

Defusing the Objectification of Women by Other Women: The Role of Competence

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Abstract This study provides empirical evidence that the objectification of women by other women can be attenuated by drawing attention to their competence. Primarily European American female undergraduate participants ($N=154$) from the Midwestern part of the United States rated photographs of college-aged female models dressed provocatively a) standing against a plain background (control condition), b) showing athletic competence (standing near a swimming pool holding a trophy), and c) showing academic competence (solving a math problem on a whiteboard). Results showed that compared to the control condition, the models showing competence were rated lower on objectification variables and higher on capability variables regardless of their provocative manner of dress.

Keywords Objectification · Competence · Intelligence · Clothing

Introduction

Since the publication of Fredrickson and Robert's (1997) study on objectification theory as well as the subsequent publication regarding self-objectification (Fredrickson et al. 1998), research has blossomed on the influences and effects

of objectification. Studies done primarily in North America, show that when women self-objectify, they see themselves as less competent (Gapinski et al. 2003) and perform less competently as well (Quinn et al. 2006). The majority of the objectification literature thus far has focused on how either men or society in general (e.g., social media) sexually objectify women (Calogero 2004; Fredrickson et al. 1998; Swim et al. 2001). However, research on the phenomenon of women objectifying other women is growing (e.g., Gurung and Chrouser 2007; Strelan and Hargreaves 2005). When objectified, women are seen—by both genders—as less competent, less intelligent, and less capable (Gurung and Chrouser 2007; Heflick and Goldenberg 2009). We explored if the reverse would be true and if women shown as competent would be objectified less.

Despite the growing body of research examining the motives and effects of objectifying women, little is known about the factors that influence the extent to which women are objectified. Less is known about the extent to which women objectify other women. This study incorporates findings from previous research regarding the objectification, competence, and clothing of women in North America in order to identify factors that reduce the objectification of women by other women. Specifically, we test if highlighting a woman's competence will reduce the tendency for other women to objectify her. Will a provocatively dressed woman still be objectified by other women if she is shown to be competent? Because of the intended focus on how women objectify other women, the literature referred to had either a combination of male and female participants or only female participants. Given the cultural variances in clothing style, the focus will be kept on literature regarding women in the U.S. unless otherwise stated. Also included are older studies that establish some basic findings as well as more recent work on relevant variables.

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Objectification and Self-Objectification

Objectification theory posits that in western culture, women are targets of the male gaze and socialized into roles that are overly preoccupied with appearance and how others see them (Fredrickson and Roberts 1997). As suggested by the term objectification, women and their bodies are hypothesized to be viewed as objects which correspondingly influences how they are perceived. Women are acculturated to objectification through forms of the media, including television (Sommers-Flanagan et al. 1993), magazines (Harper and Tiggemann 2008), and even popular music played on the radio (Bretthauer et al. 2007). Women also experience objectification through everyday interactions with males by means such as gazing, verbal commentary, and unwanted touching (Calogero 2004; Swim et al. 2001).

Women respond to objectification through self-objectification. That is, “internalizing an observer’s perspective on the self” (Fredrickson and Roberts 1997, p. 179). Self-objectification, in turn, leads to negative outcomes such as body shame, restrained eating, and diminished attention and mental performance (Fredrickson et al. 1998; Moradi et al. 2005; Quinn, et al. 2006), and is consequently linked to objectification (Gurung and Chrouser 2007; Strelan and Hargreaves 2005). For example, women who place greater importance on their own weight and shape also place greater importance on these dimensions when evaluating other women (Beebe et al. 1996). Women are also far more focused and critical of their bodies than are men (Frederick et al. 2006) (the female participants in this study were visitors to the MSNBC.com website and ranged in age from 18–65). One factor that spurs the objectification of women is clothing.

Provocative Clothing and Objectification

Although both men and women can be judged according to the types of clothing they wear, only women have been shown to be judged on a sexual basis. For example, Abbey et al. (1987) found that when a woman was dressed in more revealing clothing (i.e., low-cut blouse, slit skirt, and high-heeled shoes), she was judged as being more flirtatious, sexy, seductive, and promiscuous than when she was dressed in nonrevealing clothing (i.e., buttoned-up blouse, skirt without a slit, and boots). However, the revealingness of a male’s clothing did not significantly influence others’ perceptions of his sexual traits. This study also found that women were perceived to possess other characteristics based on the revealingness of their attire. Specifically, women dressed in more revealing outfits were seen by both genders as less likable, less sincere, and less warm. Another study observed similar judgments applied to a female target when she was

dressed provocatively versus when she was dressed conservatively. Cahoon and Edmonds (1989) found that when a woman was dressed provocatively (i.e., a revealing dress) she was seen as more attractive, sexually exciting, promiscuous, and more likely to use sex as a tool to get what she wanted than when she was dressed conservatively (i.e., blouse and slacks).

Women and Competence

When looking at the relationship between women and competence, previous research has indicated that women are presumed to possess inferior ability and competence as compared to men, especially when performing male gender-typed tasks (Deaux and Taynor 1973; Etaugh and Brown 1975; Heilman and Haynes 2005; Heilman et al. 2004; Jones 2009; Piacente et al. 1974). The majority of these authors looked at how both genders have assumptions towards the inferior ability of women. The explanations given for this supposed inferiority often include certain gender prescriptions assumed and even expected of women.

