

Perspective Taking as a Spontaneous Social Effect

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Perspective-taking, part of the broader concept of Theory of Mind (ToM), refers to the ability of representing others' mental states. A central issue concerning the nature of ToM is whether people automatically compute others' mental states. Previous studies showed a consistency effect referred to longer response time for adults to verify the number of dots they can see in a picture when an agent (e.g., an avatar) in the picture can see a different number of dots. This thesis investigated whether the consistent effect in the visual dot perspective taking task was derived from the automatic perspective calculation or the automatic attention shifting. By adopting the visual perspective taking task in Samson et al. (2010), I conducted seven experiments in order to distinguish attention shifting from implicit perspective calculation explanation in this thesis.

Experiment 1 was a replication experiment and confirmed the validity of the task. Experiment 2 added the arrow as comparison to the avatar and found no consistency effect on arrow. Experiment 3 and 4 manipulated the salience of the arrow by adding the other-perspective judgment task, while Experiment 5 manipulated the salience by adding a short temporal delay (i.e., SOA) between the distracters/cues and the dot targets. Such manipulation might draw participants' attention to the arrow and hence trigger attention shifting, which resulted in the reappearance of the consistency effect in arrows.

Experiment 6 added a visual obstacle standing between the dots and the distracters / cues in the picture. Results showed participants no longer calculated what the avatar saw when they believed that the avatar's view was blocked by the obstacle, which was observed by absence of the consistency effect in response time. However, the consistency effect in arrows was not modulated by the obstacle. Hence the consistency effect observed in response time showed an influence of the veridicality of the agent's perspective rather than the attention shift. Experiment 7 adopted the counter-predictive design, in which the proportions of the consistent and the inconsistent trials were unbalanced and unequal. Results did not show modulation of the counter-predictive design.

In summary, in supported of the implicit ToM system account, the results of this thesis indicated a reliable and effective automatic calculation of others' perspectives.

論文摘要: 觀點採擇是一種自動化的社會認知加工

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觀點採擇能力屬於心理理論範疇，是指理解對方的行為，意圖等心理狀態。人們是否能自動加工他人的心理狀態是心理理論研究的一個很重要的論題。前人研究發現，如果圖片材料中的人所能看到的圓點數目和被試看到的不一致時，被試判斷自己看到的圓點數目反應時間顯著變慢。本論文探討該一致性效應反應的是自動觀點採擇還是更低加工水準的注意轉移效應。通過採用Samson et al. (2010)的視覺觀點採擇任務，本論文用7個實驗來探討。

實驗一為重複實驗並證明了Samson et al. (2010)的視覺觀點採擇任務適用於本論文。實驗二在實驗一的基礎上增加箭頭到圖片材料中，結果發現只有當圖片材料為人的時候才會觀察到一致性效應，箭頭則不能引起類似效應。實驗三和四的實驗任務增加被試判斷箭頭所指方向的圓點數目，結果證明這種設計提高了箭頭的顯著性，因此一致性效應在箭頭條件中也能觀察到。實驗五則通過增加箭頭和圓點之間的時間間隔來提高箭頭的顯著性，結果也觀察到一致性效應。

實驗六探討箭頭和人所引起的一致性效應的加工機制是否相同，實驗在箭頭/人和圓點之間增加一個可以阻擋人的視線的障礙物。結果發現障礙物擋住了圖片中人的視線時，一致性效應消失了。而即使前面有障礙物，箭頭仍然引起了一致性效應。因此說明人所引起的一致性效應更可能反應了觀點採擇自動加工，而不是注意

轉移而已。實驗七通過改變一致條件和不一致條件的專案數的比例來探討觀點採擇自動加工過程是否可控制。結果證明即使被試在實驗過程中明白圖片中的人大部分時候都跟自己看到的數目不一致，被試的判斷任務仍然會受到因為加工了他人的觀點而產生影響。

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