Objectification in Action: Self- and Other-Objectification in Same-gender Interactions

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Abstract

Extant research on interpersonal objectification has focused mostly on links between objectification, self-objectification, and negative outcomes for women within mixed-gender interactions (Garcia, Earnshaw, & Quinn, 2016; Gervais, Sáez, Riemer, & Klein, 2020). The purpose of the present study was to extend past research on interpersonal objectification to interactions between pairs of women. Women were brought into the laboratory and interacted face-to-face in same-sex dyads. Dyadic analysis (Kenny, Kashy, & Cook, 2006) was utilized to detect whether partners' objectification of each other affected state self-objectification, as well as the resulting feelings of comfort and authenticity during the interaction. Results revealed a significant positive relationship between being objectified by a woman interaction partner and women's own self-objectification (a partner effect). There was no significant relationship between self-objectification and interaction inauthenticity. Further, there were significant negative effects of inauthenticity on career aspirations and relationship agency (actor effects). The significant partner effect of objectification on self-objectification suggests that women being objectified by other women may result in feelings of self-objectification, and this finding opens up questions for future research about how interpersonal objectification might function in situations without an immediate male gaze.

Keywords: Interpersonal sexual objectification, self-objectifiation, authenticity, actual interactions, psychology of women, dyadic data analysis

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Fredrickson and Roberts (1997)'s Objectification Theory, suggests that, in addition to being steeped in a culture that objectifies women, women are objectified in actual interpersonal encounters. The negative effects of this interpersonal objectification for women have been theorized to be the strongest under the "male gaze," that is, when it is a percieved or actual man doing the objectifying (Calogero, 2004; Gay & Castano, 2010; Gervais, Vescio, & Allen, 2011), but what are the consequences when a woman objectifies another woman in an interaction? Psychological researchers studying the sexual objectification of women have in recent years explored the interpersonal process of the objectification, finding evidence for *self*-objectification in the target as a proximal consequence of being objectified (Garcia et al., 2016; Riemer, Sáez, Brock, & Gervais, 2020; Strelan & Pagoudis, 2018). In a recent review, Gervais et al. (2020) organized the extant literature on interpersonal self-objectification and proposed a theoretical model called the Social Interaction Model of Objectification (SIMO). The SIMO is useful for studying mixed-gender interactions, but can it be extended to interactions among women? Although there is evidence that women can objectify other women (Gervais, Holland, & Dodd, 2013; Loughnan et al., 2015; Puvia & Vaes, 2013), studies investigating the process of interpersonal objectification in interactions between women is scarce.

The current study uses a face-to-face interaction methodology to being to answer a series of research questions about interpersonal objectification among women: Is objectification by a female interaction partner related to an increase in self-objectification for the woman being objectified? Does objectification by a woman have the same downstream negative consequences for women as being objectified by a male interaction partner? The current study addresses these questions by investigating interpersonal objectification among interacting pairs where both partners identify as women. We first review the literature on self-objectification, then we review the evidence for women objectifying other women before

turning to the literature on interpersonal objectification.

Self-Objectification

Self-objectification is a psychological process that translates the experiences of interpersonal objectification (Gervais et al., 2020; Loughnan, Baldissarri, Spaccatini, & Elder, 2017) into negative mental health outcomes (e.g., interaction inauthenticity, anxiety, lower self-esteem, and poor cognitive performance; Calogero, Tantleff-Dunn, & Thompson, 2011; Moradi & Huang, 2008). Calogero et al. (2011) proposes that self-objectification can be conceptualized as a learned trait, or *trait* self-objectification (TSO), whereby one abopts a habitual third-person perspective on one's own appearance. Furthermore, self-objectification can also be elicited momentarily, for example, when viewing sexualized images in movies and magazines (Morry & Staska, 2001), when trying on sexualizing clothing (B. L. Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998), or during video chat when you believe your interaction partner can only see your body (not face; Saguy, Quinn, F Dovidio, & Pratto, 2010). This momentary self-objectification is referred to as *state* self-objectification (SSO; Calogero et al., 2011; Moradi & Huang, 2008) and is characterized by feeling like a body rather than a full self within a particular moment, instance, or context.

There is evidence that being objectified by another person during an interaction elicits SSO. For example, Loughnan et al. (2017) found that for women, imagining a time when they were objectified by another person caused reductions in human traits attributed to the self, and notably, the gender of the person doing the objectification was not a moderating factor. In addition, in a mixed-gender dyadic study of actual interactions, Garcia et al. (2016) found that men's reported objectification of their female interaction partner was associated with increased self-objectification (as reported by their female partner). Further, this negative effect of the men's objectification on women's SSO was strongest for women higher in TSO. The current study uses this same dyadic paradigm to study same-gender,

woman-woman interacting pairs.

Women Objectifying Women

Past research investigating women objectifying other women has focused on the psychological conditions that led women to objectify women. Harsey and Zurbriggen (2020) found that (trait) self-objectification was related to the objectification of women to a similar degree for male and female participants. Along the same lines, Strelan and Hargreaves (2005) found that the more women self-objectify, the more they objectify other women. Could the process work in the other direction as well, that is, could objectification by a woman produce (state) self-objectification, in a similar manner to objectification by a man? Hill and Fischer (2008) assessed women's experiences of objectification from men independently from women's experiences of objectification from other women. They found that women may be socialized not only to see themselves as objects, but perhaps to see other women as objects as well. This process, however, was not comfirmed to occur during an actual interpersonal interaction. Thus, there is evidence that women do objectify other women, indeed, Loughnan et al. (2017) found that women objectify other women to a greater extent than they objectify men. Women have also been found to objectify (dehumanized) sexualized targets presented as images (Puvia & Vaes, 2013), but very little is known about interpersonal sexual objectification among women and what the effects of this objectification might be. Past studies have foud that objectification has more adverse consequences for women than men (Gervais et al., 2011; Moradi & Huang, 2008; Saguy et al., 2010), however, we do not know much about the effect of the gender of the *objectifyer* on potential detrimental outcomes.

