CHALLENGED OR THREATENED?: THE DYNAMICS BETWEEN EMOTIONS, SELF-EFFICACY, AND LOCUS OF CONTROL IN UNFAMILIAR SITUATIONS

Dissertation presented to Universidade Católica Portuguesa to obtain a Master's Degree in Psychology in Business and Economics

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May 15, 2024

UNIVERSIDADE CATÓLICA PORTUGUESA

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Abstract

In the technological age, comfort with the unknown and uncomfortable is essential for continued growth and success. This dissertation examines the dynamic interplay between emotions, self-efficacy, and locus of control in the context of unfamiliar and challenging situations. By evaluating participants' emotional journeys and their self-reported levels of generalized Self-Efficacy and Locus of Control, the study aims to understand how these psychological constructs influence reactions to discomfort and challenge. The research involves a controlled experiment where participants are assigned tasks perceived as challenging, under pressure (vs. no pressure), with half of the tasks being performed under time pressure and the other half without any time pressure, to measure emotional responses and changes in Self-Efficacy and Locus of Control. The findings reveal significant relationships between experiencing positive emotions and Self-Efficacy and experiencing a situation as emotionally challenging vs. threatening and Self-Efficacy. The study contributes to psychological literature by highlighting how emotional regulation and perception of control can impact performance and stress management in uncertain scenarios, providing insights for enhancing individual resilience and adaptability in personal and professional settings.

Keywords: self-efficacy, emotions, locus of control, challenge and threat, discomfort, resilience

Resumo

Na era tecnológica, o conforto com o desconhecido e o desconforto é essencial para o crescimento e sucesso contínuos. Esta dissertação examina a interação dinâmica entre emoções, autoeficácia e locus de controle no contexto de situações desconhecidas e desafiadoras. Ao avaliar as jornadas emocionais dos participantes e os seus níveis relatados de Autoeficácia Generalizada e Locus de Controle, o estudo visa entender como esses construtos psicológicos influenciam as reações ao desconforto e ao desafio. A pesquisa envolve um experimento controlado onde os participantes recebem tarefas percebidas como desafiadoras, sob pressão (vs. sem pressão), com metade das tarefas sendo realizadas sob pressão de tempo e a outra metade sem qualquer pressão de tempo, para medir as respostas emocionais e mudanças na Autoeficácia e Locus de Controle. Os resultados revelam relações significativas entre a experiência de emoções positivas e Autoeficácia e a experiência de uma situação como emocionalmente desafiadora vs. ameaçadora e Autoeficácia. O estudo contribui para a literatura psicológica ao destacar como a regulação emocional e a percepção de controle podem impactar o desempenho e a gestão de stress em cenários incertos, fornecendo insights para melhorar a resiliência e adaptabilidade individual em contextos pessoais e profissionais.

Palavras-chave: autoeficácia, emoções, locus de controle, desafio e ameaça, desconforto, resiliência

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Chapter 1: Introduction

"People's level of motivation, affective states, and actions are based more on what they believe than on what is objectively true."

Albert Bandura

If what we believe about ourselves influences our affective states i.e. our Self-Efficacy influences our affective states, how might our affective states while doing something uncomfortable vary based on our Self-Efficacy? Why does studying our reactions to uncomfortable situations even matter?

Human life is not easy. As Buddhism preaches "all life is suffering". When we are younger, we struggle with sufficient resources, with comparisons to our friends, with choosing a career path and climbing a ladder. As we get older, our challenges become more complex, we are expected to find a partner, provide for a family, deal with health challenges, continue to learn so our skills don't become obsolete and simultaneously become caregivers for our parents. We fall sick, the people around us fall sick and mortality becomes more real. Learning how to tackle situations that are uncomfortable, that are challenging is a critical human skill. At work too, especially with the advent of artificial intelligence and specifically generative AI, learning how to deal with the unknown, the uncomfortable, is a critical skill for the future of work.

Thus, understanding the mindsets, states and traits that allow us to deal with the uncomfortable, the challenging, the unexpected, and the urgent becomes important. If we are unable to tackle the challenges life throws at us, if we choose to hide in our comfort zones, escaping anything new, unexpected, or difficult, we risk stagnating, languishing, and falling behind in our lives.

