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TOWARDS EMOTIONAL FACES
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THE EFFECT OF COGNITIVE LOAD ON AVOIDANCE: EYE-TRACKING DISENGAGEMENT PROCESS DURING EXPOSURE TOWARDS EMOTIONAL FACES

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Abstrak

Model *dual-process* (yaitu proses kognitif di mana kewaspadaan awal terhadap ancaman potensial segera diikuti oleh pelepasan perhatian) telah digunakan untuk menjelaskan proses *avoidance* (penghindaran). Namun, dalam memahami mekanisme model *dual-process*, pemanfaatan biomarker seperti pandangan mata sebagai metode pengukuran perhatian masih kurang dimanfaatkan. Oleh karena itu, penelitian ini akan memperluas penelitian sebelumnya untuk menyelidiki apakah proses pelepasan perhatian dapat diukur secara fisiologis, dan dengan demikian juga menyarankan bahwa proses tersebut memerlukan perhatian yang nyata. Penelitian ini merupakan eksperimen dalam subjek dengan 33 peserta yang dikumpulkan melalui pengambilan sampel secara purposif. Skala *Experiences in Close Relationships–Revised* (ECR-R) digunakan untuk mengukur *avoidance*. Eksperimen ini merupakan tes Posner dengan stimulus wajah netral atau negatif, yang muncul sebanyak 80 kali dalam setiap percobaan, yang dikelompokkan menjadi percobaan tanpa kognitif, kognitif rendah, dan kognitif tinggi. Alat pelacak mata digunakan untuk mengukur latensi fiksasi pertama untuk kewaspadaan awal dan waktu tinggal untuk pelepasan perhatian. Model campuran linear digunakan untuk membandingkan waktu reaksi, waktu tinggal total, dan latensi fiksasi pertama, antara tingkat kesulitan kognitif, kesesuaian tugas, serta stimulus emosional terhadap tatapan terhadap wajah-wajah emosional. Temuan menunjukkan tidak adanya interaksi antara waktu reaksi dan penghindaran. Namun, penghindaran menunjukkan efek pada latensi fiksasi pertama dan waktu tinggal, sehingga mendukung model *dual-process* kewaspadaan awal dan pelepasan. Beban kognitif juga sedikit mempengaruhi proses tersebut, yang menunjukkan bahwa proses tersebut memerlukan

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sumber daya kognitif. Implikasi terhadap mekanisme yang mendasari penghindaran dibahas.

Abstract

The dual-process model (i.e. a cognitive process wherein initial vigilance towards potential threat is immediately followed by disengagement) has been used to explain the process of avoidance. However, in understanding the mechanism of the dual-process model, the integration of biomarkers such as eye gaze as a method of measuring attention and disengagement is underutilized. Therefore, this paper will expand upon prior study to investigate whether the disengagement process could be measured physiologically, and thus also suggest that the process requires overt attention. This study is a within-subject experiment with 33 participants gathered through purposive sampling. The Experiences in Close Relationships–Revised (ECR-R) is used to measure avoidance. The experiment is a Posner cueing test with the stimulus of neutral or negative faces, which appears for 80 times in each trial, that are grouped into no-cognitive, low-cognitive, and high-cognitive trials. An eye-tracker was utilized to measure first fixation latency for initial vigilance and dwell time for disengagement. A linear mixed-effect model was used to compare reaction times, overall dwell time, and first fixation latency, between the levels of cognitive difficulty, task congruence, as well as emotional stimuli on the gaze towards the emotional faces. The findings show a lack of interaction between reaction time and avoidance. However, avoidance showed an effect in the first fixation latency and dwell time, thus showing support for the dual-process model initial vigilance and disengagement. Cognitive load also somewhat affects the process, indicating that the process requires cognitive resources. Potential implications on the mechanism underlying avoidance are discussed.

Keywords: eye-tracking, avoidance, avoidant attachment, dual-process, disengagement.