Anxiety in the Schools: Causes, Consequences, and Solutions for Academic Anxieties

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It is largely acknowledged that learners are displaying increasing levels of negative affective responses within educational settings, primarily sparked by a wide array of stressors that are interpreted as threatening (Pekrun, 2006; Putwain, 2007; Thomas et al., 2017). The available data provide estimations ranging from 20 to approximately 50% of learners will struggle with debilitating anxiety, depression, or related emotional distress at some point in their academic journey (Putwain & Daly, 2014; von der Embse et al., 2013), with the probability increasing as learners get older (Greenberg et al. 1999; Kessler et al., 2005).

The fields of education and psychology have been progressively approaching a more pragmatic orientation toward tackling this problem, moving from predominant focus on assessment and theoretical studies to a significant increase in ecologically valid intervention strategies in schools and other education settings. However, the field is hampered by the reality that academic anxieties do not fall into any protected disability directly. While learners will often be identified with an emotional difficulty, the symptoms they experience generally are classified as a "preclinical" anxiety and falls short of receiving formal psychological support. Furthermore, the incidence rates and variations in severity would make traditional clinical approaches unwieldy in most schools. As such, much of what is done in schools to support learners with academic anxieties falls to teachers, counselors, administrators, and parents. To support their efforts, this chapter is focused on an integrated view of emotional information processing from the perspective of academic anxieties. The primary goal of this discussion is to review a model of emotional information processing, and identify how those stages of processing can be used to identify areas of need and intervention for learners struggling with academic anxieties.

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Academic Anxiety

To provide context to the approach taken to construct this chapter, a brief overview of my perspective regarding the refinement of the field of academic anxieties may serve a purpose. My earliest exposure to this field in the 1990s was in the exploration of how to effectively assess test anxiety, building upon the work of foundational scholars such as the Sarasons and Spielberger – attempting to target a specific dimension of test anxiety we referred to as "Cognitive Test Anxiety" (Cassady & Johnson, 2002). The purpose of the new term was to highlight the range of cognitive features that were implicated in what was generally identified as "Worry" in the bifactor model (Liebert & Morris, 1967), such as task irrelevant thinking, cognitive overload, and distraction. In essence, it was a "rebranding" of terminology to highlight the complexity of the construct.

In a similar line of reasoning, as my colleagues and I started to work more intentionally with a broader group of individuals reporting difficulties with anxiety in academic settings, we noticed that far too often teachers, parents, administrators, and researchers alike struggled with the expression of anxieties that were triggered in academic settings, but were not "test anxiety." Zeidner and Matthew's work in this realm was instrumental in guiding our thinking, as he began to use the term "evaluation anxiety" (going beyond "test" as the critical feature; Zeidner & Matthews, 2005). However, we also noticed there was sizable attention to anxiety focused on math, statistics, science, and technology (or computers). Recognition of these various "forms" of anxiety in academic settings was seen as a value to the field – because more learners who experience feelings of anxiety may be recognized and served. However, we also saw this as a challenge to teachers, parents, administrators, and counselors due to the perception that these were all unique "conditions" (none of which are clinically diagnosed).

To help in our discussions with these stakeholders, we adopted the term Academic Anxiety to help communicate the generalizable characteristics, outcomes, and solutions that may be adaptable to support learners experiencing academic anxiety, without requiring expertise in all these varied domains. At that time, we predicted "the term *Academic Anxiety* is not a common term in the literature, but one that I believe will begin to gain acceptance as a unifying formulation for the collection of anxieties learners experience while in schools" (Cassady, 2010; p. 1). As this volume demonstrates, attention to a broader dimension of academic anxieties has been great – and the growth in the field has been notable and valued.

To help operationalize academic anxieties, my colleagues and others have represented academic anxiety as a response profile to perceived stressors in any academic context. The interpretation of these stressors is formed in an individually specific constructivist framework in which environmental stimuli (e.g., challenges, stressors, expectations, classroom goal structures) interact with personal factors (e.g., self-efficacy, prior experiences, beliefs) to generate an appraisal of the degree of threat imposed balanced against the individual's perceived ability to meet that challenge (see Bandura, 2005; Cassady & Boseck, 2008; Lazarus, 1993, 2006; Lazarus

& Folkman, 1987). A recent study has also demonstrated that academic anxiety as a measurable construct is situated in a "nested" hierarchical construct where academic anxieties are distinct from and subordinate to generalized anxiety measures, but within that hierarchy academic anxiety appears to encompass more specific articulations such as cognitive test anxiety and emotionality (Cassady et al., 2019).