Interpersonal Objectification

Studies have shown that within social encounters women are gazed at more than men (Henley, 1977), often times feel "looked at" within interpersonal interactions (Argyle &

Williams, 1969), and are likely to internalize the objectifying gaze on their physical self (Puvia & Vaes, 2013; Young, 1979). As mentiond above, interpersonal objectification has been found to have negative consequences for women. Gervais et al. (2011) found that an objectifying gaze by a male interaction partner (confederate) was associated with lower math performance for women than being objectified by a female interaction partner. Perhaps the most adverse negative consequence of interpersonal objectificaiton is that being objectified socializes girls and women to routinely treat themselves as objects to be looked at and evaluated (Bartky, 1990; B. L. Fredrickson et al., 1998). Gervais et al. (2020) recently reviewed the research on interpersonal objectification and organized our current theoretical understanding of this process in the Social Interaction Model of Objectification (SIMO). What is clear from Gervais et al. (2020)'s review is that we know little about women-on-women interpersonal objectification. Could there also be negative consequences for women after being objectified by a woman?

Past research has found that the experience of state self-objectification in mixed-gender contexts (stranger and romantic; Strelan and Pagoudis (2018); Meltzer (2020)) has negative consequences for women, but what about in the context of interactions with other women? Is the self-objectification experienced in mixed-gender interactions associated with the same negative process as that experienced in same-gender interactions? The ample research demonstrating that the male gaze has a particularly detrimental effect for women would suggest no (Calogero, 2004; Gay & Castano, 2010; Gervais et al., 2011; Saguy et al., 2010; Yilmaz & Bozo, 2019), but, there is evidence that women do objectify other women (Harsey & Zurbriggen, 2020; Loughnan et al., 2015; Puvia & Vaes, 2013) and it would be helpful to understand the consequencs of this *intra*group objectification for women. When women objectify other women, does it lead to self-objectification in the same way men's objectification of women does (Garcia et al., 2016)? If so, does the self-objectification experienced in these same-gender interactions have the same negative consequences for authenticity in that interaction?

There is some evidence that reduced authenticity is a consequence of self-objectification (Garcia et al., 2016; Terán, Jiao, & Aubrey, 2020). A recent study has investigated the effect of self-objectification on the reduction of relationship building skills in general (including same-sex friendships) (Terán et al., 2020). This link has also been found in research on stigmatized-stigmatizer interactions (M. R. Hebl & Dovidio, 2005; Richeson & Shelton, 2003; Shelton, Richeson, & Salvatore, 2005), and we might view the experience of being objectified in an interaction as a potential identity threat, stigmatizing, situation (Gervais et al., 2020; Nadal & Haynes, 2012). Further, empirical evidence reveals that healthy relationship functioning manifests through authenticity in romantic relationships (Brunell et al., 2010), an intergroup context at least in heterosexual relationships. Evidence for otehr adverse consquences of interpersonal objectification include reductions in career aspirations (Garcia et al., 2016) and a decrease in concentration and impairment in female cognitive performance (Kahalon, Shnabel, & Becker, 2018; D. M. Quinn, Chaudoir, & Kallen, 2011). These are also negative conseqences found for women under steroetype threat (Davies, Spencer, & Steele, 2005). When a woman is objectified by a man, and subsequently experiences self-objectification, the intergroup nature and power differential of this encounter might trigger threat. Thus, perhaps there are fewer negative consequences when a woman is objectified by another woman. That is, the intergroup threat literature might predict that woman-woman interpersonal objectification processes diverge from mixed-gender interpersonal objectification processes precisely because they are not intergroup interactions (at least with respect to gender identity).

In summary, a woman objectified by another woman may not be having the same negative consequences that cascade from situations that trigger group-based identity threat (Deaux & Major, 1987; Dovidio, Hebl, Richeson, & Shelton, 2006; M. R. Hebl & Dovidio, 2005); however, feeling like a body rather than a full human (higher SSO) in any interaction, whether intergroup or intragroup, may be enough to reduce women's feelings of authenticity and social competence, regardless of the gender of the objectifyer (Terán et al., 2020;

Tolman, Impett, Tracy, & Michael, 2006).

The Current Study

In the current study, we sought to examine what occurs during an interaction in which one or both partners are objectifying each other, similarly to Garcia et al. (2016), but between same-gender interpersonal interactions among women. Moreover, the current study uses a face-to-face interaction paradigm and dyadic data analysis techniques to examine the effects for both women simultaneously. Although the literature on intragroup woman objectification is small, the results are mixed and do not cover interpersonal encourters, we expected to replicate some of the results found in Garcia et al. (2016). Most importantly, we predicted that being objectified by one's interaction partner would be related to state self-objectification (SSO). We also expected that TSO would moderate this relationship, amplifying the positive assocaition between being objectified and SSO for women higher in TSO. Here we would like to note that Puvia and Vaes (2013) would alternatively predict that women's tendency to self-objectify (TSO) leads them to objectify other women (more precisely, to dehumanize a sexualized woman). In addition, Strelan and Hargreaves (2005) and Harsey and Zurbriggen (2020) would also predict the TSO to other-objectification link, further theorizing that this relationship is mediated by the woman's own state self-objectification (SSO). Thus, the limited but extant literature on woman-woman objectification points to a possible alternative model from the model tested in the current study. Where appropriate, we report results considering the causal directions implied by this alternative mediation model.