The goal of this dissertation is to evaluate how generalized Self-Efficacy and Locus of Control influence our emotional journey while taking on uncomfortable or challenging tasks and how this might vary based on a simulated sense of urgency. This study also seeks to understand emotional sequencing in a challenging task, do emotions remain consistent or change and what happens to our emotional states after a task is completed?

Given the potential interrelationships between these variables and the complexity of our emotional reactions, this paper seeks to examine how these variables influence one another, and to identify mediators and moderators.

In Chapter 1, we introduced the goal and context of this dissertation, in Chapter 2, we will deep-dive into the literature as it stands on Self-Efficacy, Locus of Control, Emotions, and how the first two constructs affect the third. We will also look at key hypotheses we are testing in this dissertation. In Chapter 3, we will walk through the methods including experiment design and procedures, in Chapter 4 we will share the results and analysis. Finally, in Chapter 5, we will discuss the results, limitations, and the implications of this study.

Chapter 2: Literature Review

2. Self-Efficacy

2.1 The Origin and Definition of Self-Efficacy

Self-Efficacy as a concept emerged through the work of Albert Bandura in 1977 as part of his social cognitive theory, and states that people's beliefs in their ability to take action and move toward desired outcomes are crucial in determining their behavior. This belief in one's own capability to achieve goals or manage future situations is known as perceived Self-Efficacy. Self-Efficacy affects every area of human endeavor and action, influencing how people think, feel, and act. Bandura also states that Self-Efficacy beliefs form a reinforcing cycle where the person's existing beliefs, cognition, and affect determine their behaviors and these behaviors then form their future beliefs. Self-Efficacy beliefs are thus Self-perpetuating.

Self-Efficacy is built on social learning theory and emphasizes the role of observational learning, social experience, external and internal validation, and reciprocal determinism in psychological functioning. Self-Efficacy reflects individual confidence in the ability to exert control over one's own motivation, behavior, and social environment. These beliefs determine how people feel, think, motivate themselves, and behave (Bandura, 1977; Maddux, 1990).

Bandura's original theory (1977) states that four factors contribute to Self-Efficacy beliefs. The first factor is prior mastery experiences. When an individual has been successful in completing difficult tasks and making progress toward goals, they are more likely to believe in their Self-Efficacy. However, if an individual fails, their failures might undermine this belief, and this is especially true if the failures occur before an individual has enough mastery or positive experiences that have built foundational and solid levels of Self-Efficacy. Thus, prior achievement in an area leads to Self-Efficacy beliefs while failure detracts from Self-Efficacy beliefs. Let's consider Tomas, someone who has just started a business. If Tom doesn't have prior experience building a business, his Self-Efficacy might be impacted by business failures within a few months. But if Tom has run a business successfully before, his Self-Efficacy is less likely to be impacted by business failures.

A second factor Bandura (1977) talks about is external modeling of behaviors and success. When individuals observe others who are similar to themselves display effort and succeed, this makes them believe in their own abilities to succeed. This process is known as 'vicarious experience' and helps enhance Self-Efficacy beliefs. Let's consider Tom again, if Tom

observes his college acquaintance Jill running a business and successfully dealing with challenges, Tom might make the inference that "*Jill and I are similar, we have similar education, if Jill can deal with these challenges, so can I*".

A third factor that affects Self-Efficacy is external affirmation (Bandura, 1977). External words of affirmation might come from a spouse or a parent or a mentor or anyone that the individual respects. External affirmation, similar to prior mastery experiences, needs to be built over time. If an individual has received positive affirmation regarding their abilities for a long time from their family or others, this would have a positive impact on their Self-Efficacy. This encouragement from outside helps in bolstering confidence and thus leading someone to be more persistent in the face of failure or difficulty. If Tom had trouble finding new customers, his spouse telling him she believes in him and his mentors telling him he's always been good at marketing, he can tackle this, which will play a role in enhancing his Self-Efficacy.

Finally, a factor that's more internally driven is an individual's emotions and their cognition. Positive states elevate Self-Efficacy while negative states impair Self-Efficacy (Bandura, 1977). While some of these states and the internal processes driving a human being are less predictable and understood, the others can be manipulated externally. If Tom is someone who is very prone to stress, his Self-Efficacy might be lower than that of someone who is less prone to stress. While external interventions like stress management therapy might help Tom, these would have to be sustained over long periods of time and regularly for them to impact his Self-Efficacy in a consistent manner.

