authentic self (Swann, 2012); some women may aim to gain attention by wearing a unique outfit that would make them stand out; and others may aim to gain attention utilizing other means all together.

Does Ostracism Increase Women's Tolerance to Experiencing Sexual Objectification?

The hypothesis that ostracism would alter women's tolerance for experiencing sexual objectification was examined in a single study and was not supported. In Study 5, participants' reactions to each manipulation were in congruence with previous research that used those manipulations. Cyberball successfully manipulated feelings of ostracism, worsened mood, and created need threat, and the eye gaze videos successfully manipulated feelings of sexual objectification. However, there was no evidence that being ostracized in Cyberball affected the reactions to the sexual objectification manipulation. Because the study introduced the manipulations as two separate mental

visualization tasks, and because of the different nature of the manipulations (ghost like figures in an interactive ball-tossing game versus a real person captured in a passive video viewing task), it is possible that the participants did indeed perceive the two manipulations as distinct and were able to separate their reactions to each of them. To better test this hypothesis, future research might involve a study design in which participants will view two videos as a part of a single mental visualization exercise. Participants will be asked to imagine that they arrived at a social gathering. In the first video a man will either ostracize them, by looking away, or not, by looking at their face; And in the second video a different man will either sexually objectify them, by looking at their body, or not, by looking at their face.

Future Directions

The current work provides evidence that sexual objectification is experienced as a form of ostracism, and that as a result sexually objectified women experience threat to the fundamental needs of belonging, control, self-esteem, and meaningful existence. The value of this work is that it suggests that the effects of sexual objectification are broader than what has been recorded and researched so far. Future work should examine additional outcomes that may be theorized from the link between sexual objectification and ostracism. More specifically, the current work focused on the effects at the reflexive stage of the temporal need threat model. Future work can examine whether the other stages of the model also apply to sexual objectification. In addition, it will be of special importance to examine whether providing tools to fortify the fundamental needs speeds recovery from sexual objectification, as this will have potential implications for interventions that will assist victims of sexual harassment and sexual assault.

This work also provides methods to manipulate and empirically test the effects of sexual objectification. Because of the lack of laboratory manipulations of sexual objectification *per se* (not self-objectification), research on sexual objectification is dominantly correlational (see Moradi & Huang, 2008, for review). Using the manipulations and methods developed in the current and applying it to future research on sexual objectification will help us to further develop causal rather than correlational relationships.

The role of benevolent and hostile sexism should also be further explored. This work provided initial evidence that benevolent and hostile sexism moderate the effect of ostracism on the choice to dress in a more revealing manner, which in turn may promote sexual objectification by others. More research should be conducted, with more sensitive measures, to examine the robustness of this effect. In addition, it would be interesting to examine whether ostracism affects the tendency of men to sexually objectify women, and whether that will be moderated by benevolent and hostile sexism as well.

Lastly, this work can also inspire ostracism research. The fact that sexual objectification is experienced as a form of ostracism, suggests an expansion of the conceptualization of partial ostracism. It suggests viewing people as multi-dimensional, and partial ostracism as treatment that ignores some of the dimensions that are core to the individual. Thus, it may be worthwhile to examine other contexts in which the ostracism framework may apply. For example, employees' may feel that they receive attention as instrumental to the organization, while their health, family life, or values are being ignored and excluded and thus feel partially ostracized; and targets of prejudice and

discrimination may feel that their group membership is being acknowledged, and yet feel ostracized as their individuality is being ignored.

Conclusions

Sexually objectified women feel both the focus of unwanted attention and ostracized. This novel finding shifts the current understanding of sexual objectification, that was so far considered as solely unwanted excessive attention to one's physical characteristics to a broader psychological framework that extends reactions (and potential interventions) to reactions of people who are ostracized, excluded, and marginalized.

NOTES

1. Although both men and women can be targets of sexual objectification, most sexual objectification research focuses on women (Kozak, Frankenhauser, & Roberts, 2009; Loughnan et al., 2010) because sexual objectification primarily affects women. First, sexual objectification of women is more common than sexual objectification of men. Women report experiencing sexual objectification on a weekly basis, whereas men rarely report these experiences (Swim, Hyers, Cohen, & Ferguson, 2001). Women are also exposed to more sexual objectification of other women than men are exposed to sexual objectification of other men (Fredrickson & Roberts, 1997; Plous & Neptune, 1997; Swim, Hyers, Cohen, & Ferguson, 2001). Second, sexual objectification is often more harmful for women than it is for men. Research that has included both men and women found that the effects of sexual objectification for men are less severe, and at times completely diminished (Fredrickson & Roberts, 1997; Fredrickson et al., 1998; Moradi & Huang, 2008; Saguy, Quinn, Dovidio, & Pratto, 2010; Gervais, Vescio, & Allen, 2011).
2. A secondary purpose of the study was to test and improve the novel manipulation. In this study different versions of the video were tested. There were two versions of the video for the body condition, two versions for the away condition, and one version for the face condition, to which participants were randomly assigned. There were no significant differences between videos in the same condition on any of the measures. Thus, the analyses that are reported collapse over videos within condition.
3. Three undergraduate male students served as confederates in this study. All were rated as moderately attractive in a pre-test. Confederates wore the same outfit for all