We also tested whether SSO would, in turn, lead to feelings of inauthenticity. The investigation of the SSO to inauthenticity connection is considered exploratory given the lack of support for this connection from the literature on identity threat in *intra*group interactions (Rollero, 2016) but support for this connection in the objectification literature

(Garcia et al., 2016; Terán et al., 2020). Regardless of whether there was an association between SSO and inauthenticity, we hypothesized that feelings of inauthencity would be associated with reduced feelings of agency in romantic relationships, reduced career aspirations, and reduced cognitive performance. In summary, we expected to find a positive relationship between other-objectification by one's partner and state self-objectification. We also expected to find a negative relationship between self-state objectification and interaction authenticity, and that interaction authenticity will be positively related to cognitive performance, relationship agency, and career aspirations.

Methods

Procedure

Except for the instructions given to participants, the procedure used was identical to that in Garcia et al. (2016). In brief, that methodology is that each participant arrived at the laboratory and were then led into separate cubicles to prevent any communication between the participants before the interaction. In addition, each participant was screened for prior acquaintance to confirm that they had not met prior to the study. They were asked to sign the consent form to participate, and the study was described as follows: "This is a study looking at how students form different types of relationships at college." A prompt on the computer screen told the participants that they were assigned to the "College Relationships" condition and gave the following instructions:

> There are many types of relationships people form in college. During the interaction, please think about your partner's potential as a romantic partner. **Even if they are not the gender you are attracted to**, you can still judge their potential as a romantic partner. After the interaction you will be asked to evaluate how dateable your partner is. In other words, we would like to know if

you think someone would date your interaction partner. Also, your interaction partner will be evaluating you in the same manner.

All participants were told that they were assigned to the "College Relationships" condition. Self-objectification has been found to occur after a mere relationship prime among women (Sanchez & Broccoli, 2008) because, in Westurn culture and beyond, women need to look attractive to obtain and maintain successful relationships, thus, the "College Relationships" condition may heighten self-objectification and the evaluation of other women in a sexualized way. The decision was made to ask even heterosexual women to judge their fellow-woman partners for their potential as romantic partners. We felt that this prompt would keep the study closest to a replication of the previous Garcia et al. (2016) version of the study, and strengthen the potential for objectification that would normally be low in the context of a psychology laboratory. Recall that, past research has found that heterosexual women are indeed able to evaluate other women's potential as romantic partners (i.e., their sexual attractiveness; Puvia & Vaes, 2013)—indeed, women may be unfortunately quite used to thinking about their own "datability," and we suspect this this habitual thought pattern will translate to their thoughts about other women. Analyses comparing levels of other-objectification between heterosexual and non-heterosexual women are provided in the measures section below.

After recieving the "College Relationships" prompt, the two participants were then brought into a larger interaction room where they sat on stools prearranged to be approximately 1 meter apart. The experimenter instructed the participants to "get to know each other" for 10 minutes and then left the room. After 10 minutes, the experimenter came back into the room and stopped the interaction. The participants then went back to their individual cubicles and completed a set of post-interaction measures. Participants were then thanked for their participation and debriefed. More detail on this methodology can be found in Garcia et al. (2016).

Participants

Thirty-two previously unacquainted dyads of self-identifying women participated in this study. Data from two demographically similar higher education institutions in the Northeast United States were combined to create the final analysis sample ($N = 64$) used in this study. In the measures section that follows we refer to them as Sample 1 and Sample 2. Sample 1 ($N = 24$) is from a co-ed liberal arts college and Sample 2 ($N = 40$) is from a women's liberal arts college. More specifically, twelve of the pairs were students at a co-ed liberal arts college, while the remaining twenty pairs attended a women's liberal arts college.[1] All results presented below are from models including sample as a control variable.

The participants were mostly first-year college students, with an average age of 18.85 (SD = 1.04). The sample was 48.44% White/European American, 9.38% Black/African-American, 28.12% Asian/Pacific Islander, 9.38% Latinx, and 4.69% mixed-race. There were 8 White/White pairs and 4 same race racial minority pairs, for a total of 12 same-race pairs. The remaining 20 were mixed race pairs, of which 15 were White/racial minority pairings and 5 were different racial minority group pairs. 64.06% of the sample identified as heterosexual, and 25% identified as gay, lesbian or bisexual. See the analysis of differences between heteroseuxal and non-heterosexual women in levels of other-objectification of their female partners in the measures section below.

Post interaction Measures

The following measures were collected in the order they are presented following the interaction. Correlations and descriptive statistics of all study variables appear in Table 1.

[1]Initially, data was collected from both same-gender and mixed-gender dyads at both institutions. Sample 1 originally consisted of 22 pairs, 12 men and 32 women. In Sample 2 there were 23 pairs made up of 43 women and one man, as well as two participants who did not identify as either a woman or man. To investigate only same-gender pairs of women, we limited participant data to women in both samples.

Cognitive Performance. Trigrams from the Remote Associates Task (McFarlin & Blascovich, 1984) were utilized to assess cognitive performance after the interaction. Ten items were selected and presented to participants. For example, the correct answer for the trigram "Quack: Pond: Waddle" would be "Duck". Participants are limited to 30 seconds to provide their answers. For every correct answer, 1 point is given. The mean score was 5.03 (SD = 2.29). Cognitive performance was measured first directly after the intercation in order to measure potential immediate detriments to performance (Garcia et al., 2016).

