

Point Detection Paradigm: The Moderating Role of Self-Efficacy in Attentional Bias toward Sexualized Cues

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Abstract: Self-objectification refers to the phenomenon in which individuals perceive themselves primarily as objects to be observed and evaluated by others, rather than as autonomous subjects possessing intrinsic value and agency. Severe self-objectification has been associated with psychological issues such as body shame and dietary anxiety. Sexualized cues, as external stimuli, may trigger or intensify individuals' levels of self-objectification. Self-efficacy is the belief in one's own capacity to execute actions, achieve goals, and cope effectively with difficulties. Previous research has shown that self-efficacy can buffer the emotional consequences of self-objectification by reducing appearance-related anxiety and body shame. Hence it serves as a key cognitive-motivational gatekeeper. While much of the existing literature has examined the relationship between self-efficacy and self-objectification, the interaction between sexualized cues and self-efficacy remains underexplored. To address this gap, the present study used a dot-probe paradigm to investigate the moderating effects of self-efficacy on attentional bias toward sexual cues. Photographs of male and female models with different levels of skin exposure were used as stimuli. The results indicated that the degree of skin exposure did not significantly influence attentional bias. However, self-efficacy moderated responses to sexualized cues: female participants with lower self-efficacy demonstrated significant attentional avoidance when viewing male images, regardless of the models' level of skin exposure. This study contributes to the integration of self-efficacy within the self-objectification framework, offering novel insights into the mechanisms underlying attentional responses to sexualized stimuli. The findings extend the dual-pathway model of sexualized attention and provide empirical support for the development of interventions focused on enhancing self-efficacy.

Keywords: self-objectification, self-efficacy, sexualized cues, attentional bias, gender

1. Introduction

Self-objectification refers to a psychological state in which individuals view themselves primarily as objects to be watched and evaluated, rather than as subjects possessing autonomy and intrinsic worth. A typical feature of individuals experiencing self-objectification is the persistent monitoring of their appearance from a third-person perspective. According to objectification theory, repeated exposure to sexual objectification leads women to internalize external standards of “being gazed upon” as criteria for self-evaluation^[1]. This process places physical appearance, rather than bodily function or sensation, at the center of one's self-concept, resulting in habitual bodily surveillance. Self-objectification is not merely a cognitive phenomenon. It produces a wide range of negative psychological and behavioral consequences. These include increased risks of depression and anxiety, reduced bodily awareness, and, in severe cases, eating disorders and substance abuse^[2]. It also impairs executive functioning by diminishing cognitive inhibitory control^[3], and disrupts social interactions^[4]. Individuals with high levels of self-objectification tend to avoid public exercise, public speaking, and social gatherings due to fears of scrutiny. It also undermines sexual confidence in intimate relationships and reduces the quality of interpersonal communication.

Sexualized cues, also referred to as sexual objectification cues, are visual or situational stimuli that highlight sexual characteristics, such as exposed skin or sexually suggestive poses. These cues are common in daily life, including media labels like “Queen of Beautiful Legs” or “Queen of Beautiful Breasts” which see women as isolated body parts. According to category-specific theory, for heterosexual individuals, members of the opposite sex inherently carry potential sexual meanings. Thus, in some scenarios gender itself can function as a sexualized cue^[5]. As external stimuli, sexualized cues can trigger or intensify states of self-objectification. Previous research demonstrates that being exposed

to advertisements with sexualized content, such as people in swimsuits, can significantly increase the state self-objectification, i.e. body shame and appearance anxiety^[6]. Moreover, studies have found that compared to individuals with lower self-objectification, those with higher levels spend significantly more time fixating on the chest and waist regions of swimsuit models while allocating less visual attention to the face areas^[7].