- sessions, and used bulky headphones when sitting in the waiting room to discourage communication with the participants.
4. In a pilot study, a hundred and sixteen women ($M_{age} = 20.04$, $SD = 1.26$; 64.7% Caucasian; 87.1% US born) were asked to indicate how revealing and how sexy 15 different outfits were. The outfits ratings of how revealing they were corresponded with their ratings of how sexy they were. Based on these ratings, seven outfits were chosen for this measure, ranging from relatively modest to relatively revealing.
 5. An exploratory factor analysis using a maximum likelihood extraction and Promax rotation yielded the division of the traits into the three different factors that are reported. The first factor was for likeable traits and had an Eigenvalue of 5.73; the second factor was for sexy traits and had an Eigenvalue of 1.57; and the third factor was for creepy traits and had an Eigenvalue of 1.04.
 6. The scales used to measure need satisfaction and mood at the reflective stage were 1-5, however to maintain consistency with the measures used at the reflexive stage they were rescaled to a 1-7.

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APPENDIX A: TABLES

Table 1

Study 1A: Information Regarding the Outcome Variables Used in This Study, the Scales and Their Reliabilities

Outcome	Scale	α	Condition		
			Face	Body	Away
Sexual objectification	1-5	.89	1.53 (.72) a	2.72 (1.54) b	1.85 (.92) a
Importance of looks	1-5	.68	2.70 (.96) ab	3.06 (.92) a	2.13 (.79) b
Importance of thoughts and feelings	1-5	.95	3.17 (1.48) a	2.30 (1.16) ab	2.08 (1.16) b
Self-objectification	1-7	.69	2.96 (1.44) a	4.02 (1.52) b	3.64 (1.05) ab
Ostracism	1-5	.84	2.00 (1.27) a	2.79 (1.15) b	3.12 (1.31) b
Need satisfaction	1-5	.88	3.42 (1.03) a	2.99 (.81) ab	2.60 (.99) b
Negative mood	1-5	.89	2.54 (.82) a	3.05 (.66) ab	3.11 (.78) b

Note. Means and standard deviations (in parenthesis) by condition are reported. Different letters represent significant difference between the groups (Bonferroni simple effect p 's < .05).

Table 2
 Study 1B: Information Regarding the Outcome Variables Used in This Study, the Scale and its Reliability

Outcome	Scale	α	Condition											
			Blind Date			Psychology Study			Overall					
			Face	Body	Away	Face	Body	Away	Face	Body	Away			
Sexual objectification	1-5	.88	1.65 (.79)	2.51 (1.37)	1.79 (.87)	1.60 (.89)	2.57 (1.48)	1.66 (.78)	1.63 (.83)	2.54 (1.42)	1.73 (.83)			
Importance of looks	1-5	.64	2.44 (.70)	2.74 (.97)	2.20 (.73)	2.22 (.82)	2.72 (1.10)	1.93 (.76)	2.34 (.76)	2.73 (1.04)	2.08 (.76)			
Importance of thoughts and feelings	1-5	.90	2.93 (1.27)	2.29 (1.12)	2.02 (1.03)	2.83 (1.55)	2.15 (1.16)	2.08 (1.06)	2.89 (1.40)	2.21 (1.14)	2.05 (1.04)			
Self-objectification	1-7	.61	3.09 (.89)	3.85 (1.36)	3.45 (1.31)	3.33 (1.43)	3.85 (1.23)	3.61 (1.30)	3.20 (1.17)	3.85 (1.28)	3.52 (1.30)			
Ostracism	1-5	.87	2.26 (1.17)	2.84 (1.26)	3.36 (1.28)	2.08 (1.19)	2.80 (1.17)	3.10 (1.33)	2.18 (1.17)	2.81 (1.21)	3.24 (1.30)			

(table continues)

Outcome	Scale	α	Condition											
			Blind Date			Psychology Study			Overall					
			Face	Body	Away	Face	Body	Away	Face	Body	Away			
Need satisfaction	1-5	.78	3.03	2.74	2.55	3.21	2.67	2.67	3.11	2.70	2.60			
			(.79)	(.77)	(.70)	(.91)	(.73)	(.71)	(.85)	(.75)	(.71)			
Negative mood	1-5	.89	a	b	b	a	b	b	a	b	b	b	b	
			2.68	3.21	3.18	2.75	3.22	3.03	2.71	3.21	3.11	3.11		
			(.85)	(.75)	(.67)	(.84)	(.74)	(.66)	(.84)	(.74)	(.67)			
			a	b	b	a	b	ab	a	b	b	b		

Note. Means and standard deviations (in parenthesis) by condition are reported. Different letters represent significant difference between the groups (simple effect p 's < .05).