State Other-Objectification. To measure the participant's objectification of their partner in the interaction, participants were asked a series of questions about the frequency of thoughts during the interaction in relation to multiple characteristics of their partner (Garcia et al., 2016). Questions included aspects of their partner's internal traits such as personality, friends, family, and extracurricular interests, as well as external traits such as body, appearance, clothing, and body parts. All questions were rated on a scale from 1 (not at all) to 7 (constantly). Objectification was measured by taking the difference between the average frequency of thought about their partner's external traits ($\alpha = 0.79$ for Sample 1, $\alpha = 0.79$ for Sample 2) and frequency of thought about their partner's internal traits ($\alpha = 0.79$ for Sample 1, $\alpha = 0.76$ for Sample 2). A positive score in this scale would indicate that the participant thought about their partner's external traits more than the partner's internal traits, and a negative score would indicate the opposite.

As can be seen in Table 1, the mean other-objectification of women by women was M = -1.58 (SD = 1.21). This corresponds to women objectifying other women to a *greater* extent than women's objectification of men reported in Garcia et al. (2016) (M = -1.68, SD = 1.52). Further, in the current sample the difference in other-objectification between heterosexual (M = -1.77, SD = 1.14) and non-heterosexual women (M = -1.39, SD = 1.35) was not statistically significant, $t(25.89) = 1.02$, $p = 0.32$.

Interaction Authenticity. To assess the magnitude to which individuals felt comfortable in the interaction and perceived the interaction to be authentic, we asked participants to rate the extent to which they felt comfortable, happy, friendly, warm, easygoing, sincere, and authentic on a scale ranging from 1 (not at all) to 7 (very much), much like (Garcia et al., 2016). Participants were additionally asked to rate their interaction partner's authenticity as well as their own: "Do you think your partner was authentic during your interaction?" and "Were you authentic during your interaction?" These questions were ranked on a scale from 1 (not at all) to 7 (very much). These were combined to form the authenticity scale ($\alpha = 0.91$ for Sample 1, $\alpha = 0.91$ for Sample 2).

State Self-Objectification. To assess state self-objectification, we used an average of two items from Saguy et al. (2010) that were also used in Garcia et al. (2016). Participants were asked to rank how much they agreed with the following statements: "During the interaction I felt more like a body than a full self" and "I felt more like a body than as a real person in the interaction". Originally, Saguy et al. (2010) used 3 items, but in both samples the reliability of the scale was higher once the third item was removed, so we chose to only use the first two for our measure of SSO, leaving us with a reliable scale ($\alpha = 0.84$ for Sample 1, and $\alpha = 0.85$ for Sample 2.)

Relationship Agency. A scale was used from Garcia et al. (2016) to assess how much agency an individual believes they would possess in future romantic relationships. Participants were asked how likely it was that they would do the following: "ask someone out on a date," "open the door for your date," "pay for a date," "ask your boyfriend/girlfriend to marry you," "initiate sex with your girlfriend/boyfriend," "initiate condom use during sex," "surprise your boyfriend/ girlfriend with a gift," and "ask your girlfriend/boyfriend to move with you to a new place." Responses were measured on a scale ranging from 1 (not at all likely) to 7 (extremely likely). The scale originally had 9 items, but the 9th item had low correlations with the remaining items, ranging from .02 to .30 for

the first sample, and .04 to .30 for the second sample. The item was intended to be reverse coded, but correlations were still low enough to make the scale unreliable. Therefore, the ninth item was removed. As a result, the 8-item scale had moderately high reliability for both samples ($\alpha = 0.72$ for Sample 1, ($\alpha = 0.74$ for Sample 2).

Career Aspirations. To conceptualize participants' career aspirations after the interaction, we used the 10-item adaptation of P. Gray and M. OBrien (2007)'s Career Aspiration Scale which asked participants to consider how true 10 statements were in regard to their future careers on a scale from 0 (not at all true of me) to 4 (very true of me). Items include "I hope to become a leader in my career field" and "I hope to move up through any organization or business I work in." Items were fairly reliable ($\alpha = 0.73$ for Sample 1, $\alpha = 0.80$ for Sample 2).

Trait Self-Objectification. Trait self-objectification (TSO) was assessed using the Self-Objectification Questionnaire (B. L. Fredrickson et al., 1998; S. Noll & Fredrickson, 1998), which evaluates the extent to which individuals view their bodies in observable versus non-observable ways. The questionnaire asked participants to rank order both appearance and functional aspects of their bodies, from 1 (least important) to 10 (most important), with respect to physical self-concepts. Of the ten body attributes, five of the items were appearance-based (weight, sex appeal, physical attractiveness, firm/sculpted muscles and body measurements), and five of the items were competence-based (strength, physical coordination, energy level, health and physical fitness). Difference scores were computed by subtracting the sum of the 5 functional aspects/competence attributes (e.g., health, strength) from the sum of the 5 physical self-concepts/appearance attributes (e.g., physical attractiveness, weight), and all measures were multiplied by -1 so that positive scores indicated greater TSO.

Results

We used R (Version 3.5.2; R Core Team, 2017) and the R-packages *tidyverse* (Version 1.2.1; Wickham, 2017), *psych* (Version 1.8.4; Revelle, 2017), and *nlme* (Version 3.1.137; Pinheiro, Bates, DebRoy, Sarkar, & R Core Team, 2017) for our analyses. Further, we used the R-packages *papaja* (Version 0.1.0.9842; Aust & Barth, 2018), *apaTables* (Version 2.0.5; Stanley, 2018), with *knitr* (Version 1.25; Xie, 2015) to create a fully reproducible manuscript in *rmarkdown* (Version 1.15; Xie, Allaire, & Grolemund, 2018).