Self-efficacy refers to an individual's belief in their capacity to effectively manage challenges and difficulties. It serves as a key regulatory mechanism mediating the relationship between external stimuli and psychological or behavioral responses^[8]. Individuals with high self-efficacy tend to view challenges as manageable tasks and actively engage in addressing them. In contrast, those with low self-efficacy often adopt avoidance-oriented mindsets, aiming to minimize the risk of failure or shame. A growing body of cross-sectional and longitudinal research has demonstrated significant associations between self-efficacy, body shame, and appearance anxiety^[9]. Low self-efficacy has been shown to exacerbate the pathway from the internalization of idealized appearance standards to body shame^[10]. Conversely, when self-efficacy levels lower than the average, the negative influence of sexualized stimuli on body shame can be reduced by approximately 40%^[11]. Thus, individuals with higher self-efficacy are better able to buffer self-objectification by alleviating appearance anxiety and body shame, whereas those with lower self-efficacy are more likely to seek validation through conformity to societal beauty standards, thereby exhibiting stronger tendencies toward self-objectification.

As discussed above, sexualized cues play a critical role in the development of self-objectification. High exposure to such cues may elevate self-objectification levels, while individuals with high self-objectification level are, in turn, more attentive to these cues. Previous studies have primarily investigated the relationship between self-efficacy and self-objectification; however, relatively little research has investigated how self-efficacy influences attentional biases toward sexualized cues. To address this gap, the present study adopted a dot-probe paradigm to examine the moderating effect of self-efficacy on visual attention to sexualized stimuli. Compared with self-report questionnaires, reaction-time experiments offer more accurate and quantitative measures of attentional processes. The findings of this study aim to deepen the understanding of self-objectification and provide practical insights for mitigating its negative psychological consequences.

2. Method

2.1 Participants

In the present study, 41 individuals (Mage=29.17) were recruited at a shopping mall in Shenzhen, China. 21 were females and 20 were males. The General Self-Efficacy Scale (GSES-10) was used to measure each participant's self-efficacy level. Participants will be divided into two groups based on their GSES-10 scores, Group A and Group B. Group A are participants of high self-efficiency, and Group B are participants of low self-efficiency. The researcher introduced the subjects the experimental procedure and potential risks. All subjects voluntarily participated in the experiment and signed the consent form.

2.2 Stimuli

The experimental stimuli adopted photos that varied by models' gender and the level of skin exposure. 80 photographs of female and male models were prepared. The models were in different types of clothing with varying degrees of skin exposure: 20 male models in high-exposure clothing (HM; swimsuits), 20 female models in high-exposure clothing (HF; swimsuits), 20 male models in low-exposure clothing (LM; shirts and pants), and 20 female models in low-exposure clothing (LF; shirts and pants). In all photographs, models stood in an upright position facing forward, with their arms naturally positioned alongside their thighs and neutral facial expressions. All models were Asian adults aged between 20 and 30 years. Additionally, 80 neutral object images were included as control stimuli. During the experiment, one model image and one neutral object image were presented simultaneously. Their left-right positions were fully randomized. Each pair was displayed for 3000 ms, after which a probe point appeared randomly on either the left or right side of the screen.

2.3 Design and procedure

This experiment used a point-probe paradigm and a within-subjects design. The combination of

four image types and the probe task yielded 80 trials. The images were presented to each participant in a randomized order. Prior to the task, the experimenter explained the procedure, obtained informed consent. All instructions and stimuli were programmed in PsychoPy, which automatically presented the materials.

Each trial began with a fixation cross at the center of the screen, followed by the simultaneous presentation of one model image and one neutral object for 3000 ms. Immediately afterward, a probe point appeared randomly on either the left or right side of the screen for 500 ms. Participants were instructed to identify the probe's position as quickly and accurately as possible by pressing the corresponding key. As shown in figure 1, the sequence - fixation cross, stimulus pair, probe - constituted one trial. The type of image and probe position were fully randomized across all trials. Each participant completed 80 trials (20 per image category). The software automatically recorded reaction time and keystroke responses. After completing the experimental task, participants filled out the General Self-Efficacy Scale (GSES-10). The entire session, including the questionnaire, lasted approximately 5 - 10 minutes.