The focus of this chapter is to take another step in a process undertaken collectively by researchers and practitioners from a wide range of disciplines focused on helping individuals with anxieties in academic settings effectively identify the causes, consequences, and solutions that promote optimal performance for all learners. To that effort, this chapter will briefly summarize research documenting (a) sources that tend to underlie the manifestation of academic anxieties, (b) how academic anxieties impact learners, and (c) a solution paradigm that shows promise in providing a relatively generalized approach to supporting anxiety challenges across a wide range of learners and contexts.

Emotional Information Processing

To guide the discussion of causes, consequences, and outcomes of academic anxieties, this chapter will employ the Emotional Information Processing model as a framework. The EIP was designed to help practitioners and researchers interrogate learning events to identify conditions and processes that promoted thriving and success in emotionally charged settings (from a positive psychology perspective, Cassady & Boseck, 2008) as well as provide a stage-like information processing model to help isolate emotion regulation and self-regulated learning strategies that buffer anxiety in academic settings (Cassady & Thomas, 2020). The model was built upon the work of prior models focused on emotion regulation (e.g., Gross, 2015; Pekrun, 2006), social information processing (Crick & Dodge, 1994), and models focused on perceived stressors and coping strategies (Lazarus, 2006; Lazarus & Folkman, 1987). The model (see Fig. 1) recognizes that the cues learners attend to and the mental representations they form in response to those cues set the stage for setting goals to manage that context. In conditions where the perception is one of "threat," learners are more likely to activate avoidance or ego preservation goal sets – activating less adaptive and more reactive coping strategies. Throughout the process, the EIP recognizes that the processing of the environmental cues, interpretations of those cues, goal strategies, and coping/response strategies are continuously informed by their prior knowledge and repository of developed skills and abilities.