Table 3

Study 1C: Information Regarding the Outcome Variables Used in This Study, the Scale and its Reliability

Outcome	Scale	α	Condition											
			Open Framing				Blind Date				Job Interview			
			Face	Body	Away		Face	Body	Away		Face	Body	Away	
Sexual objectification	1-7	.91	1.78 (.85)	3.03 (1.98)	1.79 (.89)	1.92 (1.00)	3.33 (2.00)	2.32 (1.35)	2.10 (1.24)	3.05 (2.17)	1.77 (1.25)			
Importance of looks	1-7	.57	3.03 (1.21)	3.13 (1.39)	2.45 (1.11)	3.24 (1.29)	3.13 (1.39)	2.25 (1.15)	2.83 (1.44)	3.02 (1.47)	2.25 (1.12)			
Importance of thoughts and feelings	1-7	.93	4.34 (1.81)	2.90 (1.60)	2.95 (1.68)	4.42 (1.93)	2.70 (1.53)	2.21 (1.32)	3.27 (1.95)	2.84 (1.78)	2.70 (1.48)			
Ostracism	1-7	.84	2.82 (1.64)	3.71 (1.80)	3.86 (1.73)	3.00 (1.77)	4.04 (1.66)	4.96 (1.71)	3.25 (1.65)	4.16 (1.84)	4.14 (1.71)			
Need satisfaction	1-7	.82	4.43 (1.17)	3.74 (1.09)	3.60 (1.26)	4.38 (1.19)	3.56 (1.04)	3.12 (1.19)	3.89 (1.23)	3.71 (1.35)	3.59 (.95)			
Negative mood	1-5	.90	2.47 (.76)	3.10 (.71)	3.02 (.82)	2.63 (.74)	3.31 (.67)	3.24 (.65)	2.85 (.76)	3.02 (.78)	2.83 (.71)			

(table continues)

Outcome	Scale	α	Condition											
			Open Framing				Blind Date				Job Interview			
			Face	Body	Away		Face	Body	Away		Face	Body	Away	
Negative mood	1-5	.90	2.47 (.76)	3.10 (.71)	3.02 (.82)		2.63 (.74)	3.31 (.67)	3.24 (.65)		2.85 (.76)	3.02 (.78)	2.83 (.71)	
			a	b	b		a	b	b		a	b	b	

(table continues)

Outcome	Scale	α	Condition		
			Face	Body	Away
Sexual objectification	1-7	.91	1.93 (1.03)	3.12 (2.03)	1.96 (1.19)
			a	b	a
Importance of looks	1-7	.57	3.02 (1.31)	3.09 (1.40)	2.32 (1.12)
			a	a	b
Importance of thoughts and feelings	1-7	.93	4.00 (1.94)	2.83 (1.63)	2.62 (1.52)
			a	b	b
Need satisfaction	1-7	.82	4.24 (1.21)	3.68 (1.15)	3.43 (1.15)
			a	b	b
Negative mood	1-5	.90	2.65 (.76)	3.13 (.72)	3.03 (.74)
			a	b	b

Note. Means and standard deviations (in parenthesis) by condition are reported. Different letters represent significant difference between the groups (simple effect p 's < .05).

Table 4

Study 2: Information Regarding the Outcome Variables Used in This Study, the Scale and its Reliability

Outcome	Scale	α	Condition	
			Face	Body
Self-objectification	1-7	.65	2.30 (.92) a	3.37 (1.42) b
Sexual objectification	1-7	.83	1.53 (.83) a	2.44 (1.35) b
Importance of looks	1-7	.40	2.94 (1.15)	2.87 (1.10)
Importance of thoughts and feelings	1-7	.78	3.18 (1.14)	2.98 (1.19)
Ostracism	1-7	.84	2.02 (1.13) a	2.50 (1.55) b
Need satisfaction	1-7	.79	4.49 (1.05)	4.33 (.97)
Negative mood	1-7	.84	3.14 (.82)	3.41 (.84)
Physical attractiveness	1-10	—	5.49 (1.79)	5.56 (1.70)
Social attractiveness	1-7	.86	4.91 (1.14)	4.60 (1.13)

Note. Means and standard deviations (in parenthesis) by condition are reported. Different letters represent significant difference between the groups (p 's < .05).

Table 5

Study 3: Information Regarding the Outcome Variables Used in This Study, the Scales and its Reliabilities

Outcome	Scale	α	Condition	
			Inclusion	Ostracism
Need satisfaction (reflexive)	1-7	.98	6.05 (.63) a	2.26 (.94) b
Negative mood I	1-7	.98	1.70 (.60) a	5.57 (.85) b
Ostracism	1-7	.93	1.30 (.77) a	5.48 (1.45) b
Choice of outfit (buttons open)	0-7	—	2.02 (.84) a	1.70 (.85) b
Wish to be noticed	1-7	.88	4.69 (1.37)	4.40 (1.32)
Self-objectification	1-7	.59	2.43 (1.15)	2.49 (1.16)
Need satisfaction (reflective) ⁶	1-7	.84	4.87 (1.07)	4.94 (1.04)
Negative Mood II ⁶	1-7	.82	2.37 (.89)	2.36 (.93)
Physical attractiveness	1-10	—	5.95 (1.68)	5.88 (1.55)
Social attractiveness	1-7	.87	4.93 (1.13)	4.78 (1.26)

Note. Means and standard deviations (in parenthesis) by condition are reported. Different letters represent significant difference between the groups (p 's < .05).