The R-package *papaja* (Version 0.1.0.9842; Aust & Barth, 2018) was used to create a fully reproducible research document containing the analysis code and manuscript text integrated into one source file. The benefit of this integration is that the numbers reported throughout this document are softcoded into the text, ensuring that no errors were made during a workflow marked by copying and pasting from statistical software to word processing software. Note that here we are using the term reproducibility to mean getting the same results when running analyses again using the *same* data, not to be confused with replicability meaning collecting a new dataset using the same methods and obtaining the same results (Patil, Peng, & Leek, 2016). The source code for this manuscript along with survey materials and experimenter scripts for the study protocol are all avaliable at https://github.com/kkyuchukova/object-in-action. The data unfortunutely cannot be made publically avaliable given the dyadic nature of the observations. For example, with dyadic data, if a person who participated in the study found their own scores, using the dyad identification number, they could then see their partner's scores and thus confidentiality would be broken.

Analysis Strategy

This study sought to detect whether partners' objectification of one another affected state self-objectification (SSO). Specifically, we were interested in testing the relationship between state-other objectification and SSO, and how SSO in turn, may or may not affect feelings of inauthenticity during the interaction. In addition, we also tested if the effect of other-objectification in an interaction on SSO is only present for those women who are high in trait self-objectification (moderation effect). Further, we investigated the relationships between experiencing interaction inauthenticity and relationship agency, career aspirations, and cognitive performance.

While past studies investigating objectification in interactions used dyadic path analysis (Garcia et al., 2016), the current study used multilevel modeling proceedures. Dyadic analyses for distinguishable dyads (e.g., mixed-gender interacting pairs) is more natural using Structural Equation Modeling (SEM) than it is for indistinguishable dyads (e.g., same-gender interacting pairs), as we had in the current study (Garcia, Kenny, & Ledermann, 2015; Ledermann & Kenny, 2017). One reason for this asymmetry is that, due to the arbitrary distinctions made between "partner 1" and "partner 2" in indistinguishable dyads, many estimates need to be fixed to be equal (i.e., paths, variances, covariances, endogenous intercepts, and exogenous means), but these equality constraints should not then be considered in the degrees of freedom calculations for fit estimations (Olsen & Kenny, 2006). Further, Olsen and Kenny (2006) details how a new independence model and the corresponding fit measure should be re-calculated for indistinguishable dyads models. The current study used dyadic multilevel modeling (MLM) to test all relationships, moderation, and mediation patterns. The online supplementary materials found at https://github.com/kkyuchukova/object-in-action contain model estimates obtained using SEM. See Ledermann and Kenny (2017) for a more complete discussion of the considerations for using SEM versus MLM for dyadic analysis.

Testing hypotheses and exploring relationships in the current sample of indistinguishable dyads involved using the Actor-Partner Independence Model (APIM) approach for each outcome variable. See Figure 1 for a basic APIM model. The APIM includes effects due to one's own, as well as one's partner's, predictor variables (X's) on the one's own outcome variable (Y). The current study deals with indistinguishable dyads, meaning the designation of who is the "actor" and who is the "partner" is arbitrary. In total we ran five APIM's—one for each outcome variable—to test the series of the relationships proposed (i.e., for SSO, inauthenticity, career aspirations, relationship agency, and cognitive performance).

Main Results

All relationships between study variables and the MLM estimates are depicted in Figure 2.

First, use used to the APIM to test for evidence of a partner effect of other objectification and SSO in this sample of same-gender woman-woman interacting dyads. In Garcia et al. (2016) men's objectification of women was significantly related to women's SSO, the current study sought to replicate this effect. As expected, the partner effect of other-objectification on SSO in the current all-women sample was statistically significant, $b = 0.29$, $SE = 0.12$, $p = .019$. That is, the extent to which one's partner reported thinking about a woman's external characteristics more than her internal characteristics was significantly related to the woman's own reported feeling more like a body than a full self. Along side the Garcia et al. (2016) study, there is now evidence that interpersonal objectification in an actual interpersonal encounter is realted to state self-objectification for women both when the objectifyer is a man and when the objectifyer is a woman.

In addition to partner other-objectification, this model also included one's own

objectification of their partner (actor other-objectification), actor trait self-objectification (TSO), and the interaction of partner other-objectification and TSO. One's own other objectification had no effect on SSO, b = -0.16, SE = 0.12, p = .210. Further, inconsistent with past findings however, there was no statistically significant interaction of partner's other objectification and the person's trait self-objectification on SSO, b = 0.03, SE = 0.27, p = .910. There was also no significant main effect of trait self-objectification on SSO b = 0.07, SE = 0.05, p = .183. The R^2 of this model was 0.03.

As a test of the potential alternative models discussed above—if trait-self-objectification is related to objectifying one's partner to a greater degree—we ran a MLM with other-objectification predicted by actor TSO. There was no statistically significant relationship between these two variables, b = 0.09, SE = 0.06, p = .133. We also ran a model with both TSO and SSO predicting other-objectification, given past theorizing that state self-objectification might mediate the relationship between TSO and objectification of fellow women, but there was no effect of SSO on other-objectification in this model, b = -0.17, SE = 0.13, p = .199.

We next moved on to test the link between SSO and interaction authenticity. There was no significant effect of SSO on interaction authenticity, although the estimate of this effect was in the hypothesized negative direction, b = -0.09, SE = 0.12, p = .431. Because authenticity was a composite score of 9 items, two of which were interaction specific authenticity items, we also estimated the pairwise correlations between SSO and all these items individually. They were all small, ranging from only -0.01 to -0.14. Although we hypothesized that SSO would mediate the relationship between partner's other objectification and interaction authenticity, after finding no relationship between SSO and authenticity, we also tested if the partner's other objectification had a direct effect on authenticity, but this effect was not significant, b = 0.06, SE = 0.12, p = .608 (nor was the total effect of partner's other objectification on authenticity, b = 0.03, SE = 0.11, p = .787).

Note that these analyses of the relationship between SSO and inauthenticity in this same-gender sample were considered exploratory, given that prior research on intragroup interactions points to mixed possibilities.