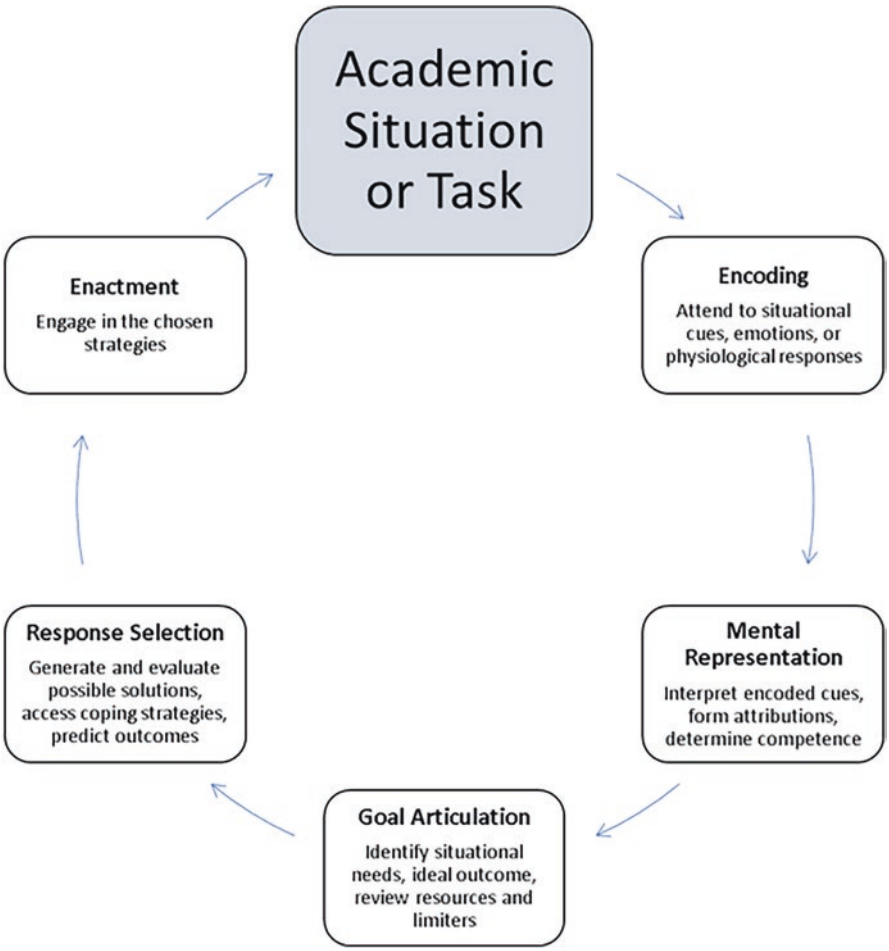

Fig. 1 Academic anxiety sources

Academic Anxiety Sources

To effectively identify meaningful strategies that are viable and successful in reducing academic anxieties, the first area of focus needs to be on the sources of those anxieties. One traditionally frustrating effect in many research attempts to address academic anxieties is the inability to find durable impact outcomes for participants receiving the chosen intervention. I propose one reason we find limited success with many studies on anxiety interventions in academic settings is the interventions do not match to the individual need. That is, a study examining the efficacy of mindfulness training often identifies that the practice is successful at reducing test anxiety – but only with a limited portion of learners in the study. Conversely, a study skills training program may prove effective with a different subset of anxious learners.

This often results in meta-analytic study findings of mixed or varied degrees of efficacy for specific methods of intervention for learners' levels of reported anxiety and/or subsequent academic performance (Hembree, 1988; Huntley et al., 2019). Careful attention to the sources of an individual's academic anxiety as well as the learners' emotion regulation skills and self-regulated learning skills that can serve as effective coping strategies should enable supporters of the academically anxious to "prescribe" interventions that target those areas of challenge or difficulty (Serrano Pintado & Escolar Llamazares, 2014).

Contemporary explanations for sources of academic anxieties can largely be categorized into four broad factors: (a) expectations imposed through social systems or networks (e.g., schools, parents, peers; Lee & Lowe, 2008; von der Embse & Witmer, 2014), (b) internal or personal expectations (e.g., perfectionism; Eum & Rice, 2011; Stoeber, 2004), (c) situational pressures (e.g., high stakes exams, atypical levels of underpreparedness; Putwain & von der Embse, 2018; von der Embse et al., 2018), and (d) perceived inability to meet the demands of a forthcoming task (Lazarus, 2006; Sommer & Arendasy, 2014). These relatively clear and differentiated domains of possible causes for elevated academic anxieties suggest that individuals with academic anxieties may be effectively "typed" – that is, compelling profiles of anxiety have been developed and have guided our field for decades (e.g., Zeidner & Matthews, 2005). Unfortunately, these profile models often make it difficult to disentangle the "source" or cause of anxiety and the "outcome" or consequence of having anxiety. While these "types of anxiety" frameworks are very useful in recognizing symptoms, activating possible solutions, and gaining insight to the foundations of anxiety, there is value in disentangling these elements to build models for wide application. In particular, two related theories focused on emotional responses to academic stressors have been instrumental in identifying sources of achievement emotions in an ecological framework that embraces the social cognitive tradition attending to environmental, personal, and behavioral influences (e.g., Bandura, 2005).

Pekrun's (2006) influential Control-Value Theory (CVT) model of achievement emotions is an excellent example of a model that focuses specifically on primary factors that trigger anxiety responses. An overly simplified description of this model is that the intersection of learners' perceived control over the outcomes of academic events and their value for success in those activities are fundamental to the formation of achievement emotions (Pekrun et al., 2007). Using this framework, the CVT implicates these two core perceptual representations of the environment and the self, suggesting that anxiety will be elevated in contexts where learners place high value on task success and/or they judge their abilities to achieve that success (control, self-efficacy) to be insufficient. In a recent confirmational study, the power of the CVT models was demonstrated for this field with findings that both control and value were instrumental in predicting math performance, as mediated through students' levels of anxiety (Putwain et al., 2020).

