

The Study on How Social Cues in a Scene Modulate Basic Object Recognition Proces

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Abstract : Stereotypes exist in almost every society, affecting how people interact with each other. However, to our knowledge, the influence of stereotypes was rarely explored in the context of basic perceptual processes. This study aims to explore how the gender stereotype affects object recognition. Participants were presented with a series of scene pictures, followed by a target display with a man or a woman, holding a weapon or a non-weapon object. The task was to identify whether the object in the target display was a weapon or not. Although the gender of the object holder could not predict whether he or she held a weapon, and was irrelevant to the task goal, the participant nevertheless tended to identify the object as a weapon when the object holder was a man than a woman. The analysis based on the signal detection theory showed that the stereotype effect on object recognition mainly resulted from the participant's bias to make a 'weapon' response when a man was in the scene instead of a woman in the scene. In addition, there was a trend that the participant's sensitivity to differentiate a weapon from a non-threatening object was higher when a woman was in the scene than a man was in the scene. The results of this study suggest that the irrelevant social cues implied in the visual scene can be very powerful that they can modulate the basic object recognition process.

Keywords : gender stereotype, object recognition, signal detection theory, weapon

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