Lastly, although there was no evidence that SSO was related to interaction authenticity in the current sample, we tested if interaction authenticity (composite of nine items) had effects on cognitive performance, career aspirations, and relationship agency, as it did in Garcia et al. (2016) and as would be predicted by Terán et al. (2020). We again used MLM and thus, these effects were tested in three separate multilevel linear models. There was no significant effect of interaction authenticity on cognitive performance, $b = 0.32$, $SE = 0.28$, $p = .258$, but authenticity was significantly positively related to both career aspirations, $b = 0.18$, $SE = 0.07$, $p = .010$ ($R^2 = 0.04$), and relationship agency, $b = 0.23$, $SE = 0.12$, $p = .049$ ($R^2 = 0.01$).[2]

Discussion

The current study tested whether the model of interpersonal objectification and state self-objectification (SSO) used in Garcia et al. (2016) replicates in a sample of women engaging in actual dyadic interactions with each other. Although past research has found that women do objectify other women (Harsey & Zurbriggen, 2020; Loughnan et al., 2015; Puvia & Vaes, 2013), this is the first study to test if *interpersonal* other-objectification by women during actual interactions is related to state self-objectification in their woman-identified interaction partners. As hypothesized, the current study did find a

[2]There was no direct effect of SSO on cognitive performance, $b = 0.04$, $SE = 0.25$, $p = .872$, and no direct effect of partner's other objectification on cognitive performance, $b = 0.01$, $SE = 0.27$, $p = .962$. There was no direct effect of SSO on career aspirations, $b = 0.03$, $SE = 0.06$, $p = .657$, and no direct effect of partner's other objectification on career aspirations, $b = -0.06$, $SE = 0.07$, $p = .378$. There was no direct effect of SSO on relationship agency, $b = -0.05$, $SE = 0.11$, $p = .659$, and no direct effect of partner's other objectification on relationship agency, $b = -0.1$, $SE = 0.11$, $p = .365$.

significant relationship between a woman's interaction partner's report of having objectified her and her own post-interaction feelings of self-objectification. That is, there was a significant partner effect of other-objectification on SSO. This effect extends the equivalent relationship found in mixed-gender interactions to the context of same-gender interactions between women. Thus, evidence suggests that it is not only the real or imagined male gaze that is related to women's state self-objectification, but there is now also evidence that being objectified by another woman could be related to women's SSO, at least in the context of a scenario where they know they are being evaluated as a potential dating partner.

As is the case in all correlational studies, we cannot be sure about the causal direction between other-objectification and SSO. The linear model used by the current study implies that being objectified by a woman leads women to self-objectify, but it could be that women's SSO causes them to be objectified by their interaction partner. This latter interpretation is possible given the empiricle evidence that it is *women's* state self-objectification that relates to being objectified by one's partner—men partners (Garcia et al., 2016) and now women partners. Objectification Theory (Fredrickson & Roberts, 1997), as well as some past experimental studies (for example, Saguy et al., 2010), suggest that the causal flow is from other-objectification to SSO. Other studies, especailly those investigating explicitly women objectifying other women (Puvia & Vaes, 2013), have relately found evidence that women's *trait* self-objectification is related to women objectifying (dehumanizing) other women and this link is mediated by *state* self-objectification. The process of interpersonal objectification among women could also contain a feedback loop. That is, perhaps we tend to objectify other women who objectify us and through a process of TSO causing SSO which in turn causes objectifation of one's partner, which in turn causes one's partner to objectify us. However, the current study does not provide any evidence of the TSO to other-objectifixation link—TSO was not significantly correlated with SSO and, further, actor's other-objectification was not correlated with partner's other-objectification.

Where the results of the current study diverge most notably from the results of studies testing interpersonal objectification among mixed-gender dyads is the lack of evidence for relationships between SSO and interaction inauthenticity.[3] This is somewhat suprising given the extant evidence linking SSO and cognitive functioning (B. L. Fredrickson et al., 1998; and see Moradi & Huang, 2008 for a review; Quinn, Chaudoir, & Kallen, 2011) and the research on interpersonal other-ojectification and cognitive functioning (Garcia et al., 2016; Gervais et al., 2011; Logel et al., 2009). This lack of evidence could potentially signal diverging processes between women's experiences with interpersonal objectification from men and interpersonal objectification from women. There is quite a bit of evidence suggesting that the male gaze is particularly detrimental (Calogero, 2004; Fredrickson & Roberts, 1997; Gervais et al., 2011), and perhaps the self-objectification experienced within an interaction with a women is qualitatively different, and perhaps not as harmful, as the state self-objectification experienced within an interaction with a man. However, as a strong note of caution, it is best not to interpret a null result as evidence of no relationship and more research on interpersonal objectification among women is needed.

The lack of evidence for a relationship between SSO and interaction authenticity is surprising and again, should not be interpreted as evidence of no relationship. It should be noted that the estimate of this relationship was small (close to zero), but in the negative direction. If it is the case that there is a smaller (i.e., weaker) or zero connection between women's feelings of SSO and inauthenticity in interactions with other women than in interactions with men, models of interpersonal objectification, like the SIMO (Gervais et al., 2020), could be extended by including gender of the objectifyer/interaction partner as a moderator. Inauthenticity could be added as a potential moderated mediating factor to help understand the circumstances that require other-objectification and SSO to have negative

[3]In addition, we found no evidence of *direct* or *indirect* relationships between SSO and cognitive functioning, relationship agency, and career aspirations. Nor was there evidence of *direct* or *indirect* relationships between other-objectification and any of these outcomes.

consequences for women. Perhaps one important difference is the lack of a power differential across gendered lines – the patriarchy is present, but the interafction partners are not a stigmatizer-stigmatized pair.

