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Differences in attentional patterns towards high-calorie food between unrestrained eaters and restrained eaters

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Previous studies of attention bias towards food in restrained eaters have shown inconsistent results due to the lack of rigorous control of confounding factors such as BMI and hunger state. In this study, we matched these factors in each participant and conducted a visual probe task while tracking eye movement. Fourteen (14) unrestrained eaters and 16 restrained eaters participated in the experiment. For the restrained eaters, individuals were divided into two subgroups according to the risk of eating disorder: High-risk (n=6) and low-risk (n=10). The task consisted of three sessions with different stimulus duration (100 ms/500 ms/1000 ms). Reaction time (RT), gaze direction and initial fixation duration were measured for the data analysis. The results showed that the RT of restrained eaters was significantly faster than that of the unrestrained eaters (t=-2.97, p<.01) in the 100 ms session. In the 1000 ms session, however, the restrained eaters with low-risk group only showed slower RT compared to the rest of groups (F=4.62, p<.05). Eye-tracking results showed that the first fixation point of the restrained eaters was more likely to direct to a high-calorie food compared with the unrestrained eaters (t=-1.96, p=.06). In addition, the low-risk group of restrained eaters showed immediate attentional shift from high-calorie to low-calorie food, while the high-risk group maintained their attention on the high-calorie food (F=3.67, p<.05). These results indicate that attention bias towards food is highly associated with restrained eating behavior under strict control. Moreover, the duration of visual presentation and risk of eating disorder can influence attentional patterns in restrained eaters. Future studies are required to consider these factors as well as BMI and hunger state to make the results more reliable.

Biography

Minji Kim majored in Journalism and minored in Biology at Kyunghee University (BS). She is currently an MS student in the Lab of Psychophysiology & Brain Imaging in the Department of Psychology at Korea University. Her research interests mainly focus on the study of personality, as well as mental disorder, using psychophysiological measures such as eye-tracking, EEG and fMRI.

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