Table 6

Study 4: Information Regarding the Outcome Variables Used in This Study, the Scales and its Reliabilities

Outcome	Scale	α	Condition	
			Inclusion	Ostracism
Need satisfaction (reflexive)	1-7	.84	4.12 (.97) a	2.14 (.97) b
Negative mood I	1-7	.90	3.06 (.80) a	4.67 (.92) b
Ostracism	1-7	.95	2.81 (1.60) a	6.32 (.89) b
Choice of outfit	1-7	—	3.60 (1.46)	3.21 (1.66)
Wish to be noticed	1-7	.88	3.96 (1.54)	3.99 (1.28)
Self-objectification	1-7	.69	2.53 (1.26)	2.43 (1.17)
Need satisfaction (reflective)	1-7	.77	4.68 (.81)	4.81 (1.08)
Negative Mood II	1-7	.81	2.87 (.70)	2.90 (.89)
Physical attractiveness	1-10	—	5.73 (1.83)	5.78 (1.70)
Social attractiveness	1-7	.89	4.82 (1.09)	4.64 (1.34)

Note. Means and standard deviations (in parenthesis) by condition are reported. Different letters represent significant difference between the groups (p 's < .05).

Table 7

Study 5: Information Regarding the Outcome Variables Used in This Study, the Scales and its Reliabilities

Outcome	Scale	α	Condition		
			Inclusion	Ostracism	
Ostracism	1-7	.93	2.92 (1.65) a	5.93 (1.30) b	
Need satisfaction (post Cyberball)	1-7	.87	4.44 (.97) a	2.53 (1.03) b	
Negative mood (post Cyberball)	1-7	.91	2.66 (.89) a	4.00 (1.11) b	

(table continues)

Outcome	Scale	α	Condition								
			Inclusion			Ostracism			Overall		
			Face	Body	Away	Face	Body	Away	Face	Body	Away
Willingness for future interactions	1-7	.92	3.25 (1.04)	2.70 (1.27)	2.86 (1.34)	3.78 (1.46)	2.75 (1.58)	2.72 (1.24)	3.54 (1.31)	2.73 (1.43)	2.79 (1.29)
Feel threatened	1-7	.68	2.83 (.96)	4.10 (1.47)	3.37 (1.09)	2.73 (.79)	3.83 (1.78)	3.35 (.99)	2.77 (.87)	3.96 (1.62)	3.36 (1.04)

(table continues)