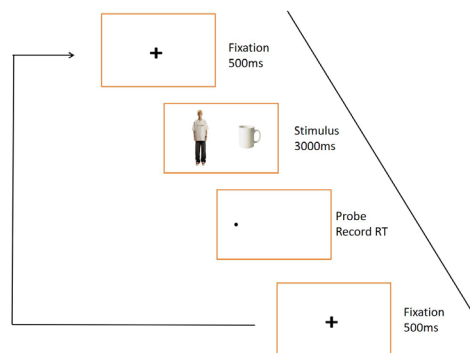


Fig. 1 Task Flowchart

2.4 Data analysis

To ensure the accuracy and reliability of the subsequent analyses, data screening was conducted prior to statistical testing. Invalid data, including incorrect keystrokes and reaction time exceeding 3000 ms, were excluded. For each participant, attentional deviation indices were then calculated across the four image categories. Reaction time for probe detection were also analyzed. When the probe appeared on the same side as the portrait image, the response time was recorded as the congruent reaction time; when it appeared on the opposite side, it was recorded as the incongruent reaction time. The attentional bias index was obtained by subtracting incongruent from congruent reaction times. To examine participants' attentional bias toward female and male models with varying levels of skin exposure, independent-sample t-tests were conducted on attentional bias indices and baseline reaction time across the four image categories. In addition, to explore the interaction effects of gender and self-efficacy on attentional bias, further t-tests were performed on attentional bias indices, comparing high- versus low-self-efficacy participants and male versus female participants within each image condition.

3. Results

3.1 The attentional bias toward four types of images

As shown in Table 1, compared with baseline(zero), Group B showed significant attentional avoidance toward HM ($M=-0.035$, $SD=0.054$, $p<0.05$) and LM ($M=-0.024$, $SD=0.057$, $p<0.05$), while no attentional bias or avoidance was observed for HF ($p>0.05$) and LF ($p>0.05$). Group A showed no significant attentional avoidance toward HM ($p>0.05$) and LM ($p>0.05$), and likewise showed no significant attentional avoidance toward HF ($p>0.05$) and LF ($p>0.05$).

3.2 The attentional bias of female participants

As shown in Table 2, compared with the baseline (zero), female participants in Group B exhibited significant attentional avoidance toward HM ($M = -0.035$, $SD = 0.054$, $p < 0.05$) and LM ($M = -0.039$,

$SD = 0.049, p < 0.05$). No significant attentional bias or avoidance was observed for HF ($p > 0.05$) or LF ($p > 0.05$). In contrast, female participants in Group A showed no significant attentional avoidance toward HM ($p > 0.05$), LM ($p > 0.05$), HF ($p > 0.05$), or LF ($p > 0.05$).

3.3 The attentional bias of male participants

As shown in Table 2, compared with the baseline (zero), male participants in Group B showed no significant attentional avoidance toward HM ($p > 0.05$), LM ($p > 0.05$), HF ($p > 0.05$), or LF ($p > 0.05$). Similarly, male participants in Group A also showed no significant attentional avoidance toward HM ($p > 0.05$), LM ($p > 0.05$), HF ($p > 0.05$), or LF ($p > 0.05$).

3.4 Single factor ANOVA analysis toward four types of images

A one-way ANOVA revealed no significant differences in attentional bias among HM ($M = -0.0074, SD = 0.054$), LM ($M = -0.0048, SD = 0.054$), HF ($M = -0.011, SD = 0.079$), and LF ($M = 0.0090, SD = 0.079$) across all participants. Similarly, no significant differences were observed among HM ($M = -0.017, SD = 0.055$), LM ($M = -0.013, SD = 0.049$), HF ($M = -0.0062, SD = 0.037$), and LF ($M = 0.0067, SD = 0.078$) for female participants, nor among HM ($M = 0.0023, SD = 0.052$), LM ($M = 0.0038, SD = 0.059$), HF ($M = -0.016, SD = 0.110$), and LF ($M = 0.011, SD = 0.061$) for male participants. Separate ANOVA analyses for male and female groups confirmed that no significant differences were present ($p > 0.05$).