In the domain of psychology, James Maddux (1990, 2008) built on Bandura's work, looking at how Self-Efficacy could be applied to clinical psychology, specifically how enhancing a patient's belief in their capabilities can improve their psychological recovery and well-being and is used in conjunction with cognitive behavioral therapy.

2.1.2 The impact of Self-Efficacy

Self-Efficacy impacts many aspects of life, including educational success, work performance, and personal health. For instance, students with high Self-Efficacy are more likely to challenge themselves with difficult tasks and be intrinsically motivated. In health contexts, individuals with high Self-Efficacy are more likely to maintain healthy behaviors and manage chronic conditions effectively (Bandura, 1977, 1997; Deci & Ryan; 2000; Schunk & Parajes).

A number of studies have examined Self-Efficacy as a driver of performance since Bandura's initial development of the concept. A study by Mitchell at al. (1994) simulating air traffic controller jobs asked participants to share their own expectations of their own performance at various times along with Self-assessments of their Self-Efficacy. The researchers demonstrated that Self-Efficacy predicted performance better than expectations of scores earlier in the study, as time passed by this pattern reversed and expectations of performance were better predictors of actual performance indicating that one's Self-Efficacy is a better gauge than their own predictions of performance when an individual lacks experience but as they built experience their own prediction of performance becomes a better predictor. Yeo and Neal (2006) assessed the relationship between task specific Self-Efficacy and task performance at a within and between person level. At the within person level researchers discovered that people with higher task specific Self-Efficacy had poorer performance perhaps because of decreased attention or effort. However, at the between person level, individuals with higher task-specific Self-Efficacy performed better than those with lower task-specific Self-Efficacy. Task specific Self-Efficacy mediated the relationships between general Self-Efficacy and task performance suggesting people's confidence about a specific task can enhance the effect of their overall confidence on their performance.

Judge et al. (2007) ran a meta-analysis to see how Self-Efficacy might affect work related performance. They discovered that correlation between Self-Efficacy and performance was strongest when tasks were less complex, suggesting that for straightforward tasks, an individual's belief in their ability to succeed is a significant predictor of their performance. As tasks became more complex, the positive correlation between Self-Efficacy and performance weakened. This indicates that other factors, such as skill level, available resources, or task-specific training, may play a larger role in these contexts. They also discovered that in simulated settings, such as laboratory conditions, the correlation between Self-Efficacy and performance is generally stronger but in real-world settings with less controllable variables, the correlation is typically weaker.

In addition to performance, Self-Efficacy was also evaluated in the context of coping with workplace stressors, feedback seeking, and information seeking.

Jex et al. (2001) examined whether Self-Efficacy influences the relationship between workplace stressors and strain, and how coping styles might moderate these effects. Their

findings suggested that individuals with high Self-Efficacy experienced less strain in stressful situations, particularly when they engaged in active coping mechanisms rather than avoidance coping.

Sherf and Morrison (2019) demonstrated that high Self-Efficacy leads to decreased feedback seeking because people who have high Self-Efficacy may value external feedback less. They noted that this relationship was moderated by perspective taking and mediated by the receiver's perception of the value of the feedback they are receiving.

Brown et al. (2001) looked into the relationship between Self-Efficacy and information seeking effectiveness positing that Self-Efficacy would moderate information seeking effectiveness. The authors found that the combination of actively seeking feedback (inquiry) and Self-monitoring enhances role clarity especially when used together rather than separately. This effect was significantly strengthened by high Self-Efficacy, with individuals confident in their abilities more effectively utilizing these strategies to clarify their job roles.

In recent years, Self-Efficacy has been part of a number of studies (Matsui et al., 1992; Speier & Frese, 1995; Lippke et al., 2009; Brown et al., 2001; Grau et al., 2000; Luszczynska et al., 2011; Makara-Studzinska et al., 2019; Moksnes et al., 2019). as a mediator or moderator vs. as an independent variable. There is opportunity to evaluate how generalized Self-Efficacy might directly impact variables like affect.