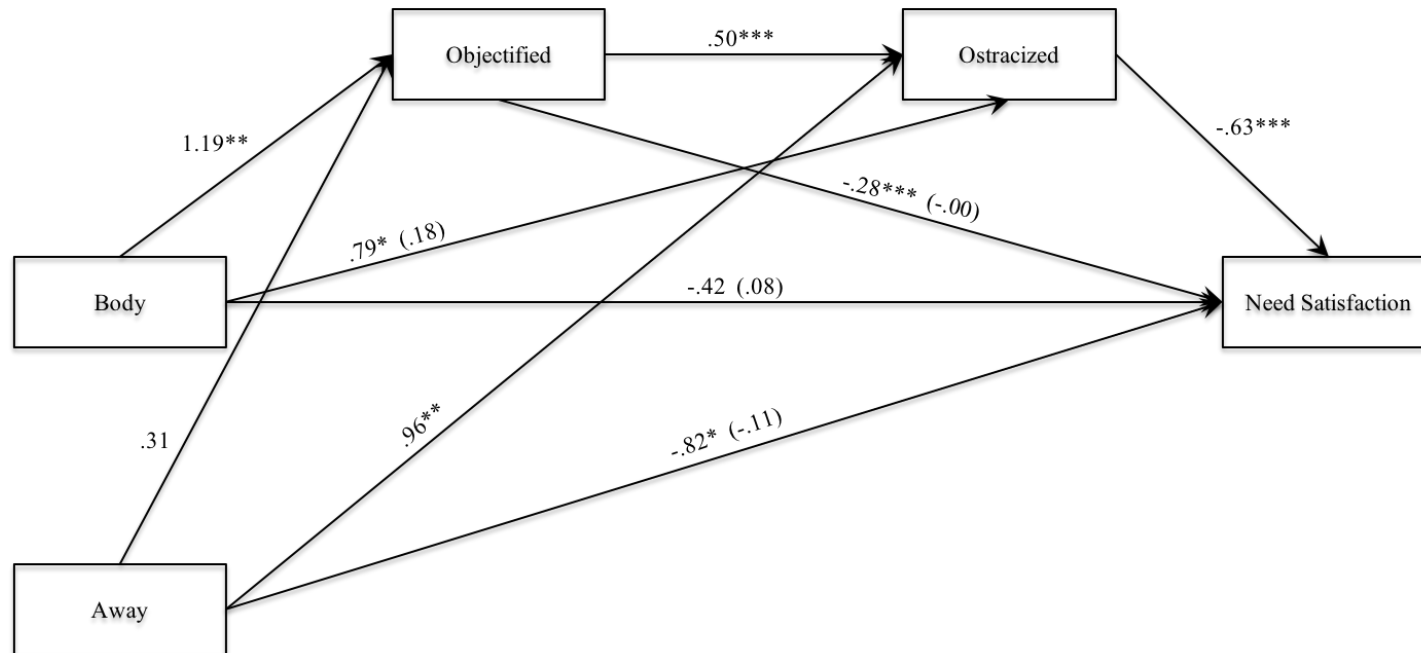
Outcome	Scale	α	Condition									
			Inclusion			Ostracism			Overall			
			Face	Body	Away	Face	Body	Away	Face	Body	Face	Body
Partner is likeable	1-7	.91	3.94 (1.33)	3.22 (1.40)	3.35 (1.43)	4.14 (1.29)	3.14 (1.52)	2.96 (1.19)	4.05 (1.30)	3.18 (1.45)	3.17 (1.33)	
			a	b	ab	a	b	b	a	b	b	
Partner is sexy	1-7	.84	3.71 (1.37)	2.83 (1.49)	3.23 (1.49)	3.65 (1.53)	2.78 (1.42)	2.64 (1.22)	3.68 (1.45)	2.80 (1.45)	2.96 (1.40)	
			a	b	ab	a	b	b	a	b	b	
Partner is creepy	1-7	.81	2.00 (1.17)	3.98 (2.02)	2.70 (1.53)	2.21 (1.29)	3.60 (2.26)	2.50 (1.13)	2.12 (1.23)	3.79 (2.14)	2.61 (1.36)	
			a	b	a	a	b	a	a	b	a	
Need satisfaction (post eye gaze video)	1-7	.85	4.33 (1.39)	3.74 (1.29)	3.56 (1.34)	4.48 (1.16)	3.91 (1.31)	3.41 (1.25)	4.41 (1.26)	3.82 (1.30)	3.49 (1.30)	
			a	b	b	a	b	b	a	b	b	
Negative mood (post eye gaze video)	1-7	.91	3.26 (1.18)	3.90 (1.20)	3.66 (1.29)	2.94 (1.08)	3.98 (1.41)	3.68 (1.13)	3.08 (1.13)	3.94 (1.30)	3.67 (1.21)	
			a	b	ab	a	b	b	a	b	b	
Sexual objectification	1-7	.91	1.92 (1.18)	3.78 (2.33)	1.78 (1.24)	1.63 (.78)	4.13 (2.29)	2.03 (1.29)	1.76 (.99)	3.95 (2.30)	1.90 (1.26)	
			a	b	a	a	b	a	a	b	a	

(table continues)

Outcome	Scale	α	Condition																	
			Inclusion				Ostracism				Overall									
			Face	Body	Away	Face	Body	Away	Face	Body	Away	Face	Body	Away						
Importance of looks	1-7	.77	2.84	3.95	2.76	2.88	4.56	2.40	2.87	4.25	2.59	(1.21)	(1.92)	(1.32)	(1.24)	(1.53)	(1.24)	(1.22)	(1.75)	(1.29)
			a	b	a	a	b	a	a	a	b	b	a							
Importance of thoughts and feelings	1-7	.92	3.44	2.26	2.47	3.88	2.44	2.01	3.68	2.35	2.26	(1.99)	(1.39)	(1.72)	(2.04)	(1.87)	(1.24)	(2.01)	(1.65)	(1.53)
			a	b	b	a	b	a	b	b	a	b	b							
Self-objectification	1-7	.62	2.92	3.93	3.18	2.98	3.62	2.89	2.96	3.78	3.05	(1.31)	(1.49)	(1.26)	(1.19)	(1.33)	(1.20)	(1.24)	(1.42)	(1.23)
			a	b	a	a	b	a	b	a	a	b	a							
Iceberg	1-10	—	4.58	4.68	4.61	5.30	3.85	4.59	4.97	4.27	4.60	(2.16)	(2.09)	(1.73)	(1.92)	(1.90)	(1.99)	(2.05)	(2.03)	(1.84)
			a	b	a	a	b	a	b	a	a	b	a							

