UNIVERSITY GRADUATE SCHOOL BULLETIN ANNOUNCEMENT

Florida International University
University Graduate School

Doctoral Dissertation Defense

Abstract

Signal Detection Analyses of the Relation of Prospective and Retrospective Metacognitive Judgments

by

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Tip-of-the-tongue states (TOT) and feeling-of-knowing judgments (FOK) are metacognitive experiences about the possibility of future retrieval of information when recall fails. Studies show that experiencing a TOT or a high FOK increases the possibility of correct retrieval of missing information, which demonstrates metacognitive sensitivity. However, evidence for metacognitive sensitivity of TOT and FOK mainly derives from measures that confute metacognitive sensitivity with metacognitive bias. Moreover, no study has evaluated the influence of TOT and FOK judgments on the unbiased metacognitive sensitivity of other metacognitive experiences and judgments, in this case, confidence judgments. In this study, I used general recognition theory (GRT) to provide a bias-free assessment of metacognitive sensitivity for TOT and FOK and to evaluate the influence of TOT and FOK on the metacognitive sensitivity of confidence judgments. In two experiments, I asked participants to perform a memory recall task. If recall failed, participants provided metacognitive judgments of TOT and FOK, memory recognition responses, and metacognitive judgements of confidence on those recognition responses. After collecting the behavioral data, I fit two different GRT models to the data to assess metacognitive sensitivity of TOT and FOK. Using estimated parameters of the models, I constructed two sensitivity vs. metacognition (SvM) curves, which represent sensitivity in the recognition task, as a function of strength of metacognitive experiences: an SvM curve for TOT and an SvM curve for FOK. In addition, to evaluate the influence of TOT and FOK on the metacognitive sensitivity of confidence judgments, I fit two different GRT models and constructed two additional SvM curves, which represents metacognitive sensitivity of confidence, as a function of strength of TOT and FOK judgments. The results of the GRT-based analyses showed that experiencing TOT and a high FOK are associated with an increase in sensitivity in the memory recognition task and an increase in metacognitive sensitivity of confidence judgments. These results were the first bias-free indication of metacognitive sensitivity of TOT and FOK judgments and the first report of influence of TOT and FOK on metacognitive sensitivity of confidence judgments.

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