

Pronk, T. M., Karremans, J. C., Overbeek, G., Vermulst, A. A., and Wigboldus, D. H. J. (2010). What it takes to forgive: When and why executive functioning facilitates forgiveness. *Journal of Personality and Social Psychology*, 98(1), 119-131.

Summary by Brainna Schuyler, Graduate Student

Written November 2010

Pronk and colleagues completed a series of experiments testing the relationship between executive function and forgiveness behavior in individuals. Executive function is made up of a collection of higher order cognitive processes, some of which allow an individual to multi-task, think abstractly, and inhibit potentially inappropriate behaviors. In Study 1, forty-eight students (mean age 21.5 years) completed a questionnaire measuring tendency to forgive, as well as completing a two-back task, which served as a measure of executive function. In the two-back task, participants are shown a series of letters on a screen, and asked to press a button if the current letter is the same as the one presented two letters previously. The researchers found a high correlation between executive function and self-reported forgiveness tendencies. In Study 2, the researchers extended this work to look at forgiveness of real-world offenses over time. They recruited participants that had been recently transgressed, and followed 89 participants (mean age 20.82 years) over 5 weeks. They used a variation of the EAST to test for executive functioning the first time the participant came to the lab. The EAST measures executive function using emotionally valenced words presented in three different colors, where the colors indicate which information about the word is important in answering a question about the word with a button press. It requires that a participant keeps in mind both the word, and the rules represented by the different colors. After the lab visit where the participant completed the EAST, they followed up once a week with an online questionnaire measuring forgiveness towards the original transgression. They found that over 5 weeks, participants with higher executive function scores had a significantly larger increase in their forgiveness of the original transgression than participants with low executive functioning. In Study 3, the experimenters looked at the effect of offense severity on the relationship between executive function and forgiveness. They had 79 participants (mean age 21.57 years) complete the two-back task and the switching task as measures of executive function. Participants also answered questions about a time that they were recently hurt by someone close to them, along with a number of ratings of offense severity and current level of forgiveness of the offender. The experimenters found that offense severity moderated the relationship between executive function and forgiveness, such that the positive relationship between executive function and forgiveness tendency was stronger when the offense was severe. Conversely, there was less of a relationship between executive function and forgiveness when the offense was mild. In the final study, the experimenters looked at whether the relationship between executive function and forgiveness was mediated by the tendency of the individual to ruminate. Individuals with higher executive function also showed lower levels of rumination. They found that the level of an individual's rumination explained a significant portion of the association of executive function and forgiveness.