



Metacognition and Academic Pressure: Predicting Beliefs in Paranormal Phenomena and Junk Science

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Introduction

People engaging in quick or non-critical decision-making tend to believe that pseudoscientific occurrences are real in comparison to those who think in a more deliberate manner (Honchar, et al, 2013). This may be due to issues within metacognition (Harrison & Vallin, 2017).

The connection between paranormal beliefs and metacognition may also be mediated by what Atir et al. (2015) called overclaiming – i.e., individuals arguing that they possess knowledge of objects/concepts that do not exist.

We found overclaiming to exist in a recent project within our lab (Mogle, et al., 2018) but did not measure factors that may have mediated the degree to which one engaged in it. The current study, therefore, addressed these elements.

Method

PARTICIPANTS AND DESIGN

Lebanon Valley College undergraduates ($n = 77$) participated and were granted research credit. Each participant completed all tasks in the context of a survey-based design.

MATERIALS

► **Paranormal/Junk Science.** An Overclaiming Scale (adapted from Atir et al., 2015) was composed of 25 items that were either scientifically questionable yet known within society or entirely made up. Additionally, a Pseudoscience Scale (32 items) contained items relative to paranormal phenomena and junk science.

► **Success in Learning.** A 19-item Metacognitive Awareness Inventory (adapted from Harrison & Vallin, 2017 and Vancouver Island University, 2019) addressed different patterns of learning and their regulation. This was followed by An 11-item Parents & Schooling Inventory (adapted from Freidel, et al. 2007) contained items concerning how participants' parents viewed school content mastery and performance.

► **Reasoning.** The Cognitive Reflection Task (CRT; 3 items) required participants to solve word problems with both logical and mathematical foundations; participants also estimated their accuracy.

PROCEDURE

Participants completed the five inventories noted above with an unlimited amount of time granted for each task.

Results

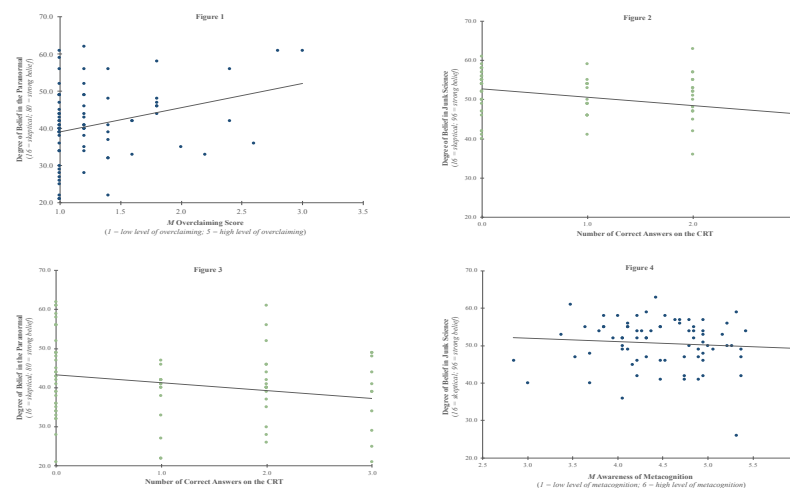


Figure 1. Those who overclaimed supported the existence of paranormal phenomena ($r = .290, p = .006$).

Figure 2. Rational thinking was associated with little support of junk science, $r = -.341, p = .001$.

Figure 3. Those who engaged in rational thinking showed little support for the existence of paranormal phenomena, $r = -.219, p = .028$.

Figure 4. Metacognition was not associated with any degree of belief in junk science ($r = -.086, p = .229$).

Discussion

Why might overclaiming relate to believing in the paranormal? Overclaimers support false information, so they may not critically question beliefs. Conversely, accurate CRT performance requires careful reasoning, and links to our results - those who overclaim and believe in paranormal phenomena tend to not reason through problems thoroughly.

Why did metacognition NOT correlate with “weird” beliefs? Our lack of a direct connection implies that other factors mediate connections between general awareness and specific beliefs. Future research looks to find connections between these factors and the belief in conspiracy theories.