The Self-Reference Executive Function (S-REF; Wells & Matthews, 1996; Zeidner & Matthews, 2005) provides a detailed description of subcomponent features and operations that are implicated in the development of worry and anxiety in

academic settings. The S-REF was an early model in emotion regulation that recognized the utility of examining cognitive processing to identify both the "triggering" of emotional disturbances and possible interventions. Wells and Matthews (1996) summarized the formation of negative emotional responses as a "consequence of actual or anticipated inability to meet the goals specified" (p. 884). The S-REF model is consistent with the well-established transactional theory of stress and coping (Lazarus, 2006; Lazarus & Folkman, 1987) that proposed threat appraisals are developed in a recursive feedback loop where the learner examines the context and their perceived abilities to meet the expectations at hand. This appraisal is based on the interpretations of the environmental elements (expectations imposed by the task or others), perceptions of efficacy within that context (self-efficacy, control), and available coping strategies – which may be activated to overcome a deficit or used in a maladaptive coping process to escape the threatening context (Lazarus, 2006). In the motivational theory of coping, Skinner has argued that coping strategies all have adaptive value but what differs is the functional role of the coping strategy in the given setting (Skinner et al., 2003). That is, the various "families" of coping strategies are adaptive in aligning the individual's goal set with the environmental opportunities and challenges (e.g., Social Withdrawal adaptively addresses the goal of "reducing state anxiety" – but may not lead to optimal long-term functioning). Continued work in this domain has led to a proposed hierarchical grouping of the families of coping strategies as "challenge coping" vs "threat coping" – which is dictated by the level of perceived competence and control in the context (Zimmer-Gembeck et al., 2011).

In a series of recent empirical tests of CVT and S-REF in examining cognitive test anxiety in particular, we have documented the utility of both representations in predicting the presence of elevated levels of academic anxiety. Examining the CVT model directly, Thomas and Cassady (2019) detected that both Task Value (positive relationship) and Control (negative relationship) elements were instrumental in predicting the level of test anxiety. However, the data demonstrated that Control commanded roughly twice the explanatory power over degree of anxiety when compared to Task Value (Thomas & Cassady, 2019). This work is supported by several related studies demonstrating the buffering potential of positive self-efficacy or academic buoyancy in reducing anxiety (Putwain & Aveyard, 2018; Putwain et al., 2016). However, this line of research (like many in psychology) has been dominated by linear statistical models, leaving largely unexplored the potential curvilinear relationships among stress and performance.

To explore the role of control and anxiety more completely, our lab explored the potential of a curvilinear relationship between academic anxiety and elements of Control (Cassady & Finch, 2020). In that study, we identified that cognitive test anxiety peaked when the learner had the highest degree of "uncertainty" over the outcome of the academic event. This finding enabled by exploring non-linear solutions supports the oft-proposed notion that "some degree" of stress is a motivating impulse (aka facilitative anxiety). In that work, the traditional "inverted U" shape was observed, with low levels of anxiety exhibited for those perceiving certainty in their academic outcomes (either failure or success; Cassady & Finch, 2020). This

finding contrasts with the linear models primarily in the level of anxiety for situations when failure is perceived as imminent. Following a basic S-REF representation, it would be expected that the appraisal of failure would generate heightened anxiety. However, it is possible (within a CVT framework) that in settings with low expectation of success, the learner may have lower levels of anxiety due to recognition that the "outcome" of the event is beyond control or success has been devalued in an ego defense process.

Within the EIP framework, both of these possibilities can be accounted for by examining both the Mental Representations (Stage 2) and Goal Articulation (Stage 3) held by the learner in that context (Fig. 1). Furthermore, the EIP allows for the perspective that there can be a positive or motivating influence of academic stressors, provided the stressor does not exceed a threshold specific to that individual setting. This view, often linked to Yerkes and Dodson's work with mice receiving varying degrees of electric shock when they entered the "wrong" passage (1908), has developed into a representation of "facilitative stress" and proposes that these indications of challenge or moderate to low levels of stress serve to orient or activate our energy toward adaptive coping strategies to meet the needs of that setting (see Alpert & Haber, 1960; Kader, 2016). Indeed, recent research has demonstrated that curvilinear relationships exist with academic anxieties and behaviors related to academic success and thriving, illustrating that "no anxiety" over an academic event is sometimes an indication of failure-acceptance orientations, and predict learned helplessness and withdrawal (Raffety et al., 1997; von der Embse et al., 2018). These conclusions resonate with the model of motivational coping (Skinner et al., 2003; Zimmer-Gembeck et al., 2011), in that the coping strategies employed are reliant on mental representations (situational interpretation imposed challenge and personal competence/control) in concert with the established goals to determine the preferred enacted strategies.