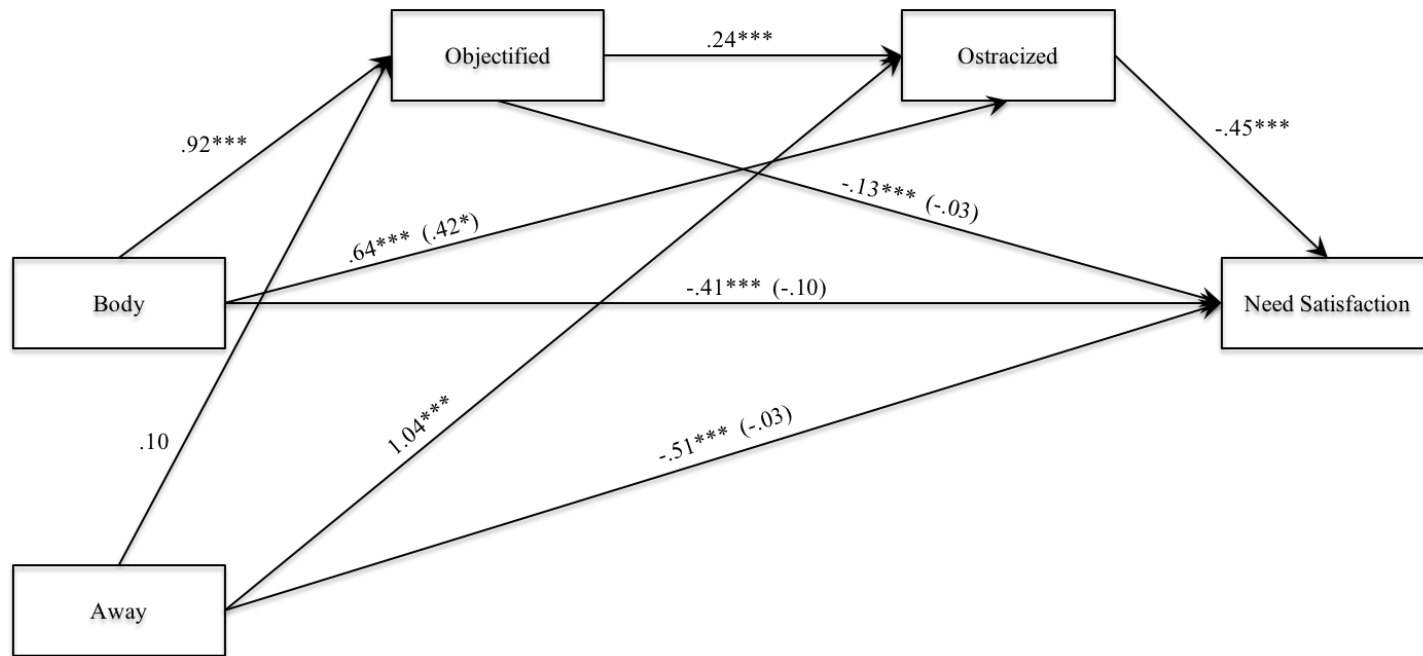
Note. Means and standard deviations (in parenthesis) by condition are reported. Different letters represent significant difference between the groups (p 's < .05).

APPENDIX B: FIGURES



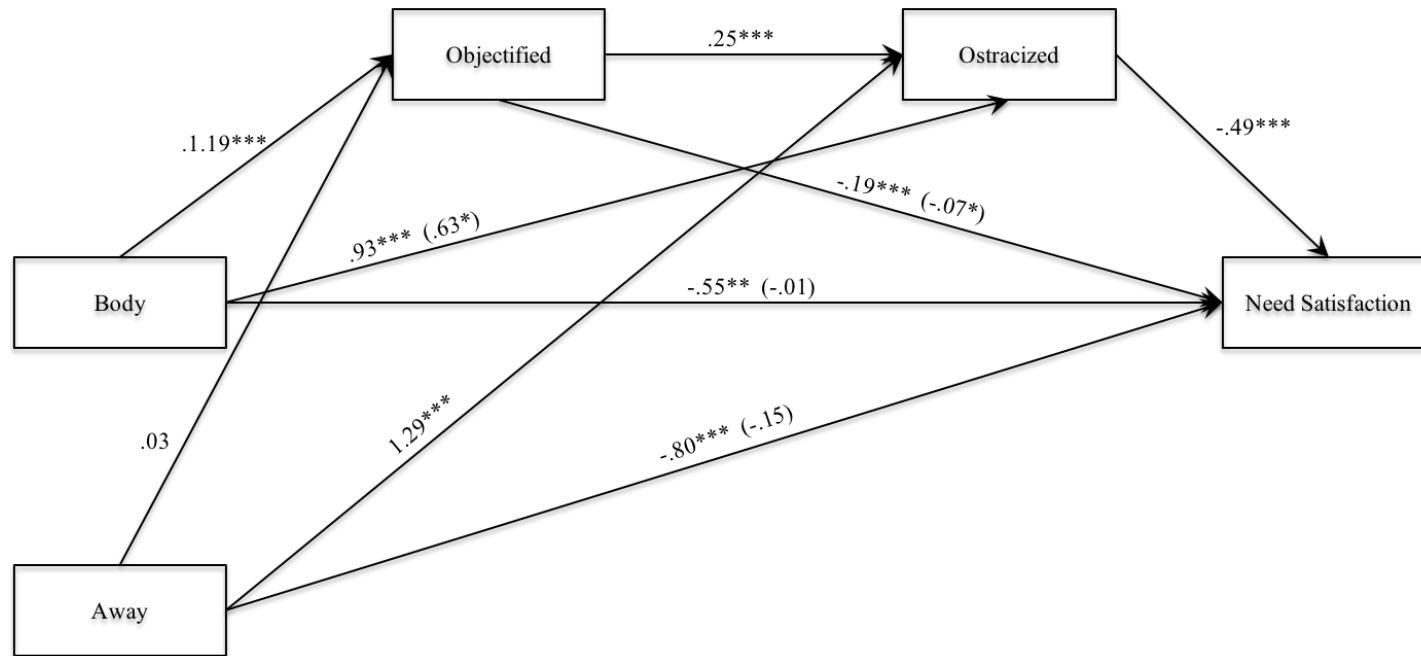
Note. The reference group in the analysis is the face condition. Non-standardized coefficients are reported. *** $p < .001$, ** $p < .01$, * $p < .05$.