However, when shown evidence (e.g., prior success, recognition, or awards) that contradicts the assumption of inferiority, a woman’s competence is seen as equal to that of a man’s as shown by both older and more recent studies (Heilman and Haynes 2005; Heilman et al. 2004; Lott 1985; Pheterson et al. 1971; Piacente et al. 1974). For example, Heilman and Haynes (2005) examined credit assigned to men and women for group work. It was found that when successful work was credited as being the result of a joint effort, women were rated less in terms of competence, leadership roles, or group influence than men. It was only when individual credit was assigned to female group members that their competencies were rated equal to that of male group members.

Even when being viewed as equally competent to a male, assumptions can still be made as to *how* a woman managed to be just as competent. Especially when succeeding at a male gender-typed task, a woman who is credited as competent—or at least as competent as a man performing the same task—can face other derogatory assumptions. One way this occurs is through explanations of a woman’s success as luck or great effort whereas a man’s success can be explained by ability and skill (Deaux and Emswiller 1974; Lott 1985). Or, her success can be rationalized in terms of her lacking gender-role-prescribed feminine qualities, such as sociability and niceness, which can result in liking her less as well as personally derogating her (Heilman and Okimoto 2007; Heilman et al. 2004).

Apart from men, there have also been studies that focused more intently on why women may assume this of other women (Cooper 1997; Ellemers et al. 2004; Mathison 1986; Pheterson et al. 1971). For instance, the study by

Ellemers et al. (2004) suggested that a woman who is successful or in a position of power may judge other ambitious women more negatively than she would judge similarly ambitious men. The authors in this study examined views of male and female professors towards both male and female doctoral students. They found that male professors rated female candidates as equally committed to their work as male candidates. Female professors, on the other hand, rated female candidates significantly lower in commitment to their work than male candidates. The authors suggested that this may be due to what is termed the Queen Bee Syndrome (Staines et al. 1974). This is described as when a woman has attained a certain amount of success in a working environment (especially one that is more male-typed) she may try to establish herself and her success individually from that of other women, and in the process of doing so, will derogate and discriminate against other women who are also motivated to achieve that same kind of success (Baumgartner and Schneider 2010).

However, this attitude can be pervasive in contexts other than from women who have succeeded in what is typically a more male-typed environment. It can also occur from women towards another woman who is successful or has a higher status. For instance, Cooper (1997) evaluated attitudes of female group members towards their group leader who was also female. The study found that group members who held more traditional views of gender roles rated their leaders less favorably overall than did group members who held more nontraditional views regardless of whether the leader herself held strongly traditional or nontraditional views. Additionally, not only did traditional group members rate their leaders lower overall, but they did not significantly rate traditional leaders more highly (even though they shared similar values) than nontraditional leaders. Whereas the nontraditional group members did differentiate in their ratings between the two types of leaders in favor of the nontraditional leaders. The findings from this study indicated that women who hold traditional gender-typed views of other women are more likely to engage in competitive, ‘queen bee’ behavior and judge other women in positions of status or power less favorably than women who hold more nontraditional gender views.

Clothing, Objectification, and Competence

Recent studies have examined the effects of clothing on the perceived competence of women and have found additional evidence of a negativity bias via objectification. A study by Gurung and Chrouser (2007) investigated the effect of provocative clothing on perceptions of female Olympic athletes using ratings of objectification and competence. They found that when these athletes were shown in provocative clothing (i.e., full body shots with minimal

clothing) versus normal attire (i.e., respective sports outfits), they were rated as possessing significantly less strength, less determination, and less intelligence than when they were seen in normal attire. Additionally, they were rated higher on measures of objectification such as attractiveness and sexual experience regardless of their athletic status. Such judgments of women can also be found imbued with others’ opinions of her abilities in her chosen profession. This is shown when a woman in a higher status position, such as a manager, is viewed as less intelligent and less competent in her job when she is dressed more provocatively (i.e., tight knee-length skirt, low-cut shirt with a cardigan, and high-heeled shoes) than if she is dressed more conservatively (i.e., turtleneck, business jacket, slacks, and flat-heeled shoes) (Glick et al. 2005).

Overall, when it comes to competence, research has shown that a woman’s ability is often assumed to be inferior to that of a man’s unless directly proven otherwise. When she is objectified, not only is she assumed to be even less competent, but derogating assumptions may also be made about her character. A recent study by Heflick and Goldenberg (2009) found that objectification led not only to decreased ratings of competence but also of ‘human essence’ (i.e., characteristics perceived as essential to being fundamentally human; for someone to be regarded low in them would be a form of dehumanization, Haslam et al. 2005).

This study was unique as they did not use imagery to induce judgments from participants; instead, they simply instructed participants to write about a famous woman based on either her as a person or her appearance. Participants then rated that woman’s competence. Those who rated based on appearance, rated her significantly less in terms of both competence and human character than those who rated that same woman but instead on the basis of her as a person. The authors went on to suggest that objectifying a woman not only leads to discounting her competence but it also takes focus away from perceiving her as a human being.

The Present Study: Objectification and Competence of Sexualized Women

Previous research has shown that a woman who is dressed more provocatively will be viewed as more sexual and more likely to use sex as a tool to get what she wants (Cahoon and Edmonds 1989). It has also been shown that women who dress more provocatively are seen as less intelligent and less capable than those who dress modestly in both professional (Glick et al. 2005) and athletic (Gurung and Chrouser 2007) contexts. Objectification and competence perceptions are clearly related. Because objectification has been found to affect competence ratings in that

when objectified a woman's competence will be downplayed, the basis of our hypothesis is the reverse might also be true: priming competence might reduce the tendency for women to objectify other (provocatively dressed) women. This is tested for by comparing ratings of provocatively dressed women exhibiting competence (both academic as well as athletic) with the same provocatively dressed women not displaying any competence (control). Additionally, it is also hypothesized that the increased focus on the competence of provocatively dressed women would also increase others' assumptions of their capabilities.