Consequences of Academic Anxieties

Consistent with the perspective that specific and differential examination of the causes or sources of academic anxieties, it is imperative to recognize that the outcomes of academic anxieties vary significantly among and within individuals. However, negative outcomes connected to the presence of academic anxiety can be loosely classified into one or more of three common explanations: (a) development of or perseveration over beliefs about current or future academic tasks that center on doubt or worry; (b) activation of maladaptive coping strategies that promote escaping, delaying, or evading the source of the anxiety; and (c) operating with suboptimal cognitive processing efficiency that hampers optimal performance. Naturally, these various outcomes intersect and influence one another (e.g., maintaining negative beliefs about success increases the adoption of avoidance coping strategies), and the eventual consequences are the continuation of academic anxiety, lower

performance outcomes, and often a lower perceived quality of life (Ergene, 2003; Hembree, 1988; von der Embse et al., 2018).

In contemporary work with test anxiety in particular, considerable attention is given to explaining suboptimal performance by implicating essentially a cognitive load argument, that the additional processing energy dominated by doubts or maladaptive stressors occupies a form of extraneous processing and hampers performance (Chen & Chang, 2009). Both the attentional control and processing efficiency theories (e.g., Eysenck et al., 2007) focus on this inability to focus attention effectively on task-relevant activities or elements, reducing the ability to successfully meet particularly challenging goals. Processing efficiency theory helps account for findings in the literature that demonstrate heightened levels of anxiety alone do not necessarily hamper performance – but the performance declines are readily noted in conditions where the cognitive tasks challenge the learner. From a cognitive load perspective, in conditions where the cognitive challenge facing the learner is lower, the excess load imposed by external or internal stressors can be more readily tolerated – still having a lower level of efficiency, but not necessarily impacting overt performance. This has been convincingly demonstrated in studies that have demonstrated that individuals with high levels of anxiety demonstrate longer response times for challenging cognitive tasks, but did not show lower performance than their low-anxiety counterparts (Wong et al., 2013).

Solutions for Academic Anxieties

As articulated before, I perceive a potential limitation in the field of interventions for academic anxieties in the attempt to treat all participants in a study with a universal methodology. Naturally, this is driven by using quality, controlled research design, but it can limit the potential to adequately meet the individual needs of learners in realistic settings. Quite simply, there are a myriad of manifestations of academic anxiety exhibited by individual learners. To date, there are a few quality examples focused on providing individualized variations or multimodal approaches to reducing anxiety that show promise (see Huntley et al., 2019; Putwain et al., 2014).

Systemic Approaches to Solutions

Before identifying specific strategies that provide relief from academic anxieties for individual learners in unique contexts, it is valuable to attend to possible systemic solutions that support positive emotional environments to disrupt the disquieting trends in anxiety prevalence (Putwain & Daly, 2014; von der Embse et al., 2018). One promising environmental adjustment is to deescalate the degree and salience of emotional threat imposed by stressors in academic settings. Teachers, parents, and educational support staff can support this by reducing the number of “threat cues”

when presenting forthcoming evaluation events (Segool et al., 2013). Schools can be designed with attention to supporting the development of academic spaces as calm and secure areas for the learners (Hughes & Coplan, 2018), or promoting mastery-focused classroom goal structures, encouraging growth mindsets, de-emphasizing overt competition, and encouraging "risk taking" in the form of noting that mistakes are part of a learning process (Dweck, 2007; Meece et al., 2006; Putwain et al., 2010).

It is also essential to recognize the presence of systemic racism, sexism, ableism, and other externally imposed threats to the safety and security of learners in academic settings that exacerbate the "base rate" of anxiety experienced by learners from traditionally underserved and oppressed groups (Stovall, 2021). Furthermore, failure to recognize the unique features of cultural and personal identities can lead to the implementation or adoption of strategies intended to reduce anxiety (e.g., mindfulness exercises), but may perpetuate or elevate the degree of emotional distress by triggering traumatic experiences or perpetuating microaggressions (see Duane et al., 2021).