2.2 Locus of Control

2.2.1 The Origin and Definition of Locus of Control

Locus of Control refers to how strongly people believe they have personal control over the situations and experiences that affect their lives. Locus of Control was first introduced by psychologist Julian B. Rotter in 1954 and he elaborated upon this concept in 1966 in his paper "Generalized Expectancies for Internal Versus External Control of Reinforcement." Locus of Control is central to Rotter's social learning theory. Social Learning theory states that people expect rewards or punishments for their behaviors, and this influences their likelihood of behaving a certain way. Locus of Control influences people's expectations of rewards and punishments based on past experiences leading them to believe they can influence their outcomes through their efforts (Internal Locus of Control) or that outcomes are a result of external forces outside of their control (External Locus of control).

People with an Internal Locus of Control feel that their success or failure results from their own abilities and actions. These individuals tend to be more Self-motivated and are likely to take responsibility for their actions. People with an External Locus of Control believe that their lives are controlled by external factors such as fate, luck, or the actions of others. They might feel that they have little control over the events that occur and are less likely to take personal responsibility for their outcomes.

The development of an individual's Locus of Control is influenced by various factors including childhood experiences, cultural context, and behaviors gleaned from parents and authority figures. Children who are taught that their actions have direct consequences (whether through rewards or consequences) are more likely to develop an internal Locus of Control. On the other hand, those who experience unpredictability or believe outcomes are out of their hands may develop an external Locus of Control (Rotter, 1966).

As expected, cultural factors may play a role in the development of Locus of Control. Cultures that emphasize individualism, such as those in many Western countries like the United States of America, are more likely to nurture individuals with an internal Locus of Control because individuals are encouraged to pursue individualistic goals and Self-interest over the goals of the collective (Markus & Kitayama, 1991). Collectivist cultures like many Asian and South American cultures, which value the group over the individual, might nurture an external Locus of Control where the individual recognizes the power and role of the collective (Triandis, 1989). Given how culture might affect Locus of Control, Spector et al. (2002) examined Locus of Control in the context of western findings and whether these might be applied to other cultures. They found that internal Locus of Control beliefs did contribute to job satisfaction and well-being globally even if less so in collectivist cultures.

2.2.2 The Importance of Locus of Control

The importance of Locus of Control cannot be overstated. Studies of Locus of Control have been going on for 50+ years and earlier studies focused on how Locus of Control affects motivation, affect, performance and work satisfaction. Over the last 15+ years, Locus of Control has, similar to Self-Efficacy, been considered a mediator or moderator or one of many variables considered in a study vs. as an independent or dependent variable(Galvin et al., 2018). Galvin et al. (2018) concluded that Locus of Control needs to continue to be actively studied in the context

of work and as part of an individual's Self-evaluation. They found it to be a critical element of life satisfaction in individuals. Understanding whether an individual has an internal or external Locus of Control can have implications for psychological health and behavioral choices. For instance, those with an internal Locus of Control are often found to be more psychologically stable (Mikicin, 2007), happier (Pannels & Claxton, 2008) and possess a higher motivation level (Kamdron, 2015) and better mental and physical health (Shojaee & French, 2014; Kurtovic et al., 2017; Wallston,1976). They are generally more successful in personal and professional endeavors due to their proactive approach to life's challenges. Those with an external Locus of Control may experience higher levels of stress and anxiety (Sandler & Lakey, 1982) due to a perceived lack of control, which can affect their mental health and general wellbeing (Lefcourt & K Davidson-Katz, 1991). However, Sandler & Lakey (1982) also demonstrated that while externals received more social support in the face of negative events, but internals received more buffering from the social support received.

Locus of Control also affected reactions to global, externally driven events like COVID where people with an internal Locus of Control found it easier to navigate pandemic related stress and challenges because of the belief that they can control and influence their lives. In comparison, people with an external Locus of Control experienced mental strain and symptoms of anxiety and depression because of the seeming lack of control and influence they could exert (Krampe et al., 2021)

For decades, Locus of Control has been measured through the 29 item Locus of Control Scale (LCS) developed by Julian Rotter. However, Locus of Control is not necessarily binary, it can also be seen as a spectrum where individuals might display traits of both internal and external Locus of Control in different areas of their life. Looking at Locus of Control as a spectrum can lead to more nuanced classifications, such as bi-dimensional Locus of Control where both internal and external Locus of Control exist simultaneously to different extents and domain-specific Locus of Control with differentiating Locus of Control across various domains such as health, interpersonal relationships, or work environment. For example, someone might feel in control of their career and work (internal) and act in a more agentic way but believe their health is largely influenced by genetics or chance (external) and thus take less responsibility for it. Suárez-Álvarez et al. (2016) developed a bi-dimensional measure for Locus of control that relates with Self-Efficacy, optimism, motivation, and achievement.

