A failure in mind: Dispositional mindfulness and positive reappraisal as predictors of academic self-efficacy following failure

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ABSTRACT

How mindfulness relates to beliefs about the self is largely unknown despite a growing mindfulness literature base. This study sought to investigate mindfulness and self-beliefs in the academic domain. Specifically examined were the relationships between college students' ($N = 243$) dispositional mindfulness, positive reappraisal, and academic self-efficacy beliefs following a perceived testing failure were examined. Results support prior findings demonstrating an association between mindfulness and positive reappraisal, and indicate that mindfulness as well as positive reappraisal are positively associated with academic self-efficacy after a perceived failure. Furthermore, positive reappraisal was found to be a significant mediator linking mindfulness with more positive academic self-efficacy. Summarily, individuals reporting greater mindful awareness and behavior were more likely to engage in positive reappraisal, which partly accounted for their higher academic self-efficacy following the perceived academic failure.

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1. Introduction

As the benefits of mindfulness continue to be better understood, curiosity has grown regarding methods of promoting mindfulness on a wider scale. One potential method of broadly disseminating mindfulness practices and techniques is through the education system. And, while a substantial portion of the research to date has investigated the social (e.g., Carson, Carson, Gil, & Baucom, 2004) and emotional (e.g., Chisea & Serreti, 2009) benefits of mindfulness, a strong literature base is emerging in support of the cognitive (e.g., Eberth & Sedlmeier, 2012) and academic (e.g., Meiklejohn et al., 2012) benefits of mindfulness as well. Indeed, the social, emotional and academic benefits of mindfulness suggest that integrating mindfulness-based practices in educational settings are fully consistent with the majority of popularly supported goals of education (e.g., Cohen, 2006; Hanley, Roehrig, & Canto, 2015; Rothstein & Jacobsen, 2006). The recent proliferation of mindfulness-based education initiatives reflects this interest (see Meiklejohn et al., 2012 for an in-depth review). And, as momentum builds with respect to the incorporation of mindfulness in academic settings, exploring more nuanced components of the relationship between mindfulness and academic achievement is warranted. Specifically, how mindfulness relates to students' academic self-efficacy beliefs is largely unknown, despite a growing literature base linking mindfulness with improved academic performance (e.g., Mrazek, Franklin, Phillips, Baird, & Schooler, 2013; Ramsburg & Youmans, 2013).

It is important to begin by expressly stating how mindfulness is conceptualized in the present study, given the recent proliferation of mindfulness research (Eberth & Sedlmeier, 2012) and resultant conceptual and operational confusion (Grossman & Van Dam, 2011; Dreyfus, 2011). While a number of definitions for mindfulness have emerged, Kabat-Zinn's definition, "paying attention in a particular way: on purpose, in the present moment, and non-judgmentally" (Kabat-Zinn, 1994, p.4), is frequently invoked and maps consistently with common operational definitions of mindfulness (e.g., The Five Facet Mindfulness Questionnaire). Importantly, Dreyfus (2011) further suggests that mindfulness may not have been traditionally understood to be non-discursive; to the contrary, according to some Buddhist traditions, mindfulness was classically used to facilitate clear comprehension (Sanskrit: samprajana) of views about self and world. While the term mindfulness has been used simultaneously in the literature to reference a disposition, state, practice and intervention (Vago & Silbersweig, 2012), in this study we will be exclusively examining dispositional mindfulness — the trait-like propensity to exhibit and express mindful attitudes and behaviors in everyday life.

The Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006), frequently used to operationalize dispositional mindfulness, delineates five facets of mindful behavior: Observing, Describing, Acting with Awareness, Non-reacting, and

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Non-judging. The first two facets primarily measure awareness of, and attention to internal phenomena. The Observing facet addresses the tendency to notice internal experiences (e.g., "When I'm walking I deliberately notice the sensations of my body moving"). The Describing facet measures the tendency to identify and label internal experiences (e.g., "I'm good at finding words to describe my feelings"). The third and fourth facets move more into the realm of externalizing behavior. The Acting with Awareness facet gauges the tendency to be consciously engaged with an event of activity (e.g., "I'm good at finding words to describe my feelings"). The Non-reacting facet measures the tendency to respond intentionally, not automatically or habitually, to stimuli (e.g., "In difficult situations, I can pause without immediately reacting"). Finally, the Non-judging facet is the most cognitively salient facet, assessing the tendency to relax critical interpretations of experiences (e.g., "I criticize myself for having irrational or inappropriate emotions"; Baer et al., 2006).

Dispositional mindfulness has demonstrated positive associations with common conceptualizations of the self, such as self-efficacy (e.g., Greason & Cashwell, 2009). Self-efficacy is "the belief in one's capabilities to organize and execute courses of action required to produce given attainments" (Bandura, 1997, p. 3). Greater mindfulness is theorized to promote more adaptive self-appraisals by relaxing habitual or automatic cognitive repertoires about the self (Vago & Silbersweig, 2012). Greater "phenomenal clarity" (Vago & Silbersweig, 2012, p. 2) in each moment is believed to encourage more accurate self-perceptions. Greater perceptual accuracy undermines cognitive biases that may emerge following isolated or infrequent adverse events, allowing for more adaptive cognitive and behavioral responses to emerge (Vago & Silbersweig, 2012). In short, mindfulness may inhibit the tendency to extend failure or adversity into the future as reflective of a broader conceptualization of the self (e.g., the individual is greater than their "worst" act). Specifically, in the context of this study, mindfulness is expected to guard against more negative, global self-appraisals after an isolated testing failure. Indeed, preliminary evidence suggests that dispositional mindfulness is associated with more flexible self-referential schemas (Hanley et al., 2013).