Another systemic strategy that holds promise for reducing the incidence of academic anxieties is to employ a method of universal screening and tiered intervention support (see Cassady & Thomas, 2020). Universal screening for emotional difficulties across all levels of formal education would ensure that early indicators of preclinical anxieties (among other concerns) can be detected and served. Tiered intervention systems (i.e., Multi-tiered systems of support; Brown-Chidsey & Steege, 2010; Walker et al., 2000) aligned with this process provides targeted support for individuals with varying degrees of need.

Finally, providing "multimodal" intervention programs that recognize cognitive, emotional, and behavioral components of academic anxieties and provide intervention support across these various domains provide a broader range of support to learners. For example, the STEPS program (Putwain et al., 2014) demonstrated success in supporting learners with test anxiety by providing a series of six pre-programmed self-paced training sessions that targeted cognitive behavioral (e.g., positive self-talk), relaxation techniques, self-regulated learning strategies, and contextual knowledge about how and when to implement the varied strategies.

Adjusting Perceptions of Threat (EIP Stages 1–2)

Consistent with Wells and Matthews' S-REF (1996) model, models of coping (Lazarus, 2006; Skinner et al., 2003), and Pekrun's CVT model (2006), the EIP identifies that in the first two stages, learners encode and interpret cues from the environment, reflect upon prior experiences, and develop a mental representation of the task at hand (Cassady & Thomas, 2020). In this process, the learner maintains a perception of the requirements of the task at hand, the resources available to meet those expectations, and establishes an initial appraisal of the likelihood of being successful. During these two phases (see Fig. 1), the learner determines the degree

of threat in the situation, their value for success, and the degree to which they have agency or control over the outcomes of the situation. For individuals who are likely to develop an appraisal of likely failure, high threat (to self, ego, or academic standing), the academic context will likely produce an anxiety response (Gross, 2015; Lazarus, 2006; Pekrun, 2006).

Employing strategies that have demonstrated promise in adjusting these *perceptions* that are constructed by individual learners can promote the potential for learners to engage with challenging academic tasks without reverting to hopelessness or avoidance profiles that limit potential academic and learning growth (Stoeber, 2004; von der Embse et al., 2017). To support this process, learners can be supported to adjust the way they interpret cues during the Encoding and Mental Representation stages. One strategy for this is to call attention to positive cues in the academic context that are often overlooked by learners with predispositions to anxiety, who demonstrate a tendency to encode threat cues and have restricted access to additional attentional cues (Britton et al., 2011). Highlighting positive environmental cues that may have been overlooked due to a hyper-focused attention on negative emotional signals can reduce the probability of generating maladaptive attributional biases (Zeidner & Matthews, 2005; Zentall et al., 2001). Further, focusing on internal cues (prior successes, available coping strategies) can activate positive self-efficacy and confidence to support higher appraisals of success or control (Cassady & Boseck, 2008; Lang & Lang, 2010; van Yperen, 2007).

As articulated in the appraisal theory (Lazarus, 2006) and transactional coping model (Lazarus & Folkman, 1987), the appraisal that the individual generates regarding the threat imposed by an academic stressor is the key feature in determining if an anxiety response and declining performance is likely. A burgeoning line of research in the past 10 years has focused on the potential to train students to "reappraise" the anxiety symptoms they detect, thereby defusing or disrupting perseverance on negative affective stimuli. Specifically, the reappraisal process first involves identifying indicators of stress and anxiety, then informing the learners that anxiety may support their learning efforts (working from a facilitative anxiety perspective). The evidence on this process demonstrates some promise, with reappraisal groups demonstrating superior performance on the Math portion of the GRE (but not the Verbal; Jamieson et al., 2010) and in first year college students' performance on course exams as well as a reduction in their levels of the worry component of test anxiety (Brady et al., 2018). Research suggests conditions that support successful reappraisal strategies include students accepting the potential that anxiety can be a motivational force, academic tasks that are cognitively challenging (i.e., higher cognitive load contexts), and when used in conjunction with effective learning supports (e.g., self-regulation strategies, content support; Brady et al., 2018).