Table 1. Attentional bias index of HM, LM, HF, LF for Group A and Group B

	HM(s)	LM(s)	HF(s)	LF(s)
Group A	-0.012	0.0091	-0.018	-0.011
Group B	-0.035	-0.024	-0.00096	0.0058

Table 2. Attentional bias index of HM, LM, HF, LF for female and male participants

		HM(s)	LM(s)	HF(s)	LF(s)
Group A	F	0.0059	0.0062	-0.0013	0.011
	M	0.019	0.012	-0.035	0.012
Group B	F	-0.047	-0.039	-0.013	0.0011
	M	-0.022	-0.0082	0.012	0.011

4. Discussion

This study investigated the influence of self-efficacy on attention to sexualized cues. The results showed no significant differences in attentional indices across the four types of images. It suggests that skin exposure did not significantly affect participants' visual attention in this study. However, compared with Group A and male participants, female participants in Group B exhibited significant attentional avoidance toward HM and LM stimuli. This indicates that model gender played a stronger role in shaping females' attention who are low in self-efficacy.

Different to prior research, the present study did not find significant effects of skin exposure on visual attention. Previous studies have generally demonstrated more attentional allocation to female body images compared to male images, and this effect would be amplified under conditions of increased skin exposure. Bradley, Costa, and Lang^[12] found that both men and women fixated significantly longer on female erotic body images. Lykins, Meana, and Strauss^[13] reported that erotic images, particularly those of the opposite sex and with greater exposure, automatically captured visual attention. The absence of similar findings in this study may be attributed to methodological differences. Attentional bias toward portrait images may emerge at the early stages of attention processing, which can be detected with eye-tracking measures but not necessarily captured through behavioral tasks such as the dot-probe paradigm employed here. In addition, participant demographics may have contributed to these results. The sample was recruited in Shenzhen, an economically developed city where exposure to images of swimwear and similar portrayals is relatively common. The models in this study were also presented with neutral expressions and poses, including those in swimsuits. Such familiarity and desensitization may have reduced participants' sensitivity to skin exposure^[14]. These factors likely explain the absence of significant attentional bias effects in this study.

In the low self-efficacy group, women exhibited attentional avoidance toward both high- and low-exposure male images, which is a key finding of this study. According to psychoanalytic theory^[15], exposure to threatening stimuli, such as aggressive or erotic contents, activates defense mechanisms. These defenses vary across individuals: those with higher self-efficacy tend to display less emotional avoidance and greater openness to processing threatening or erotic information, whereas individuals with lower self-efficacy are more likely to adopt denial or avoidance strategies. Bandura^[16] similarly posits that individuals with low self-efficacy typically respond to threats by evasion rather than confrontation. Within patriarchal cultural scripts, men are often encoded as potential dominators. Consequently, women with low self-efficacy may lack the confidence to manage perceived threats, thereby triggering avoidance motivations aimed at distancing themselves from cues that could position them in a passive or evaluative role. This explains why women with low self-efficacy in this study displayed attentional avoidance, whereas men with similarly low self-efficacy did not. Moreover, traditional gendered visual systems have historically positioned women as the objects under the male gaze, the one being evaluated, thereby depriving them of the right to look. Low self-efficacy further amplifies this dynamic, causing women to construe male sexual cues as threatening and reinforcing a consistent attentional pattern of avoidance regardless of exposure level. Previous research observed that the objectifying male gaze heightens feelings of shame, anxiety, and reduced self-esteem, with avoidance functioning as a self-protective coping strategy^[17].