Locus of control measures have been developed across childrearing (Campis, Lyman, & Prentice, 1986), healthcare (Wallston et al. 1976), education (Santokhie & Lipps, 2020) and management (Spector, 1988).

2.2.3 Locus of Control in Management

Management is a field where Locus of Control has been studied extensively. Spector, who developed the Work Locus of Control scale in 1982, first approached Locus of Control in organizations in 1982 examining how Locus of Control might drive behavior in organizations. He suggested that Locus of Control was related to most critical organizational and individual outcomes including employee motivation, job performance, job satisfaction, employee effort etc. He later went on to develop the Work Locus of Control scale.

Entrepreneurship is another area where Locus of Control was found to be important in management. Schjoedt and Shaver (2012) developed a Locus of Control scale specifically for entrepreneurship. Given entrepreneurship is high stress, high responsibility and requires adaptability, developing a scale for entrepreneurs and studying Locus of Control in the entrepreneurial context has a lot of benefits. The findings from their study suggest that entrepreneurs who have a higher internal Locus of Control are more likely to see their environment, specifically their business environment as less risky and more in their control than those who have an external Locus of Control. This influences their decision making and performance.

A 1975 paper by Mitchell et al. examines how Locus of Control might affect work satisfaction. In a study with 900 employees of a public utility company including 169 managers, they noted that employees who had an internal Locus of Control were more likely to be managers and more likely to have higher job satisfaction. They also noted that while both groups preferred a participatory management style, individuals with an external Locus of Control were more likely to be more open to a directive style of management than those with an internal Locus of Control. They also noted that individuals with an internal Locus of Control were more likely to be persuasive in their style of management while those with an external Locus of Control were more likely to be directive with their style of management.

Yet, not all studies found direct relationships between Locus of Control and outcome variables, potentially leading to its denomination as an interaction variable in ensuing decades. A

study by Szilagyi et al. (1976) tested the relationship between Locus of Control and outcomes like satisfaction and performance. They found that individuals with an internal Locus of Control were not more likely to be satisfied or better performing than those with an external Locus of Control. They did however note that those with an internal Locus of Control were more likely to perceive less conflict in their roles vs. those with an external Locus of Control. Role conflict was found to play a role in satisfaction and performance thus relegating Locus of Control to a moderator variable.

As expected, Locus of Control does make a difference in stress responses to environmental changes and crises. Anderson et al. (1977) studied businesses that had been affected by a flood. They used outcome variables related to business outcomes like business days lost to examine how managerial Locus of Control might affect business outcomes. They discovered that manager-owners who had more of an internal Locus of Control perceived less threat than those who had an external Locus of Control, the former also experienced less stress than those who were seen as having an external Locus of Control. They also noticed that coping behaviors related to problem solving were more useful than coping behaviors focused on managing the emotional outcomes of these crises and those with an internal Locus of Control used more problem-solving behaviors vs. those with an external Locus of Control who first had to cope with the comparatively higher amounts of stress they were experiencing.

Anderson & Schneier (1978) also examined Locus of Control and its relationship with leadership behavior and performance. They discovered that those who were leaders were more likely to have an internal Locus of Control and their groups performed better. Leaders with an internal Locus of Control were found to be more task oriented vs. those with an external Locus of Control who were found to be more socio emotional.

In more recent years, scholars (Ng et al., 2006; Wang et al., 2010; Galvin et al., 2018) have analyzed the relationship of Locus of Control to work outcomes finding that an internal LOC positively influences mental and physical well-being, enhances job satisfaction, motivation, and organizational commitment, and leads to better management of work challenges and social interactions. Individuals with an internal Locus of Control are more likely to perceive their efforts as directly affecting positive work outcomes and experience fewer negative work-related stressors.

In summary, these studies underscore the impact of Locus of Control on a range of work-related outcomes, including job satisfaction, leadership effectiveness, adaptability, and stress management not just as an interaction variable but as a key independent variable impacting these outcomes globally.