H₁: A woman who is dressed provocatively and shows competence will be objectified to a lesser extent than a woman who is dressed provocatively and does not show competence.

H₂: A woman who is dressed provocatively and shows competence will be seen as possessing more positive capabilities than a woman who is dressed provocatively and does not show competence.

Beyond this global level of prediction, it is also hypothesized that if a provocatively dressed woman was acknowledged to be competent, ratings of her nonsexual personal characteristics would also vary. For instance, ratings of femininity have been shown to be associated with ratings of both the objectification and competence of women. In terms of objectification, a woman who is dressed provocatively will be seen as more feminine than when she is dressed nonprovocatively (Gurung and Chrouser 2007). In terms of competence, a woman who is acknowledged to be competent will also be seen as less feminine than if she was not acknowledged to be competent (Piacente et al. 1974). From this, it was hypothesized that if participants focused more on the competence of the models and less on how they were dressed, the results of should imitate those of Piacente et al. (1974) and ratings of femininity should decrease despite their provocative manner of their dress.

H₃: A woman who is dressed provocatively and shows competence will be seen as less feminine than a woman who is dressed provocatively and does not show competence.

Another aspect of interest was that of interpersonal feelings towards the models. Specifically, the extent that participants not only liked the models but also the extent to which they assumed other people would like them (i.e., saw them as popular) was examined. Based on the findings of decreased likability (Abbey et al. 1987) and negative emotional reactions to provocatively dressed women (Glick et al. 2005) as well as the findings of reduced likability of

competent and successful women (Heilman et al. 2004; Rudman 1998; Rudman, and Glick 2001), it was hypothesized that showing competence may further reduce not only participants' liking of the models but would also lower their assumptions of the models' popularity.

H_{4a}: A woman who is dressed provocatively and shows competence will be less liked than a woman who is dressed provocatively and does not show competence.

H_{4b}: A woman who is dressed provocatively and shows competence will be perceived as less popular than a woman who is dressed provocatively and does not show competence.

An additional finding by Abbey et al. (1987) that was mentioned previously was that women who were dressed more provocatively were seen as less sincere than when they were dressed in more conservative clothing. From this two personal characteristic variables for sincerity (i.e., honest and trustworthy) were included. The variable of honest was used as a more straightforward judgment of the models' sincerity and trustworthiness was used as a gauge of participants' judgments regarding how deserving of trust they would assume of the models. It was hypothesized that as attention shifted away from objectifying the models and focused more on their competence, ratings of honesty and trustworthiness would increase when the models displayed competence.

H_{5a}: A woman who is dressed provocatively and shows competence will be seen as more honest than a woman who is dressed provocatively and does not show competence.

H_{5b}: A woman who is dressed provocatively and shows competence will be seen as more trustworthy than a woman who is dressed provocatively and does not show competence.

Method

Participants

A total of 154 female undergraduate students from a Midwestern university participated in this study. Students were primarily European American and ranged in age from 18–29 ($M=19.43$). Students were recruited using a departmental participant pool (Experiential Research Learning Program). In this program, students in introductory psychology and human development courses are required to actively participate in research as participants as one of many different opportunities to better understand the research process. Students received extra credit for their participation.

Materials

Visual Stimuli

The study included pictures that displayed full body shots of three female models with the faces blurred so as to protect anonymity as well as discourage judgments based on facial features. The models were between the ages of 20 and 25 and volunteered to have their pictures shown to the participants. The pictures showed the models wearing provocative clothing (Model 1 wore a short skirt, a low-cut tank, and high-heeled shoes; Model 2 wore tight, form-fitting jeans, a strapless top that exposed cleavage, and high-heeled shoes; Model 3 wore tight, form-fitting jeans, a low-cut spaghetti-strap tank, and flat-heeled dress shoes). Three pictures of each model were taken with them in one of three settings (see [Appendix](#) for actual stimuli used). In the control setting, the model stood in front of a white wall. In the athletic setting, the model stood next to a swimming pool. To convey competence, she held a trophy. In the academic setting, the model stood next to a whiteboard in a classroom. To display competence, she was completing a mathematical problem on the whiteboard (the board was full of solved mathematical problems). There were a total of nine different pictures as each of the three models was depicted in each of the three settings. Stimuli were pretested to ensure models were comparable (no differences in attractiveness or competence for the three models were found).

To see if these models were perceived as provocatively dressed, participants were asked to rate how revealing the models' outfits were on a scale of 1 (*not at all*) to 9 (*extremely*) for Models 1, 2, and 3 in the control condition. The control condition was chosen to ensure the ratings resulted from the models' clothing and were not influenced by other factors (i.e., holding up a trophy or solving a math problem). The averages for each model were 6.14, 4.83, and 4.84, respectively, with a summed average of 5.26. Also examined were the ratings of the variable 'sexy' for the models in the control condition, and that was rated on the same scale of 1 (*not at all*) to 9 (*extremely*). The averages for each model were 6.44, 6.51, and 6.37, respectively with a summed average of 6.44. Taken together, these measures indicated that participants not only viewed the models' outfits as moderate to fairly high in their revealingness, but they also rated all of the models similarly on sexiness.

