

ABSTRACT

Research on emotional cognition has identified an age-related positivity effect among older adults, that is, older adults show higher preference for positive over negative information compared to their younger counterparts. The socioemotional selectivity theory (SST) and Cognitive Control Model interpret the positivity effect as the result of controlled cognitive processes guided by emotionally meaningful goals among older adults. A large amount of studies under the SST framework, however, equates emotionally meaningful goals with emotion-regulatory goals to pursue emotional happiness.

The current thesis aims to examine whether emotional happiness or meaningfulness (i.e., a sense of meaning) is more important in shaping age differences in emotional preference. I manipulated emotional happiness by changing the emotional valence (i.e., positive, neutral or negative) of pictorial stimuli, and manipulated meaningfulness by changing the culture-relevance (i.e., Chinese culture which is relevant to the participants or Western culture which is less relevant to the participants) of the stimuli.

Study 1 employed the ERP technique to examine the viability of this new method of manipulation of meaningfulness, as well as the time-course of culture-relevance processing. I recruited 18 Chinese students (9 females; 19.82 ± 1.29 years old) to complete an oddball emotion-categorization task where positive Chinese, negative Chinese, positive Western, and negative Western pictures were embedded in the sequences of emotionally and culturally neutral pictures. Participants were asked to judge the valence of the pictures, and their EEG signal was recorded during the task. The results showed that emotional valence had a main effect (i.e., larger N1 amplitudes for negative than positive pictures regardless of culture-relevance) at the early time-course of information processing; culture-relevance interacted with emotional valence at the later time-course to influence the late positive potential (LPP) amplitudes. The results suggested that the variation of culture-relevance altered the cognitive processing of information in a relatively slow, top-down manner.

In Study 2, a total number of 116 younger and 127 older adults were divided and assigned to four experiments to learn and recognize pictures varying in valence (positive/ neutral/ negative) and culture-relevance (Chinese/ Western). The four experiments adopted the same procedures and pictures, but with different instructions asking the participants to make certain judgments. In the experiment where the participants passively viewed the pictures (Experiment

1) and the experiment where participants judged the emotional valence of pictures (Experiment 2), the age-related positivity effect was detected regardless of the culture-relevance of pictures. In the experiment that asked the participants to judge the culture-relevance of pictures (Experiment 3), I did not find the age-related positivity effect, but found that younger adults displayed a culture-relevance preference for negative pictures (i.e., a preference for negative Chinese over negative Western pictures), whereas older adults displayed a culture-relevance for positive and neutral pictures. In the experiment which asked the participants to judge both the emotional valence and culture-relevance (Experiment 4), there was an age-related positivity effect for Chinese pictures but not for Western pictures.

The studies demonstrate that emotional valence is not all that determines age differences in emotional preference during information processing; instead, the effect of emotional valence may be moderated or even replaced by meaningfulness (e.g., culture-relevance).

摘要

關於情緒認知的研究發現老年人存在正性效應，即老年人比年輕人更偏好正性情緒信息。社會情緒選擇理論 (socioemotional selectivity theory) 及認知控制模型 (Cognitive Control Model) 認為這種正性效應是因為老年人更偏好具有情感意義的生活目標，從而在認知過程中更注意控制自己對情緒信息的加工。然而，在實際的研究中，很多研究者將具有情感意義的目標等同於追尋快樂的目標或情緒調節目標。

本研究旨在探討究竟是快樂感還是意義感決定了情緒偏好上的年齡差異。快樂感將通過圖片材料的情緒效價 (即正性，中性或負性) 來控制，意義感則通過圖片的文化相關性 (即與中國文化相關或者與西方文化相關) 來控制。

研究一通過採用腦電 (ERP) 技術檢驗實驗控制的有效性，以及探索大腦對情緒效價及文化相關性的加工過程。本研究招募了 18 名中國學生 (其中包括 9 名女性；平均年齡 19.82 ± 1.29 歲) 完成一項 oddball 情緒分類任務。在該任務中，一些正性/負性的同中國/西方文化相關的圖片將隨機出現在由中性、無文化偏向的圖片所組成的序列中。被試的任務是判斷每一張圖片的情緒效價，并按鍵反應。在任務過程中，被試的腦電信號將被記錄。數據分析結果發現在信息加工的早期存在情緒效價的主效應，表現為負性圖片引發的 N1 成分波幅比正性圖片顯著更大；在信息加工的晚期，情緒效價同文化相關性存在顯著交互效應，表現為負性西方圖片引發的 LPP 成分波幅比其它圖片顯著更小。這些結果表明，對情緒效價及文化相關性的控制能夠顯著改變認知加工過程，從而證明這些控制是有效的。另外，這些結果還表明對情緒效價的加工是一個快速、自動的過程，對文化相關性的加工是一個緩慢的、控制性的過程。

研究二共招募了 116 名年輕以及 127 名老年中國被試。這些被試被分配到四個實驗中去學習和再認同中國/西方文化相關的正性/中性/負性圖片。這四個實驗的圖片材料及程序基本相同，不同的是它們的實驗指導語。實驗結果表明，當指導語要求被試被動觀看圖片 (實驗 1) 或者只判斷圖片的情緒效價 (實驗 2) 時，被試對中國及西方圖片均存在年齡相關的正性效應。當指導語要求被試只判斷圖片的文化相關性時 (實驗 3)，年齡相關的正性效應消失；老年人在正性和中性圖片上更偏好那些同中國文化相關的，而年輕人則在負性圖片上更偏好那些與中國文化相關的。當指導語要求被試同時判斷圖片的情緒效價及文化相

關性時 (實驗 4)，只在同中國文化相關的圖片上存在年齡相關的正性效應。這些結果表明情緒效價并非決定情緒偏好之年齡差異的唯一因素。意義感 (通過文化相關性控制) 可能調節甚至超越情緒效價的作用。