This study is the first to demonstrate that self-efficacy not only buffers body shame in later evaluative stages but also shapes attentional orientation toward sexualized stimuli during pre-attentive processing. Women with low self-efficacy consistently avoided male images regardless of exposure level. Attentional primacy hypothesis considers such avoidance may temporarily reduce the conscious entry of sexualized information. However, long-term avoidance can reconstruct autobiographical weighting through the sequence of “attention – avoidance - interpretation as powerless,” ultimately translating into increased bodily surveillance and elevated trait self-objectification. On this basis, the study proposes a novel mediational model: exposure to sexualized cues - self-efficacy regulation - gaze avoidance/fixation - state bodily surveillance - body shame - trait self-objectification. Our findings provide initial experimental support for the front end of this model: when self-efficacy is low, avoidance momentarily blocks input but fosters surveillance through repeated cycles of self-interpretation and exhaustion. By contrast, high self-efficacy enables individuals to flexibly choose between approach and controlled avoidance, thereby preventing entry into the maladaptive “avoidance – rebound - surveillance” spiral. Future studies could adopt multi-wave designs combining eye-tracking and self-report methods to capture gaze patterns, state monitoring, and shame across time points. Such approaches would test whether gaze direction mediates the longitudinal pathway from self-efficacy to self-objectification, providing causal-chain evidence for interventions that prioritize efficacy enhancement as a precursor to gaze modification.

Despite these contributions, several limitations should be addressed in future studies. First, the visual stimuli in this study were limited to variations in skin exposure. Future research could investigate other dimensions, such as clothing type, body shape, poses, and facial expressions. Second, participants were recruited exclusively from Shenzhen, an economically developed city. Cultural background, education level, and socioeconomic conditions may influence responses. Future work could therefore incorporate more diverse samples and systematically categorize participant backgrounds to enhance validity and extend the applicability of the conclusions.

5. Conclusion

This study adopted a dot-probe paradigm to evaluate how self-efficacy moderates individuals' attentional responses to sexualized cues. The results demonstrated that the degree of skin exposure did not significantly influence attentional bias. Instead, self-efficacy emerged as a critical factor in shaping attentional patterns among female participants: women with lower self-efficacy displayed significant attentional avoidance toward male images, an effect driven exclusively by model gender rather than the exposure level.

The findings make contributions to sexual objectification theory in four key ways. First, it introduces the social-cognitive construct of self-efficacy into sexualized attention research, identifying a novel moderating pathway within the “motivation - attention” integration framework and suggesting its potential role in the front-end mediational chain of “self-efficacy - sexualized gaze - self-objectification”. Second, the results indicate that sexual cues may elicit avoidance rather than the traditionally hypothesized approach responses, thereby confirming directional differences in sexual

information processing and enriching the dual-pathway model of sexualized attention. Third, this study supplements objectification theory by incorporating the “female as perceiver” perspective, showing that women confronted with potentially objectified male targets may temporarily inhibit the internalization of external gazes through early attentional avoidance. Though such avoidance may later rebound into higher level of bodily surveillance. Fourth, the present study proposes a testable mediation model for future causal research: sexualized cues → self-efficacy (moderator) → sexualized gaze/avoidance → state bodily surveillance → trait self-objectification, thereby incorporating “efficacy enhancement and gaze modification” as intervention strategies within the theoretical framework.

From a practical perspective, these findings suggest two feasible directions for mental health intervention. First, attention orientation training based on the dot-probe paradigm could be developed for women with low self-efficacy to reduce avoidance tendencies toward sexualized cues. It may mitigate avoidance - anxiety cycles in social interactions. Second, self-efficacy enhancement modules, such as growth mindset training or body functionality appreciation exercises, could be incorporated into sex education and gender equality curricula to foster a more positive boy self-concept and alleviate the implicit discomfort triggered by sexualized media content.

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