Figure 1. Study 1A: Multiple mediation model represents the effect of condition on the extent to which participants felt objectified, ostracized, and their fundamental need satisfaction.



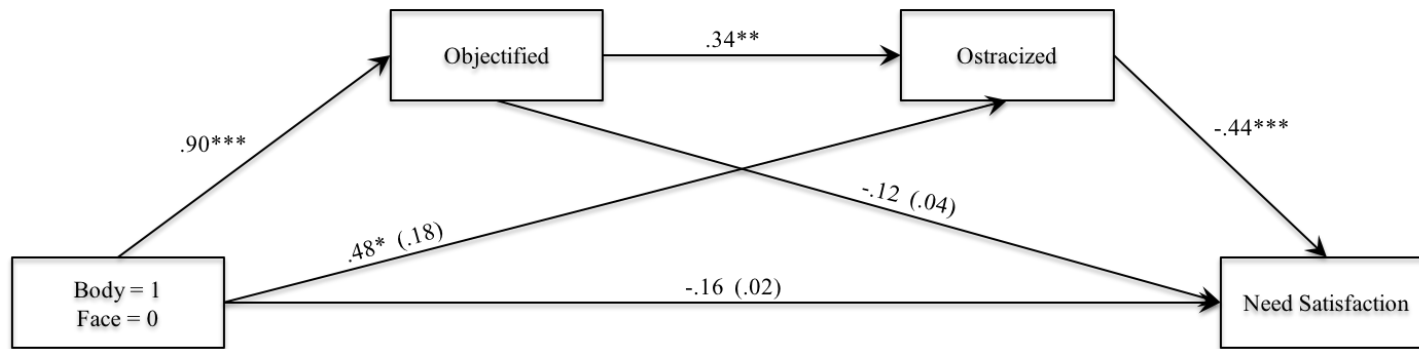
Note. The reference group in the analysis is the face (direct gaze) condition. Non-standardized coefficients are reported. $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$.

Figure 2. Study 1B: Multiple mediation model represents the effect of condition on the extent to which participants felt objectified, ostracized, and their fundamental need satisfaction.



Note. The reference group in the analysis is the face (direct gaze) condition. Non-standardized coefficients are reported. *** $p < .001$, ** $p < .01$, * $p < .05$.

Figure 3. Study 1C: Multiple mediation model represents the effect of condition on the extent to which participants felt objectified, ostracized, and their fundamental need satisfaction.



Note. Non-standardized coefficients are reported. $***p < .001$, $**p < .01$, $*p < .05$.

Figure 4. Study 2: Multiple mediation model represents the effect of condition on the extent to which participants felt objectified, ostracized, and their fundamental need satisfaction.

APPENDIX C: MEASURES

Need Satisfaction – Reflexive Stage

For each question, please click the number that best represents the feelings you were experiencing during the task.

All measured on the following scale:

1	2	3	4	5	6	7
Not at all						Extremely

During the task...

1. I felt “disconnected”
2. I felt rejected
3. I felt like an outsider
4. I felt good about myself
5. My self-esteem was high
6. I felt liked
7. I felt powerful
8. I felt I had control over the course of the interaction
9. I felt superior
10. I felt invisible
11. I felt meaningless
12. I felt non-existent

Mood – Reflexive Stage

For each question, please click the number that best represents the feelings you were experiencing during the task.

All measured on the following scale:

1	2	3	4	5	6	7
Not at all						Extremely

During the task I felt...

1. Good
2. Bad
3. Friendly
4. Unfriendly
5. Angry
6. Sad
7. Tense
8. Relaxed
9. Ashamed
10. Guilty
11. Happy
12. Proud
13. Flattered

Mood – Reflective Stage

For each question, please click the number that best represents the feelings you are experiencing right now.