With mindfulness potentially promoting more adaptive beliefs about the self, investigating the relationship between mindfulness and beliefs about the academic self appears a worthy line of investigation. Emerging research supports a positive relationship between mindfulness and academic performance (e.g., Meiklejohn et al., 2012) as well as self-efficacy (Keye & Pidgeon, 2013). Fundamentally, academic performance is intimately related with academic self-efficacy (e.g., Brausch, 2011; Ferla, Valcke, & Schuyten, 2009), and mindfulness practice appears to improve academic performance (Beauchemin, Hutchins, & Patterson, 2008; Hall, 1999; Meiklejohn et al., 2012; Weare, 2012) as well as a range of skills associated with academic success: attention (Saltzman & Goldin, 2008; Semple, Lee, Rosa, & Miller, 2010), working memory (Jha, Stanley, Kiyonaga, Wong, & Gelfand, 2010), problem solving persistence (Evans, Baer, & Segerstrom, 2009), goal striving (Brown, Ryan, & Creswell, 2007), retention of information (Ramsburg & Youmans, 2013) and test performance (Mrazek et al., 2013).

Academic self-efficacy is thought to be particularly salient with respect to sustained performance following adversity or failure (Bandura, 1997; Bong & Skaalvik, 2003). Similarly, mindfulness may promote resilience by fostering positive coping strategies, such as positive reappraisal (Garland, Gaylord, & Park, 2009; Garland, Gaylord, & Fredrickson, 2011). Positive reappraisal is "the adaptive process by which stressful events are re-construed as benign, valuable, or beneficial" (Garland et al., 2009, p. 2), and has been identified as a cognitive coping strategy regularly employed in the navigation of adverse events such as traumatic exposure (e.g., Prati & Pietrantoni, 2009). With Keye and Pidgeon (2013) providing recent empirical evidence supporting a positive relationships between dispositional mindfulness, academic self-efficacy and resilience, extending their results to explore a potential mechanism by which mindfulness may support greater academic

self-efficacy appears a logical next step. Positive reappraisal was chosen as this mechanism given its established relationship with mindfulness (Hanley & Garland, 2014) as well as its identification as a critical coping strategy in the face of adversity (Prati & Pietrantoni, 2009).

Mindfulness and academic self-efficacy appear to the conceptually linked, particularly with respect to navigating academic adversity through positive reappraisal. The primary purpose of this study was to explore the relationship between dispositional mindfulness, positive reappraisal, and efficacy beliefs related to academic performance following a perceived testing failure. It was hypothesized that individuals reporting greater dispositional mindfulness and tendencies towards positive reappraisal would evidence greater academic self-efficacy after "failing" a general knowledge quiz. Furthermore, it was hypothesized that specific mindfulness facets (i.e., those reflective of mindful awareness and behavior) would be most closely associated with positive reappraisal and academic self-efficacy.

2. Material and methods

2.1. Participants and procedures

A large Southeastern university's College of Education subject pool was used for recruitment, with a brief description of this study available in an online database of research opportunities. The university's institutional review board approved the study. Participants' ($N = 243$) mean age was 20 ($SD = 4.19$) and were primarily female (85%). The majority of respondents identified as either White/Caucasian (75%), Black/African American (10%), or Latino (10%). The most frequently reported religious affiliation was protestant Christian (47%) followed by Roman Catholic (26%) and respondents indicating no religious affiliation (17%). Participants were awarded 0.5 hours of research credit (of a required 2 hours per semester) for completing this study. Students electing not to participate in research were offered assignments of comparable length to fulfill the research requirement. The mean study completion time was 24 minutes, with a 97% completion rate.

Following consent, participants completed pretest measures of state affect, dispositional mindfulness, and positive reappraisal. Then, participants were presented with 15 multiple-choice items, addressing general knowledge (e.g., How many rings are on the Olympic flag? What is a rhinoceroses' horn made of? The Statue of Liberty holds her torch in which hand?). After completing these items and regardless of their actual performance, participants were presented with a "results screen" informing them that they answered 8 out of 15 items correctly earning a score of 53%. Participants were then provided a free response space and asked to explain their performance on the quiz. Most commonly, participants attributed their low grade to the amount of time passed since they had been exposed to the material (e.g., "I know I have learned all of this at one point, but it's hard to remember."), being unable to prepare for the quiz (e.g., "I was not given time to study or information about the topics that the questions came from."), or not using outside resources to find the answers (e.g., "I did not use any outside resources, only my own mind."). Of the 243 total respondents, only four expressed any doubt about the accuracy of their quiz grade ("e.g., I think this study is lying to me, I was only unsure of two of them.").

Participants then completed posttest measures of academic self-efficacy and state affect. A disclosure statement at the end of each survey informed the participants that their grade was randomly assigned and that the number of items they answered correctly was not calculated. This study's entire protocol was completed online.

2.2. Measures

2.2.1. Affect

The short form of the Positive and Negative Affect Scale (PANAS; Mackinnon et al., 1999) measures state positive and negative affect. The 10-item questionnaire contains five positive-emotion adjectives