2.3 Emotions

2.3.1 Theories of emotions

As anticipated, emotions significantly influence both cognition and behavior in humans. While several components remain unexamined or contentious in the field of emotions, we have a general understanding of how emotions are generated, processed, and regulated within the human brain, establishing them as fundamental elements of psychological theory (James & Lange, 1884; Cannon & Bard; 1927; Schachter & Singer, 1962; Lazarus, 1966; Eckman; 1992; LeDoux; 1996; Feldman Barrett, 2017; 2018;). Understanding the evolution of our understanding of emotions is important to put this study into context.

While emotions were historically regarded as impediments to rational thought, current psychological research positions emotions as crucial to cognitive functions, instrumental in decision-making and social interactions. Emotions are no longer a "*dirty* word" in the area of management and work, scholars have examined how emotions affect performance, relationships, creativity and even their contagion in organizations and teams (Barsade, 1993; 1998; 2001; 2002; 2003; 2005; 2007; 2009; 2012; 2016; Salovey, 1990, 1999, 2000; Goleman, 1995).

It is important to understand the theoretical models of emotions that scholars built on to bring the field to the 21st century. The James-Lange Theory (1884), for instance, suggests that emotions arise from physiological responses to external stimuli, suggesting that our feelings are directly tied to physical reactions vs. our physical reactions being tied to our feelings. Rather than sadness causing tears, arguments causing anger or frightening events causing fear, we feel sad because we cry, angry because we punch, and fearful because we shake.

In contrast, the Cannon-Bard Theory (1927) suggests that emotional experiences and physiological responses occur simultaneously but independently, introducing the role of the thalamus in the brain as critical in the generation of emotions. In this case, we feel sad and simultaneously cry, feel angry and simultaneously punch someone or something, and feel scared and simultaneously take a risk.

Further building on these concepts in 1962, the Schachter-Singer Theory, or Two-Factor Theory was developed. This theory argues that emotions are the product of both physiological arousal and cognitive interpretation of that arousal, emphasizing that the context of arousal is pivotal in determining emotional experience. In this case, our interpretation of the situation leads us to feel sad and this makes us cry, feel angry and this makes us punch someone or something, and feel scared and take a risk.

Similarly, the Cognitive Appraisal Theory proposed by Lazarus (Lazarus, 1966) states that emotions result from the cognitive appraisal of a situation, highlighting how personal and situational factors combine to influence emotional reactions. This theory proposes that our emotions are more deeply influenced by our perceptions of events than the events themselves. In this case, one may feel sad because someone died and this makes them contemplate their own mortality and start to cry, one may feel anger because they feel shamed by their peers and choose to release that anger through punching a wall to feel more in control, they might feel fear of taking a risk because they haven't been successful at similar tasks in the past. Perception is critical to this theory.

Entering the 21st century, the constructionist theory of emotions, as proposed by psychologists such as Lisa Feldman-Barrett, represents a shift in understanding emotional experiences. Constructionists believe emotions are created, they are predictive states and are not universal. This is a huge shift in perspective, emotions do not happen to us, we create them, we detect our bodily signals through interoception and assign meanings to them based on our specific context, history, goals etc. We construct our emotions based on all information available to us. A famous study of judges mistaking hunger pangs for bad feelings about prisoners up for parole (Danzinger et al., 2011) demonstrates this fallibility of human judgment when it comes to our emotions. Two individuals feeling the same butterflies in their belly might interpret them in different ways based on their past and predictive patterns, one might interpret the arousal as fear while the other might interpret it as excitement. In a way, we are bequeathing valence to our arousal. This explains why there is so much variation in our emotional responses both within and across cultures, genders, and organizations.

If we put this in context of the Anderson et al. (1977) study of manager-owners and their coping responses to external events, managers who had an internal Locus of Control were more likely to respond in a way that addressed the task vs. managers who had an external Locus of

Control, in that case different emotional responses could be predicted by Locus of Control. Another study that demonstrates our ability to construct and reappraise our emotional responses is Wood Brooks 2014 study on emotional appraisal where people are encouraged to interpret their anxiety as excitement, and this improves their performance. The underlying principle driving this experiment is that excitement and anxiety are arousal congruent and that makes it easier to switch emotions vs. creating or reducing arousal in an individual.