Although the current study did not find a connection between SSO and authenticity, we did find significant positive relationships between authenticity and relationship agency, and authenticity and career aspirations. The relationship between authenticity and cognitive functioning was also estimated as positive, but was not statistically signficant. Again, due to the lack of connection between SSO and authenticity, we found no evidence of *indirect* relationships between SSO and these outcome variables. This evidence of a relationship between authenticity and the relational outcome variables (i.e., relationship agency and career aspirations) provides evidence that corroborates past findings that felt authenticity in interactions is important for healthy relationship functioning (Garcia et al., 2016; Terán et al., 2020). Just as authenticity has been found to be important in intergroup interactions (Brunell et al., 2010; Garcia et al., 2016; Tolman et al., 2006), we find more evidence here that disruptions in feelings of authenticity can negatively impact relationships beyond the current partner. Although the current study did not find a connection between authenticity and SSO, this seems theoretically to be a natural connection, and future work must explore when and how SSO leads to inauthenticity in interpersonal objectification situations.

Limitations and Future Directions

Sample Characteristics. In addition to being relatively small and combined across two institutions, another limitation of the current study sample is that the it was comprised of Western women only. Being that self-objectification has been found to be most prevalent in Western culture (Loughnan et al., 2015) research on objectification conducted outside of Western or Westernized countries has been scarce (Moradi & Huang, 2008), although more recent work has examined objectification from a cross-cultural framework (Loughnan et al.,

2015, Wollast et al. (2020)). Since "bodies exist within social and cultural contexts, and hence are also constructed through sociocultural practices and discourses" (Fredrickson & Roberts, 1997, p. 174), it is important to consider how diverse social identities within unique cultural contexts may inform sexual objectification phenomenon to test the cross-cultural applicability of theoretical frameworks (Loughnan et al., 2015).

Further, sexualizing experiences and self-objectification are thought to begin a very young age, and thus, researchers have only recently begun to examine such experiences among children (e.g., Holland & Haslam, 2016; Jongenelis, Byrne, & Pettigrew, 2014). Considering the fact that the average mean age of the investigated participants of this current study was 18.85 years, research among younger and older individuals is needed, especially because the processes of self-objectification may change over time (Fredrickson & Roberts, 1997). It may be valuable to question the extent to which children, adolescents, or emerging adults of different races or ethnicities are exposed to varied amounts of sexualizing content. Further, more longitudinal studies investigating the developmental experience of interpersonal objectification and self-objectificaion are needed.

Interpersonal Sexual Objectification, Gender, and Sexual Attraction. The current sample contained a mixture of heterosexual and non-heterosexual women, but all participants were asked to think about and evaluate their partner as a potential dating/romantic partner. We think that hetereosexual women are able to do this with other women as their target—and there is evidence that they might do this readily (Puvia & Vaes, 2013; Strelan & Hargreaves, 2005)—perhaps they may be even more apt to activate social comparison processes (Festinger, 1954) than women who are sexually attracted to other women (non-heterosexual women). Since both men and women are socialized in a culture that sexually objectifies women, both men and women may come to internalize this socialization and sexually objectify women. Indeed, recent research has found that the more women self-objectify, the more they objectify other women (Loughnan et al., 2015; Puvia &

Vaes, 2013), although not to the degree exhibited by men; that is, men were found to objectify women significantly more than women objectify other women (Strelan & Hargreaves, 2005). This differential psychological process between women with differing sexualities might have served to dampen our ability to detect relationships, adding variability.

Previous research has found that when compared to heterosexual women, lesbian women report less concern with physical appearance (Siever, 1994; Strong, Williamson, Netemeyer, & Geer, 2000), lower body surveillance (Hill & Fischer, 2008), and lower self-objectification (Noffsinger-Frazier, 2004). However none of these studies examined the relationship between self-objectification and experiences of sexual objectification. Thus, it is unclear whether lesbian women indeed experience similar levels of cultural sexual objectification but internalize them less than heterosexual women do. Consistent with previous research, Hill and Fischer (2008) determined that lesbians exhibited less physical appearance concerns compared to heterosexual women, however there was no evidence found that lesbian women self-objectify less than heterosexual women and they did not find that sexual orientation moderates the relationship between sexual objectification and self-objectification. This evidence sits in contrast to older theoretical literature that suggests that lesbians internalize cultural sexual objectification less than do heterosexual women (Brown, 1987; Pitman, 1999; Rothblum, 1994; Siever, 1994).

Interpersonal sexual objectification has been studied in both romantic and platonic contexts. Among heterosexual male and female college students, self-objectification has been found to be positively associated with the extent to which they objectify their romantic partners (Zurbriggen, Ramsey, & Jaworski, 2011). Evidence is mixed, suggesting that women can sometimes have positive outcomes from appearance valuation within the context of an established romantic relationship. There is also evidence that they experience less SSO after appearance comments within established romantic relationships (Meltzer, 2020), but less is

known about first dates. An important caveat to this literature is that it is only about heterosexual relationships. Objectification might also occur among platonic friends: Perhaps women could be amplifying each others' state self-objectification *before* the theoretical encounters with men organized in the SIMO occur. In this way, women's rituals of getting ready together before socilizing in co-ed groups might place even women with low TSO in a higher SSO group.