Measures

Dependent Variables

The dependent variables used in this study were based on previous research (Gurung and Chrouser 2007). Three different categories were used: Capabilities, Objectification,

and Personal Characteristics. Participants rated the models on a total of 17 descriptor words organized into three different categories: Capabilities (determined, independent, intelligent, responsible, studious, talented); Objectification (attractive, desirable, promiscuous, sexy, likelihood of being in a short-term fling, likelihood of using her body to get what she wants); and Personal Characteristics (feminine, honest, likable, popular, trustworthy). Distracter/filler items (appropriateness of outfit, fit/healthy, high self-esteem, shallow, vain) were also used. The participants rated each term on a scale ranging from a score of 1 (*not at all*) to 9 (*extremely*). For each of the conditions (control, athletic, academic) the coefficient alphas were calculated for the variables of Capabilities (.77, .80, .90, respectively) and Objectification (.63, .72, .71, respectively). The variables were then summed up in each category to create a composite score.

The two composite scores showed acceptable reliability scores: Cronbach's alpha = .88 (Capabilities) and .69 (Objectification). Since the Personal Characteristics varied, those items were analyzed individually. To check the manipulation of competence, participants rated how competent they thought the models were in the each of the conditions. Participants rated each of the models on a scale from 1 (*not at all*) to 9 (*extremely*).

Procedure

The study was a within-subjects design. Participants completed the study on computers in individual rooms. The consent form was displayed on the computer screen for each participant to read and agree to before the experiment began. A software program, Medialab (Empirisoft, 2008), was used to present the visual stimuli and questionnaires. Directions for the experiment were presented on the computer screen. First, participants completed demographic questions and all measures described above. Participants then saw each of the three models (each in a different setting, counterbalanced across participants) and completed the dependent measures. Participants were in one of three conditions where each condition had different models in different settings to ensure greater generalizability, as follows: Model 1 in the control setting, Model 2 in the athletic setting, and Model 3 in the academic setting (Condition 1); Model 2 in the control setting, Model 3 in the athletic setting, and Model 1 in the academic setting (Condition 2); and, finally, Model 3 in the control setting, Model 1 in the athletic setting, and Model 2 in the academic setting (Condition 3).

Results

Mean scores and standard deviations for each dependent variable are shown in Table 1. We also created summed

Table 1 Mean values and standard deviations of condition variables with significant mean differences and corresponding effect sizes between the competence (athletic and academic) conditions and the control condition indicated

Variable	Control		Athletic		<i>d</i>	Academic		<i>d</i>	
	Mean	Std. D	Mean	Std. D		Mean	Std. D		
Objectification									
Attractive	6.75 _a	1.12	6.77 _a	1.32	.01	6.48*	1.54	-.17	
Desirable	6.32 _a	1.40	6.72**	1.23	.25	6.11 _a	1.49	-.14	
Promiscuous	6.13	1.65	4.71***	1.56	-.66	5.61***	2.14	-.22	
Sexy	6.44	1.59	6.41	1.41	-.02	6.03**	1.66	-.23	
Short-Term Fling	6.62	1.69	4.62***	1.67	-.82	5.71***	2.23	-.34	
Uses Body	6.27	1.81	4.80***	1.86	.64	5.65**	2.27	-.25	
Capabilities									
Determined	6.00	1.32	7.86***	0.94	1.31	6.71***	1.45	.42	
Independent	5.58	1.55	7.01***	1.17	.85	6.22***	1.57	.34	
Intelligent _b	5.67	1.09	6.88***	1.18	.82	6.92***	1.64	.75	
Responsible	5.52	1.42	7.12***	1.20	.83	6.16***	1.63	.34	
Studious _b	5.34	1.43	6.62***	1.27	.71	6.70***	1.73	.69	
Talented	6.09	1.09	7.95***	0.96	1.37	6.58***	1.37	.31	
Personal Characteristics									
Feminine	7.87	1.07	7.12***	1.37	-.52	7.38***	1.24	-.38	
Honest	5.58	1.28	6.34***	1.21	.46	5.85*	1.47	.17	
Likable	6.50	1.20	6.81**	1.18	.25	6.14**	1.28	-.26	
Popular	7.10	1.18	7.03	1.25	-.05	6.31***	1.53	-.43	
Trustworthy	5.51	1.21	6.49***	1.24	.63	5.89**	1.60	.23	
Fillers									
Appropriateness	5.38	1.77	6.65***	1.65	.56	4.81*	2.27	-.21	
Fit/Healthy	7.30	1.21	8.24***	0.95	.71	6.30***	1.63	-.58	
High Self-Esteem	6.97	1.36	7.17	1.24	.12	6.40***	1.64	-.30	
Shallow	5.12	1.77	4.10***	1.46	-.47	4.73*	1.85	-.18	
Vain	5.50	1.80	4.76***	1.54	-.38	5.29	1.80	-.10	

N=154. For the athletic and academic conditions, significance was indicated for a variable if its rating significantly differed from the rating it was given in the control condition. Subscript _a indicates no significant differences between specific competence conditions and control (all others significant). Subscript _b indicates significant differences between the two competence conditions. **p*<.05. ***p*<.01. ****p*<.001. All variables rated on a scale ranging from 1=Not at all to 9=Extremely. Effect size was calculated using Cohen's *d*. Positive *d* values indicate the value in the competence condition was larger than the value in the control condition, and negative values indicate vice versa.

scores for each major category of variable. No model or specific picture effects were found.

Was the Manipulation Successful?