Finally, there have been various approaches demonstrated to help learners reduce their level of overall reactivity in anxiety-laden situations, producing effective reductions in anxiety and heightened performance (Hartman et al., 2016; Hembree, 1988; Holzel et al., 2011). These methods have included relaxation techniques, yoga or meditation, focused breathing, and biofeedback training (Huntley et al., 2019). Recently, this collection of relaxation techniques has generated a growing

body of research on mindfulness-based training strategies that have demonstrated the utility of mindfulness strategies to relieve anxiety as well as support improved performance (e.g., Carsley & Heath, 2019; Chambers et al., 2008; Cho et al., 2016; Heath, 2021). Acceptance and Commitment Therapy, which adopts a mindfulness perspective to acknowledging and accepting – rather than attempting to manage or eliminate academic stressors – is one approach with promising evidence of both reducing reported levels of anxiety and leading to increased exam performance, outperforming similar students using cognitive behavioral therapies or systematic desensitization (Brown et al., 2011; Zettle, 2003). Within an EIP perspective, mindfulness strategies certainly impact the encoding and mental representations learners adopt by helping regulate attribution and threat appraisals – but also can be seen in later stages as an effective coping strategy to meet emotion-focused goals.

Effective Goal Structures (EIP Stage 3)

Expanding upon the mental representations learners adopt regarding academic stressors, the EIP aligns with research on effective goal structures that orient toward continued growth (i.e., growth mindset) and seeking strategies to promote active coping rather than avoidance or maladaptive coping strategies (Dweck, 2007; Lazarus, 2006). One particularly important observation that has been developed in the coping literature has been the recognition that "emotion focused coping" is not by nature a maladaptive or avoidance coping strategy (Thomas et al., 2017). To the contrary, there are considerable advantages for learners who have heightened states of negative affect to employ goal strategies that focus on emotional coping (in addition to goals centered on the academic tasks at hand; Gross, 2015). Simply, developing emotion regulation strategies that defuse negative affective energy can support an overall efficacy in cognitive processing required to support learning (Boekaerts & Pekrun, 2015).

While each situation is specific to the learner and context, general principles for optimal achievement goals are useful to support learners navigating challenging emotional settings. Given the noted tendency for performance-avoidance goals (withdrawal, self-handicapping, procrastination) among learners with academic anxieties (Thomas, 2021; Thomas et al., 2017; Zeidner & Matthews, 2005), the first recommendation is to guide learners to goal structures that are more adaptive. Generally speaking, these may be mastery or approach-oriented goals (Jarvela et al., 2015; Quoidbach et al., 2015). In a recent test of the 3 × 2 Achievement Goal model, Thomas (2021) confirmed this strategy with the finding that task-approach goals were associated with the lowest levels of test anxiety. Collectively, the research is converging on the suggestions that supporting learners with negative affective responses should involve helping them establish goals focused on (a) meeting the task at hand with effective self-regulated learning strategies, (b) managing or reducing symptoms related to anxiety through active emotion regulation strategies (e.g., expressive writing, exercise; Gross, 2015; Ramirez & Beilock, 2011; Serrano

Pintado & Escolar Llamazares, 2014), and (c) focusing on the *processes* supporting the achievement of learning goals (e.g., goals directed toward preparation) rather than the *outcomes* of an academic event (Dweck, 2007).

Coping Strategies and Self-Regulated Learning (EIP Stages 4 and 5)

Finally, in the fourth and fifth phases of the EIP, strategies for meeting the goals and achieving success in the academic context are evaluated (i.e., considering multiple options, examining the likelihood of success for each option) and enacted (Cassady & Thomas, 2020). Within the skills deficit explanation for test anxiety, one of the base assumptions is that training learners to have better study skills and strategies will improve their performance as well as adjust their anxiety for the event due to their appraisal of higher probability of success due to access to more effective learning strategies (Crede & Kuncel, 2008; Sommer & Arendasy, 2014).