Which brings up another important construct, that of Russell's Circumplex of Affect (1980), a model for distinguishing between affective states. Barrett eschews the basic emotion theory proposed by Ekman, stating that the only basic emotions across cultures are valence and arousal. The Circumplex of Affect splits affect into valence and arousal, two feelings that all humans are born with. This model organizes emotions along two main dimensions: valence (pleasure-displeasure) and arousal (activation-deactivation). Valence is the degree of pleasure associated with an emotion and Arousal represents psychological and physiological activation. Using just valence and arousal, we can classify a wide range of emotions based on their core psychological characteristics e.g. anxiety is high arousal, negative valence while excitement is high arousal but positive valence. While it is difficult to represent some specific emotions e.g. contempt or guilt on this circumplex, it does cover a decent degree of the emotional spectrum.

2.3.2 Challenge vs. threat emotions

When it comes to interpretation of emotions, scholars suggest that individuals appraise situations as threats or challenges with threats being associated with fear, loss, and a lack of security while challenges are associated with being alert, being excited etc. The Biopsychosocial model of challenge and threat explores this phenomenon in the context of pursuing a goal (Seery, 2013). Similar to how stress results from an interpretation of a situation as requiring excess resources than available to the individual (Lazarus & Folkman, 1966), the appraisal of a situation as a threat results from the perceived demands exceeding the perceived resources available to the individual.

The interpretation of situations as challenges and threats and interventions to change the interpretation or to drive reappraisal has been studied in various contexts (Folkman & Lazarus, 1985; Williams & Cumming, 2012; Brooks, 2014; Jamieson, 2017).

Since challenge and threat evaluations are related to resource evaluations, this makes them very interesting to study in the organizational context where workers constantly have to prioritize resources including budgets and their own time and while objectively, we would expect similar interpretations of the same resources, history has shown us very different assessments (Anderson et al., 1977; Crum et al., 2017) and thus we are aware that the appraisal of resources and coping varies significantly by individual. Furthermore, uncomfortable situations also call for appraisal of resources and expectations e.g. will I be able to perform to the level expected of me, can I learn this, do I have time for this etc. Time urgency is manipulation that drives challenge vs. threat evaluations as suggested by Robinson (2010). He claims that the urgency of a stimulus generates fear and anxiety unconsciously which allows us to act and adapt at speed. Thus, both challenge and threat evaluations as well as urgency are relevant to emotional reactions and coping.

2.3.3 Role of Emotions in Psychology and Management

The role emotions play in our day to day cannot be understated. Antonio Damasio (1996) proposed that without emotions, we cannot make decisions, especially in uncertain situations. In the Iowa Gambling task, Bechara et al. (1994) demonstrated that our intuition, guided by our feelings, could detect patterns, and make decisions faster than our rational linear thinking. This came to be known as the somatic marker hypothesis with Damasio hypothesizing that our emotions show up as somatic markers i.e. bodily sensations that are critical for decision making (1991) and in their absence, we would struggle to choose between alternatives and lose the wisdom of our emotions and associated bodily sensations.

A famous application and milestone in harnessing the power of emotions was through the concept of Emotional Intelligence developed by Peter Salovey and John D. Mayer (1990) and popularized by Daniel Goleman (1995). Emotional Intelligence is a set of skills required to detect and understand emotions in oneself and in others. Emotional intelligence also incorporates regulation and management of emotions in oneself.

It is well known that heightened emotions lead to the creation of stronger memories, these ‘flashbulb memories’ such as where you were when the September 11 attacks occurred in the United States of America are events that are high surprise and high arousal. However,

researchers argue that different emotions, not just these flashbulb moments, lead to different coding and strength of memories (Levine & Pizzaro, 2004).

While it is evident that emotions play a major role in psychology, they have also been increasingly important in the field of management. While somatic markers speak to unconscious feelings and emotional intelligence speaks to more conscious emotional regulation and awareness, Barsade et al. (2009) highlighted the role of implicit affective processes in organizations i.e. affective responses that occur outside of consciousness in organizations.

An important concept in management literature regarding emotions is emotional labor (Hochschild, 1983) this refers to the emotional effort workers put in to present the emotions required for their jobs e.g. nurses need to be caring, salespeople need to be cheery etc., Ramarajan et al. (2008) also examined emotional exhaustion, a result of emotional labor amongst nursing assistants in care facilities discovering that organizational respect reduced the emotional exhaustion felt by these nursing assistants over time.