First, a one-way repeated measure analysis of covariance (ANCOVA) was used to see if the competence manipulation was successful. Indeed, the mean rating of competence for the models in the control condition was 5.81 and was significantly lower than the ratings given to models in either the athletic (*M*=6.92, *p*<.001) or academic (*M*=6.42, *p*<.001) conditions.

Does Competence Reduce Objectification?

We used a one-way repeated measure analysis of covariance (ANCOVA) to test the main hypothesis (H1) that a woman showing competence would be objectified less than a provocatively dressed woman not showing competence. Mauchly's test indicated that the assumption of sphericity had not been violated, $\chi^2(2)=5.97, p=.05$.

The results showed that there were significant differences in group means, Hotelling's Trace *F* (2, 152)=3.84, *p*<.05. Simple contrasts showed that the control condition was significantly different from the academic condition, *F* (1, 153)=7.26, *p*<.01, but not the athletic condition. Consistent with the first hypothesis, the mean objectification for the control condition was higher.

Next, we ran further analyses were run to provide a finer picture of the differences between individual items. An examination of the means showed that models in the athletic competence condition were rated as less promiscuous (*M*=4.71, *p*<.001), less likely to be in a short-term fling (*M*=4.62, *p*<.001), and less likely to use their body to get what they wanted (*M*=4.80, *p*<.001) than models in the control condition. The models in the academic competence condition were also rated as significantly less promiscuous (*M*=5.61, *p*<.01), less likely to be in a short-term fling (*M*=5.71, *p*<.001), and less likely to use their body to get what they wanted (*M*=5.65, *p*<.01) than models in the control condition. However, the Objectification variables of attractive, desirable, and sexy, were not

significantly different from the control condition for both competence conditions.

The second hypothesis stated that women who were dressed provocatively and displayed competence would be seen as possessing more capabilities than women who were dressed provocatively and did not display competence (H2). Models in the athletic condition were rated as more determined ($M=7.86$, $p<.001$), more independent ($M=7.01$, $p<.001$), more intelligent ($M=6.88$, $p<.001$), more responsible ($M=7.12$, $p<.001$), more studious ($M=6.62$, $p<.001$), and more talented ($M=7.95$, $p<.001$) than models in the control condition. Similarly, models in the academic condition were also rated as more determined ($M=6.71$, $p<.001$), more independent ($M=6.22$, $p<.001$), more intelligent ($M=6.92$, $p<.001$), more responsible ($M=6.16$, $p<.001$), more studious ($M=6.70$, $p<.001$), and more talented ($M=6.58$, $p<.001$) than the models in the control condition. Indeed, consistent differences of the perceived capabilities between the models in the control and competence conditions provided full support for the second hypothesis that women who were dressed provocatively and showed competence would be seen as possessing more capabilities than women who were dressed provocatively and did not show competence.

Hypotheses 3, 4a, 4b, 5a, and 5b related to the ratings of the personal characteristics of the models. Hypothesis 3 stated women who were dressed provocatively and showed competence would be seen as less feminine than women who were dressed provocatively and did not show competence. This hypothesis received support in that models in both the athletic ($M=7.12$, $p<.001$) and academic ($M=7.38$, $p<.001$) conditions were rated as significantly less feminine than models in the control condition.

Hypothesis 4a stated that women who were dressed provocatively and showed competence would be less liked than women who were dressed provocatively and did not show competence. Although models in the academic condition were rated as significantly less likable ($M=6.14$, $p<.01$) than models in the control condition, models in the athletic condition were actually rated as more likable ($M=6.81$, $p<.01$) than models in the control condition. This contrasting finding lent only partial support to the hypothesis. Hypothesis 4b stated that models that were dressed provocatively and showed competence would be considered as less popular than models that were dressed provocatively and did not show competence. The results indicated no significant difference in popularity between the control and athletic conditions. However, models in the academic condition were rated as being significantly less popular than models in the control condition ($M=6.31$, $p<.001$). Similar to the first part of the fourth hypothesis, the second part only showed a significant difference between the control and academic condition. Thus, it also received only partial support.

Hypothesis 5a stated that women who dressed provocatively and showed competence would be seen as more honest than women who were dressed provocatively and did not show competence. Hypothesis 5a received full support in that models in both the athletic ($M=6.34$, $p<.001$) and academic ($M=5.85$, $p<.05$) conditions were rated as being significantly more honest than models in the control condition. Hypothesis 5b stated that women who were dressed provocatively and showed competence would be seen as more trustworthy than women who were dressed provocatively and did not show competence. Similar to hypothesis 5a, hypothesis 5b also received full support in that the models in both the athletic ($M=6.49$, $p<.001$) and academic ($M=5.89$, $p<.01$) conditions were rated as significantly more trustworthy than the models in the control condition.

Although we did not hypothesize differences between the two competence conditions, we also examined differences in the ratings between them. For the Objectification variables, athletic condition ratings were significantly lower than the academic condition ratings on promiscuous ($M=4.71$, $p<.001$), likelihood of being in a short-term fling ($M=4.62$, $p<.001$), and likelihood of using her body to get what she wants ($M=4.80$, $p<.001$). Conversely, athletic condition ratings were also significantly higher than the academic condition for the variables of attractive ($M=6.77$, $p<.05$), desirable ($M=6.72$, $p<.001$), and sexy ($M=6.41$, $p<.05$).

