ABSTRACT

RUMINATION AND REBOUND FROM FAILURE: INVESTIGATING HOW TRAIT AND STATE FORMS OF RUMINATIVE THOUGHT INFLUENCE ATTENTION TO ERRORS AND THE ABILITY TO CORRECT THEM IN A CHALLENGING ACADEMIC ENVIRONMENT

by

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Rumination is a recurrent and repetitive manner of thinking that can be triggered by blockage of personally-relevant goals, creating a temporary state of abstract and evaluative self-focus that can also become a chronic trait-like style of responding to personal challenges. Despite claims that rumination helps down-regulate unwanted emotion, cope with problems, and lead to goal attainment, it often increases negative affect, interferes with problem solving, and exacerbates goal-state discrepancies, particularly for women. Given the pervasiveness of rumination and its potential impact on cognitive processes and emotional states, one important yet untested question is how it might impact individuals’ ability to remediate goal-state discrepancies caused by negative outcomes in an academically-relevant context. In this research program, we examine both trait and state rumination effects in a challenging verbal general knowledge test-feedback-retest paradigm, where first-test failures accrue (65%), but attention must be paid to corrective feedback in order to learn and later rebound from those failures at a surprise retest. Based on prominent cognitive models of rumination, such as the attentional scope model (Whitmer &
Gotlib, 2013) and impaired disengagement hypothesis (Koster et al., 2011), individuals who ruminate exhibit a narrowed focus of attention on and impaired disengagement from negative self-referent information. Thus, we tested whether rumination would heighten and maintain focus on negative performance feedback (Aim 1) and therefore interfere with the ability to deploy attention toward learning opportunities that might facilitate remedial behavior (Aim 2). To assess attention processes, we employed both event-related potential (ERP; Study 1) and eye tracking (Study 3) techniques as covert and overt measures, respectively. To assess potential similarities and differences in trait and state rumination (Aim 3), we employed both an individual differences approach, utilizing a well-known self-report measure of trait rumination to predict measures of attention and learning (Studies 1-3), as well as an experimental approach, utilizing two different state rumination induction techniques, one from the clinical realm (Study 2) and the other from the social-cognitive realm (Study 3). Using state rumination induction methods not only afforded a more direct assessment of the causal relationship between rumination and the ability to learn and rebound from failure, but with each method rooted in a different area of research, such methods also permitted testing whether the effectiveness of a state rumination induction may depend on how well it overlaps with the domain of concerns related to the general knowledge task (i.e., academic). We also took participants’ gender into account, as rumination has been linked with a host of ill effects on cognition and emotion particularly among women. In response to negative performance feedback, a maladaptive trait Brooding style of rumination sustained covert (i.e., internally-focused) attention to errors, as measured by the Late Positive Potential (LPP; Foti & Hajcak, 2010), but not overt (i.e., externally-oriented) attention, as indexed by gaze fixation duration metrics (e.g., Owens & Gibb, 2017). In response to corrective feedback, however, overt attention was impacted, with a brooding-like state of rumination
attenuating visual fixation on learning-relevant information, but no apparent differences were found in covert measures of learning feedback (i.e., ERPs). Despite these effects on feedback processing, surprisingly, state and trait forms of Brooding rumination did not hinder error correction, though they worsened first-test memory performance. Trait Reflection, on the other hand, was found to consistently improve memory performance at first-test, with more mixed results at retest. Rumination effects among women were generally as predicted, while men exhibited null or unexpected effects. The implications of these findings are discussed with respect to how existing models of rumination might be updated to account for differences in internally-focused and externally-oriented attention in applied contexts.