All measured on the following scale:

1	2	3	4	5	6	7
Not at all						Extremely

1. Good
2. Bad
3. Friendly
4. Unfriendly
5. Angry
6. Sad
7. Tense
8. Relaxed
9. Ashamed
10. Guilty
11. Happy
12. Proud
13. Flattered

Ostracism

For each question, please click the number that best represents the thoughts you had during the task.

All measured on the following scale:

1	2	3	4	5	6	7
Not at all						Extremely

1. I was ignored
2. I was excluded

Self-Objectification

Please respond to the following statements based on how you felt during the task.

All measured on the following scale:

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

1. I felt as though I am more of a body than a person
2. I felt as though my body and who I am are two separate things
3. How I look was more important to me than how I think or feel

Interaction Partner Cared About and Liked My Look

For the next questions, please click on the number that best represents the thoughts you had during the interaction.

All measured on the following scale:

1	2	3	4	5	6	7
Not at all						Extremely

1. My interaction partner liked the way I looked
2. My interaction partner cared about how I looked

Interaction Partner Cared About What I Said and How I Felt

For the next questions, please click on the number that best represents the thoughts you had during the interaction.

All measured on the following scale:

1	2	3	4	5	6	7
Not at all						Extremely

1. My interaction partner cared about what I had to say
2. My interaction partner cared about how I felt

Social Attractiveness

For the next questions, please click on the number that best represents the thoughts you have right now.

All measured on the following scale:

1	2	3	4	5	6	7
Not at all						Very much so

1. Right now, I think that I am a socially attractive individual
2. Right now, I think that people enjoy having me around
3. Right now, I feel that people generally like me

Choice of Outfit – Buttons on Shirt

Please indicate on each button whether you would choose to keep it open (by clicking on the button ONCE), or to close it (by clicking the button TWICE), assuming you are not wearing an undershirt.

- Open button
- Close button
- Unmarked button – INDICATE YOUR CHOICE



Choice of Outfit – Avatar Task

Choose an Avatar that will represent you during the interaction with the other participant:

Your avatar will be presented to the other participant. He is choosing his avatar as well, and you will be able to see his avatar during your chat.



Choose an outfit for your avatar:



Wish to be Noticed

For each question, please click the number that best represents the thoughts and feelings you are experiencing right now.

All measured on the following scale:

1	2	3	4	5	6	7
Not at all						Very much

1. It is important to me to be noticed
2. It is important to me that other people will perceive me as physically attractive
3. It is important to me that other people will find me good looking

Contingent on Appearance Self-Worth

Please respond to each of the following statements using the scale below.

If you haven't experienced the situation described in a particular statement, please answer how you think you would feel if that situation occurred.

All measured on the following scale:

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

1. When I think I look attractive, I feel good about myself.
2. My self-esteem is unrelated to how I feel about the way my body looks.
3. My self-esteem is influenced by how attractive I think my face or facial features are.
4. My sense of self-worth suffers whenever I think I don't look good.
5. My self-esteem does not depend on whether or not I feel attractive.

Ambivalent Sexism Inventory

Below is a series of statements concerning men and women and their relationships in contemporary society.

Please indicate the degree to which you agree or disagree with each statement.

All measured on the following scale:

1	2	3	4	5	6
Disagree strongly	Disagree somewhat	Disagree slightly	Agree slightly	Agree somewhat	Agree strongly

Benevolent sexism items:

1. No matter how accomplished he is, a man is not truly complete as a person unless he has the love of a woman.
2. In a disaster, women ought not necessarily to be rescued before men.
3. People are often truly happy in life without being romantically involved with a member of the other sex.
4. Many women have a quality of purity that few men possess.
5. Women should be cherished and protected by men.
6. Every man ought to have a woman whom he adores.
7. Men are complete without women.
8. A good woman should be set on a pedestal by her man.
9. Women, compared to men, tend to have a superior moral sensibility.
10. Men should be willing to sacrifice their own well being in order to provide financially for the women in their lives.
11. Women, as compared to men, tend to have a more refined sense of culture and good taste.

Hostile sexism items:

1. Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for "equality."
2. Most women interpret innocent remarks or acts as being sexist.
3. Women are too easily offended.
4. Feminists are not seeking for women to have more power than men.
5. Most women fail to appreciate fully all that men do for them.
6. Women seek to gain power by getting control over men.
7. Women exaggerate problems they have at work.
8. Once a woman gets a man to commit to her, she usually tries to put him on a tight leash.
9. When women lose to men in a fair competition, they typically complain about being discriminated against.
10. There are actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances.
11. Feminists are making entirely reasonable demands of men.

Iceberg

Everyone has some part of them that others do not know, understand, or “get.” In this way, people are like icebergs — part of us is visible and known to others, and part of us is hidden beneath the surface. Of course, exactly how much is above the surface and how much is below the surface varies from person to person and from situation to situation.

What we would like you to do, is to think about how well do you think that your interaction partner know you.

How much of you he was able to "see" and understand during the interaction, and how much was hidden from him?

