

Unveiling the Underlying Processes and Developing Indicators for Careless Responding: An Eye-Tracking Study



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Although various approaches (e.g., attention check items, bogus items, self-report, long-string, response time) have been developed to recognize careless responding in low-stakes settings, the detection rate remains high and is currently a major concern in the field of social science. The difficulty of recognizing careless responding immediately is one of the underlying causes of this issue. Eye-tracking technology, with its real-time capability, can capture individuals' eye movement patterns directly; providing potential for real-time detection of inattentive responders. The purpose of this study is to (1) explore the eye movement patterns of careless responses and (2) conduct a preliminary construction of eye-tracking-based indicators for identifying careless responses. This study adopted a single-factor within-subject design and recruited 52 participants who completed an online survey in an eye-tracking laboratory, with their levels of motivation manipulated. In terms of the eye movement pattern of careless responding, there was a significant decrease in total duration of fixations, number of fixations, and numbers of saccades, as well as an increase in saccade velocity, pupil diameter, and eye openness when they completed the questionnaire. According to the results of a lag-sequential analysis conducted on 110,669 coded eye-tracking data, there was a 19.64% reduction in the number of paths involved in reading the questionnaire stems and comparing the options when participants responded to the survey inattentively. The findings of this study suggest the potential for developing a new framework for real-time indicators of careless responding based on eye-tracking.

Biography:

Chi-Cheng Lao obtained the undergraduate degree in Management (2018) from Xiamen University. She is currently working toward in Master degree in psychology with the Faculty of Psychology, Beijing Normal University, China.

Her research areas and interests include the detection and prevention of careless responding, human-computer interaction, based on behavioral, biological and neurological approaches.