Sexism and Sexual Discrimination. Sexism has been found to be related to the objectification of women, but not men (Cikara, Eberhardt, & Fiske, 2011; Harsey & Zurbriggen, 2020), and in addition, TSO has been found to be associated with less negative attitudes towards sexual harassment (Bernard, Legrand, & Klein, 2018). Both of these effects are present for both men and women. Empirical evidence illustrates how women continue to be objects of interpersonal discrimination and experience daily sexist hassles (Swim, Hyers, Cohen, & Ferguson, 2001). One form of interpersonal discrimination women face is the process by which their whole being is viewed as a collection of sexualized body parts valued predominantly for commodification, a phenomena termed sexual objectification (Bartky, 1990). Sexual objectification of women has also been linked to trauma (Miles-McLean et al., 2015). Sexual objectification occurs in a mirad of ways in women's lives and is modified by unique combinations of race, ethnicity, sexuality, age, and class (Fredrickson & Roberts, 1997). Amid such heterogeneity though, "having a reproductively mature female body" proposed by Fredrickson and Roberts (1997) is likely to create a shared vulnerability to sexual objectification and a variety of shared negative experiences as a result.

Conclusion

The results of this study demonstrate the complex and ambivalent nature of sexual objectification and additionally highlight the psychological and social consequences of such objectification processes on women's social relationships and well-being. These results are

quite useful for promoting mental health, the creation and maintence of early action programs for girls and young women, and for scholars and practitioners to work intentially to provide the tools necessary to circumvent or mitigate negative effects on self-objectification to combat such experiences.

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Table 1

Correlations and Descriptive Statistics among Study Variables

	M	*SD*	1.	2.	3.	4.	5.	6.	7.
1. Actor's trait self objectification (TSO)	-0.35	2.64							
2. Actor's objectification of partner	-1.58	1.21	.20						
3. Partner's objectification of the actor	-1.58	1.21	.09	.14					
4. Actor's state self-objectification	1.92	1.13	.13	-.09	.30*				
5. Actor's authenticity of interaction	5.23	1.02	-.02	-.07	.03	-.10			
6. Actor's future relationship agency	4.69	0.96	.04	.09	-.10	-.09	.23+		
7. Actor's cognitive performance	5.03	2.29	.08	.11	.06	.02	.11	.07	
8. Actor's career aspirations	3.88	0.61	.05	-.14	-.08	.01	.33**	.26*	-.07

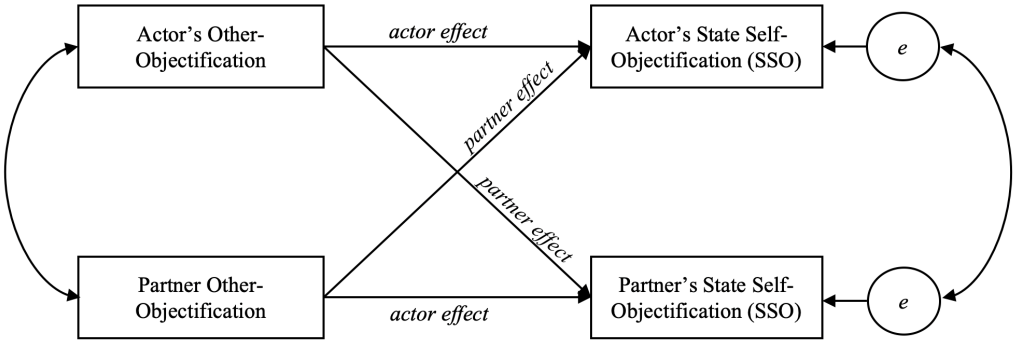

Figure 1. Basic actor-partner interdependence model (APIM) depiction.

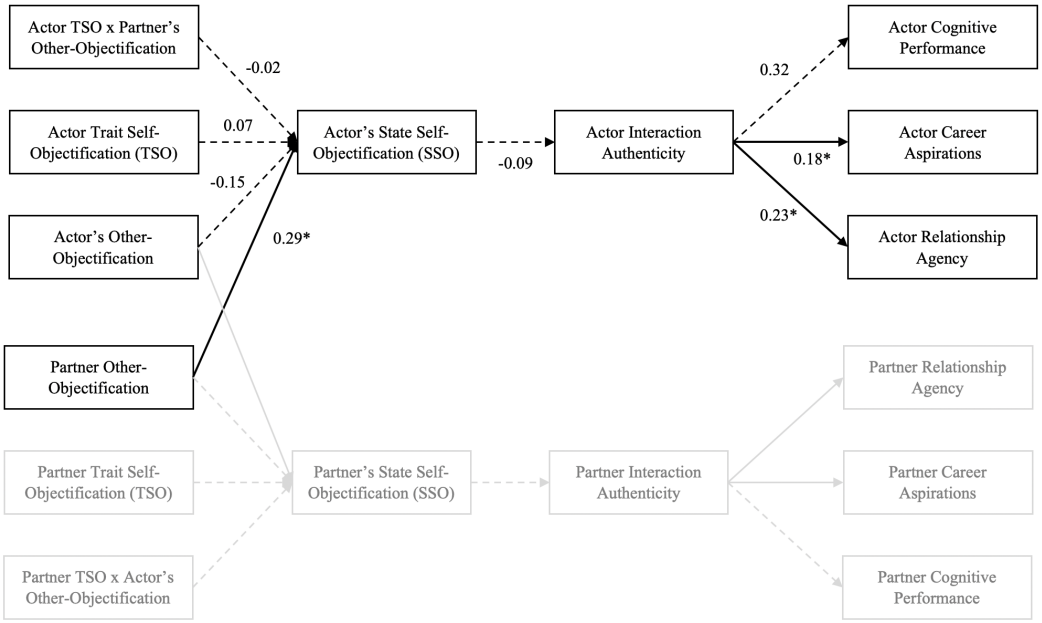

Figure 2. This figure depicts the relationships tested bewteen study variables. The light gray variables represent redundant variables and are shown to emphasize the dyadic nature of the data. The estimates were from obtained from separate MLMs. Sample was controlled for in all models. The effects of TSO, actor other-objectification, and partner other-objectification are from a model where the interaction of TSO and partner other-objectification had been trimmed. *$p < .05$, dashed lines represent non-significant relationships.