Consistent with the discussion on the value of emotion-focused coping for learners with negative affective responses to academic challenges, meta-analyses examining research on academic anxieties have repeatedly demonstrated that study skills training alone is often ineffective for reducing anxiety and/or promoting performance for learners with academic anxieties (Ergene, 2003; Huntley et al., 2019). Specifically, the research demonstrates that the study skills training is generally more effective when paired with emotion-focused coping strategies that help manage the threat appraisals generated in the early stages of EIP.

Naturally, the proposed limitation of research studies employing a single intervention to treat academic anxieties that may differ in form or function is potentially implicated in this trend – but the EIP also explains that if a learner maintains a heightened level of anxiety based on the mental representations that are established in Stages 1 and 2, the goals they establish may be focused on reducing anxiety (and not on successful performance in the academic task) or escaping the negative affective state altogether (Stoeber, 2004). In those cases, newly trained study skills or self-regulated learning strategies may not be effectively reviewed and considered as a relevant or viable strategy in Stage 4. To test this proposition, Martynowicz (2017) provided a study skills training program that provided undergraduate students with a programmed presentation on how to engage in self-testing. The critical manipulation in that study was that half of the students also received a short video of a fellow student who explained that the new method had improved their success in academic tasks (presumably enabling a reappraisal of the level of competence to succeed in the task). This "testimonial" approach led to increased use of the strategy in their study diaries as well as higher appraisals of the efficacy of self-testing as an effective study preparation activity.

Study skills and strategies that have been indicated as viable adaptive coping strategies to support improved performance in stressful academically conditions

include planning and organization skills focused on managing time (Putwain et al., 2014), (b) test taking strategies or skills (Crede & Kuncel, 2008; Ergene, 2003), (c) general methods of managing cognitive load and spaced presentation of content (Mowbray, 2012), and (d) study habits and activities that are more "engaged" strategies for preparation (as compared to "receptive learning" methods; e.g., Cassady & Finch, 2020; Martynowicz, 2017).

Conclusions

Theories of academic anxieties, under a variety of names, have been developed and refined progressively for the last 50 years. Over that time frame, the field has generated more specific and refined representations of how anxieties are generated, how those anxieties impact learners, and viable strategies for supporting those with anxiety. More importantly, the field has shifted dramatically in the past 15 years in particular to a more explicit solutions-oriented discipline, with considerably greater attention given to field trials examining interventions to support both the reduced experience of anxiety and increased academic outcomes. The use of the EIP in this discussion has been a mechanism to help organize the literature that is moving in this direction as well as point to a method of "diagnosing" and treating the areas of greatest need for individual learners presenting with an academic anxiety response.

Using the stages of the EIP to examine learner experiences to identify areas of thriving as well as struggle, professional educators, counselors, and supportive family members can help learners with academic anxiety apply a multifaceted (or multimodal) intervention that targets the points at which the negative affective responses begin to exert negative influence on beliefs and behaviors. This process is similar in nature to a diagnostic intake interview, wherein the supportive professional or family member identifies (a) the appraisals held regarding the academic event in question, (b) the available resources and skills that can support performance, (c) explicit and implicit goals that have been developed or underlie the learners' experience, and (d) the repository of coping strategies that are available for that setting.

In our lab, the EIP model has served as a useful resource for supportive peers and faculty providing non-clinical support to learners with academic anxieties. Using the EIP framework, the support members have been able to have productive discussions with undergraduate university students presenting with academic anxieties to problem solve their perceptions and coping practices. In that context, university students generally identify the specific areas where they have the most difficulty, and build a self-support plan utilizing emotion regulation skills and strategies along with self-regulated learning strategies as needed. Rather than a "one size fits all" approach, our discussions with these learners focus on identifying a set of changes to their appraisal or study approaches to adopt more adaptive habits that meet their specific needs.

This approach naturally relies heavily on the autonomy of university learners, which is less viable for younger students. However, our work with school

counselors and school psychologists has demonstrated that they are able to take this basic representation for analyzing the multifaceted responses to academic anxiety for their students and identify group and individual intervention strategies to minimize the impact of academic anxiety in students in elementary and secondary schools. In that way, the educators and support staff scaffold the process of effectively monitoring and regulating the strategies until learners adopt and maintain coping strategies that become durable.

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