For the Capability variables, ratings in the athletic condition were significantly higher than ratings in the academic condition for almost all of the variables. Specifically, models in the athletic condition were rated as being more determined ($M=7.86$, $p<.001$), more independent ($M=7.01$, $p<.001$), more responsible ($M=7.12$, $p<.001$), and more talented ($M=7.95$, $p<.001$) than models in the academic condition. However, the variables of intelligent and studious did not significantly differ between the two conditions.

Finally, for the Personal Characteristic variables, ratings in the athletic condition were significantly lower than the academic condition only for the variable of feminine ($M=7.12$, $p<.05$). The athletic condition received consistently higher ratings in the remaining variables of honest ($M=6.34$, $p<.001$), likable ($M=6.81$, $p<.001$), popular ($M=7.03$, $p<.001$), and trustworthy ($M=6.49$, $p<.001$) than the academic condition.

Discussion

The first hypothesis received partial support in that competence does have a significant influence on the perceptions North American women have when objecti-

fyng other women. Evidence of this can be seen as the models in the control condition were rated significantly higher on objectification variables such as promiscuity, likelihood of being in a short-term fling, and likelihood of using their bodies to get what they want than models in either of the competence (athletic or academic) conditions. Furthermore, the second hypothesis received full support in that models in both competence conditions (athletic and academic) were consistently rated as being significantly ($p < .001$) higher on every one of the Capability variables used (determined, independent, intelligent, responsible, studious, and talented) than models in the control condition. The overall results from the first two hypotheses provided evidence that even when dressed in a provocative manner, if a woman shows competence it will affect both the degree to which other women objectify her as well as the degree to which they perceive her as capable.

As seemingly clear-cut and consistent as the Capability ratings were between the control and competence conditions, ratings for the Objectification variables did not come out nearly as one-sided; nevertheless, patterns did emerge. As previously mentioned, in the ratings of variables operationalizing Objectification, models in both competence conditions were rated significantly lower than models in the control condition in promiscuity, likelihood of being in a short-term fling, and likelihood of using their body to get what they wanted. However, the other three objectification variables of attractive, desirable, and sexy varied among the three conditions.

One explanation for these differences could be that of all six Objectification variables, three of them referenced the models' behavior, and these three variables reduced significantly and consistently between the control and competence conditions. The other three variables, on the other hand, referenced looks alone (in terms of physical appeal) and not behavior. It could be that participants' views of objectification between conditions altered only when a particular objectifying variable was both sexually objectifying as well as potentially derogating. For instance, promiscuity, using one's body to get what one wants, and involvement in short-term flings are all sexually objectifying as well as derogating assumptions of behavior.

However, although perceptions of one's physical appeal (i.e., attractive, sexy, and desirable) are potentially objectifying, they alone do not necessarily lead a woman to negate another woman's competence. Specifically, a woman could perceive another woman to be physically appealing and still acknowledge her as being competent.

In terms of Personal Characteristics, one of the variables that stood out in relation to previous studies was that of the models' perceived femininity. That is, even though previous

research has shown that objectified women will be seen as more feminine (Gurung and Chrouser 2007), the study showed that even when provocatively dressed, displaying competence significantly reduced participants' ratings of the femininity of the models, paralleling the findings of Piacente et al. (1974) in which competent females were judged by participants to be less feminine than incompetent females. Additionally, the Personal Characteristic variables of honest and trustworthy that were added due to the finding by Abbey et al. (1987)—in which ratings of sincerity were lower for women dressed in more provocative versus more conservative attire—were both rated significantly higher in both of the competence conditions than in the control condition.

However, when it came to the likability and popularity ratings, the results were contrary to what the hypothesis predicted. That is, it was hypothesized models in the competency conditions would be less liked than models in the control condition, but that was not the case. Liking was significantly higher for the athletic models and significantly lower for the academic models as compared to the models in the control condition. In a somewhat similar vein, assumptions of popularity did not significantly differ from between the control and athletic condition but were significantly lower in the academic condition.

One possible explanation for this could be due to prejudices held against women who succeed in *male gender-typed tasks*, the outcomes of which include more negative interpersonal feelings towards them and lower liking (Heilman et al. 2004). The academic models would have received this negative bias because they were displaying competence in a typically male gender-typed task. Specifically, as math is a field predominated by men, for a woman to exhibit competence in it could have violated gender expectations resulting in participants liking the academic models less. Furthermore, not only did participants like the academic models significantly less, but they also assumed other people liked them less (in terms of popularity) than the models in either the control or athletic condition.

For the athletic models to have also received lower likability ratings, the condition chosen could have posed a problem. Specifically, it could be that the models posing in the athletic condition were not seen as violating gender expectations because in competitive sport the norm is to compete against one's own gender; further, swimming is generally not gender-typed as being a male or female sport (Etaugh and Brown 1975). This would deem the athletic models the judgment of being competent but not violate gender stereotypes by competing against men or succeeding in a male gender-typed task. Thus, the athletic models would not have elicited lower liking from others. From this, it could further be argued that as participants focused less on the provocative

appearance of the athletic models and more on their noncontradictory type of competence, their liking for those models actually increased.

As the results were examined more in depth, pattern in the ratings given between the athletic and academic competence conditions emerged that was of interest. In this case, although the models in the academic condition were rated significantly higher on all of the Capability variables than the models in the control condition, they were significantly lower on most of these variables than the models in the athletic condition. It may be that the academic models were seen as violating gender norms which could have created an unfavorable bias. So even though participants acknowledged the academic models as competent, they held still held back in how capable they would rate her.

What makes this possibility even more intriguing is that all of the Capability ratings between the athletic and academic conditions were biased except for two: intelligent and studious (which did not significantly differ between the conditions). It could be argued that the bias participants held against the models in the academic condition was alleviated only by direct and specifically relevant evidence of the models' competence (Heilman and Haynes 2005; Heilman et al. 2004). That is, participants may have viewed the models in the academic condition as displaying direct 'proof' of their academic ability, in which case variables that would intuitively be in line with this sort of display (i.e., intelligent and studious) could not be legitimately undermined or ignored, whereas the other Capability variables left more room for interpretation.

Like the Capability ratings, differences in the Objectification ratings between the competence conditions also emerged. For the three Objectification variables that are both objectifying as well as imply derogatory assumptions of behavior that were previously mentioned (i.e., promiscuity, likelihood of being in a short-term fling, likelihood of using their body to get what they want), although the models in the academic condition were rated significantly lower in these variables than models in the control condition, their ratings were still significantly higher than were the models in the athletic condition. This finding provided more evidence of the possible negative bias held against the models in the academic condition. That is, the less favorable ratings given to the academic models in the Competence condition carried over into the Objectification ratings as well. So, not only did the participants see the academic models as less capable than the athletic models (with the exception of intelligence and studiousness), but participants also were more likely to objectify them in ways that were personally derogating.

Queen Bee Syndrome is one viable explanation as to why this seeming bias emerged. Specifically, this theory

posits that women view other women in a competitive light and thus tend to be more negatively biased towards their achievement or success (especially in male-typed environments) (Staines et al. 1974). This bias may have emerged due to the academic models succeeding in what is a strongly male-typed environment, which could have then led to more negative reactions from the participants as they saw the academic models more as rivals, and so they were more critical in their judgments towards her. This criticality could then be seen as a strong and pervasive bias that spanned across almost all of the dependent variables assessed. Specifically, the disparities in the ratings between the athletic and academic conditions in all but two (which did not significantly differ) of the Capability variables were markedly significant ($p < .001$). Further, not only were participants more likely to objectify the academic models in ways that were personally derogating (i.e., rating them higher in promiscuity, higher in likelihood of being in a short-term fling, and higher in likelihood of using their body to get what they wanted) than the athletic models, but the level at which they did so in all three of the aforementioned variables was also consistently significant ($p < .001$). Lastly, participants rated the academic models both as less honest and less trustworthy than the athletic models.

What's more interesting about this finding is that although participants rated the academic models higher in capabilities as well as certain positive personal characteristics and lower in behaviorally derogating objectification variables than models in the control condition, how they did so as compared to the athletic models was surprisingly different. Specifically, participants seemed to hold back in how favorably they would rate the academic models as compared to how they would rate the athletic models, and the stronger tendencies to differentiate between the two competence conditions emerged when a particular variable could be used to somehow reflect negatively on the models. This provided evidence of a more subtle yet pervasive criticality that may be directed towards women who show competence in an environment that is more strongly male-typed.

These findings have direct relevance for women in science and perhaps women in academics in general. For women there is a potential cost to being competent (e.g., Rudman and Glick 2001). While competence might defuse objectification on the one hand and safeguard the woman from the negative concomitants of it, the effect seems to be accompanied by decreased femininity on the other hand. This link between science and perceptions of femininity has a long history of study. In fact, to some, "[G]ender—femininity and masculinity—is not peripheral to the social history of science and mathematics, it is fundamental" (Jones 2009, p. 7). Given the growing body of research on women in the sciences (Hall 2010; Watts 2007), these links are important fodder for future research.

The most promising aspect of this study is the preliminary evidence that when women play up competence, it can reduce certain kinds of objectification by other women. Even when dressed in a more provocative manner, women who displayed competence were judged by other women as not only significantly more capable but they were also objectified to a lesser extent.

Despite these optimistic findings, however, it is by no means a foolproof method. Specifically, there was evidence in the study that violating gender-typed expectations can still result in the same negative effects that have been documented in previous studies (e.g., devaluation of performance and decreased likability) (Heilman 2001; Heilman et al. 2004).

Regardless, given that women have been shown to be objectified by both men and women when seen wearing provocative clothing, this evidence of a cognitive distracter—or buffer of sorts—elicits further consideration. Would drawing attention to a woman's competence have any effect on the tendency for men to objectify women? Are there other such methods of defusing objectification? Given the negative consequences of objectification, future research testing possibilities is critical.

Limitations

One of the limitations of this study has to do with the order in which participants viewed the models. Whereas the presentation of the models was counterbalanced to ensure that no one model was seen in the same condition by all participants, participants always viewed the control condition first, followed by the trophy condition and then the math condition. Although the results did not show an order effect but instead showed patterns of variance consistent with the variables, in retrospect a completely counterbalanced design would have been preferable.

A minor concern relates to the size of the models within each picture and position (see [Appendix](#)). For instance, in the control condition, the picture of the model was larger given the fact that it was just her in front of a blank wall. For the academic condition, on the other hand, the picture displayed the model standing beside a whiteboard as she completed math problems on it. Therefore, the model in that picture was automatically smaller to allow for the math problems to be visible on the board. Furthermore, the model in the academic condition was facing the camera with her body slightly askew towards the whiteboard to suggest working on the problems. In the other two conditions the models directly faced the camera. In a like vein, although the competence conditions were shot in different contexts to lend face validity to the manipulation (e.g., the athletic trophy was shot at a pool, the math was in a classroom), it is possible that the background could have confounded the competence prompt.

Future Directions

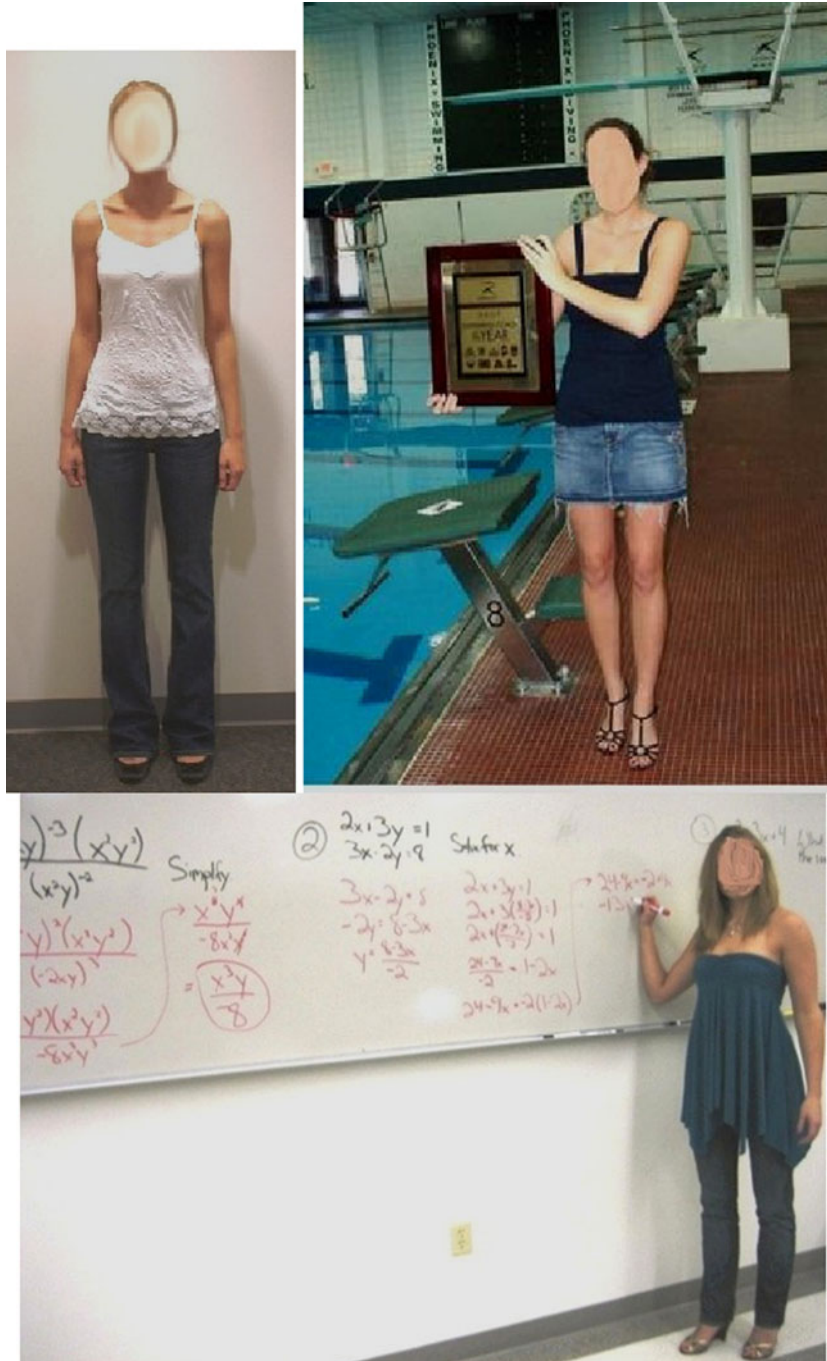
Although evidence was found indicating the decrease of objectification and the increase of competence when a provocatively dressed woman distinctly showed competence, it would be useful to compare the findings to a true control where the model is not dressed provocatively. A future direction to take with this study is to add a component that looks at how a conservatively-dressed woman in the control and competence conditions would be rated. Previous works (e.g., Glick et al. 2005) have modified clothing but did not modify competence. Comparing different levels of provocative clothing (ranging from not at all to more so) would be prudent. On a related note, the amount of skin exposure varies somewhat between the different outfits. Different outfits were used for each of the three models to make the task seem more natural and not make the participants overly focus on the outfit. This resulted in three different 'provocative' outfits and although there were no differences between models (and hence potentially between outfits) future studies should aim for more consistency in skin exposure.

Another suggestion for this study is to include male participants. This study only examined the views of women toward competence and objectification. So it would naturally follow that the study could be replicated with male participants to see if there are any differences from the views of female participants.

Finally, one could exemplify competence in ways other than examples of academic and athletic competence. The conditions could be varied to show other kinds of competence by either varying the types of academic and athletic examples of competence or just showing different types of competence altogether. This relates to the difference between competence and excellence and evokes a question of external validity. One wonders how much proof is required to demonstrate competence. What is the line between competence and excellence? Is there a minimum or maximum amount of competence to aim for such that there is a point where there are negative consequences for demonstrating competence? These are critical questions for future research on this topic.

In conclusion, this study provides strong evidence of the effect of competence on objectification. If a woman is dressed in an objectifying manner, other women will judge her according to that clothing. However, the results suggest this can be altered with direct evidence of competence. If competence is shown, participants cannot make assumptions based solely on her clothing. Instead, they will adjust their perception of her in order to accommodate for the given evidence that she is, in fact, competent.

Appendix



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