Barsade et al. (2018) developed a model of emotional contagion in organizations suggesting that emotions are contagious from one another and that these emotions spread subconsciously at the dyadic, small group, and organizational level. These emotions include the emotions involved in emotional labor e.g. nurses, individuals in sales etc. and they represent a form of social influence. Some individuals are more susceptible to contagion than others. Wood-Brooks research on emotional reappraisal (2014) is important in positing that individuals have agency over emotions and through their reappraisal they can change their emotional states and the outcomes associated with their emotional states. During the study tasks individuals were asked to sing, speak in public and do math tasks under time pressure and part of the sample was taught various methods of reappraising their anxiety as excitement or calmness. Those who reappraised their anxiety as excitement tended to adopt an opportunity mindset, increase their excitement, and improve their performance on subsequent tests.

O'Neill et al. (2022) studied the emotional state of anxiety in organizations and their analyses revealed that anxiety leads to increased burnout and lower job satisfaction while a culture of companionate love can mitigate the effects of anxiety on burnout.

As demonstrated above, emotions have an important role to play across the field of management and studying them is both necessary and practical for individuals, teams, and organizations.

2.4 Examining the Relationship between Self-Efficacy, Locus of Control, and Emotions

Self-Efficacy or our belief in ourselves is a critical part of how we respond to specific situations that require us to reach specific goals. Self-Efficacy is different from Self-esteem because Self-esteem is how we view ourselves and our worth but Self-Efficacy is related to our ability to get things done, solve problems, and to deal with challenges. Self-Efficacy beliefs apply everywhere, in situations that are familiar to us as well in unfamiliar situations where we need to navigate the unknown and react in the moment. Self-Efficacy, as a result, influences our affective states. For example, someone who has been in sales for a long time might have high Self-Efficacy when it comes to sales because they have had positive experiences selling, they have mastered the process of selling, they might have models of behavior in sales they look up to and they might be getting praise from their supervisor or peers regarding their ability to sell. Yet, this same person might have low Self-Efficacy when it comes to something like cooking. This might be because they have not had positive feedback while cooking, they have not cooked very much and might lack the skills or might have some cognitive block regarding their own ability to cook.

Another individual might have high Self-Efficacy across the board, they might have demonstrated to themselves that they can tackle any kind of task, irrespective of their prior experience because they have faith in their abilities or have demonstrated these behaviors enough time. This generalized Self-Efficacy is important because it affects our ability to deal with that which is uncomfortable and unknown. Our Self-Efficacy influences our emotional responses too. The emotional responses triggered by different situations —ranging from anxiety to excitement—are not just reactions, but also reflections of our perceived competence based on our historical successes, the models of behavior around us, the affirmation we receive, and other factors.

Our Locus of Control, similarly, is an important factor in determining how we react to changes in our day to day and to expected and unexpected challenging events. Our Locus of Control is a way of understanding whether we feel we internally control our circumstances and reactions (Internal LOC) or whether external events dictate our circumstances and reactions (external LOC). Human beings have had differing views on perception of control for centuries. The Stoics argued that we have very little to no control over external events i.e. a form of

determinism and even over seemingly 'internal' elements like our health. What they said we do have control over is our perception and our reactions. In their view, spending time thinking about control was a waste of time. In comparison, the Existentialists of the 20th century believe that everything is in our control (Sartre, 1953). They believed that while we might exist because of nature and/or God, the essence of the individual is determined by the individual. Our freedom, our control is what causes our suffering.

Thus, while in theory believing that an internal Locus of Control is positive, philosophically, as human beings, we have had varied beliefs about our sense of control and whether determinism or existentialism are better for our mental health and emotions. An example of this might be an individual whose farming business has been affected by drought. This individual could fight the drought with all sorts of different mechanisms of irrigation and be anxious and upset and spend a lot of money and time trying to solve the problem. However, this individual might also cede control, accepting that the drought is what it is and focus their attention on crops requiring low irrigation or decide to focus on some other business until the situation is resolved. Would this person be an internal or external when it comes to Locus of Control in the different circumstances? Would they be calmer or more anxious? These are questions that we can examine by examining our Locus of Control and our emotional reactions.

This brings us to emotions and our emotional reactions as human beings. As human beings, we experience a myriad of emotions in any given hour. When we are doing something familiar, we might feel content or perhaps bored. When we are dining at a new restaurant, the novelty might create some anticipation, some excitement and even some frustration when reality does not match our expectations. Sometimes, our emotions arise unexpectedly and sometimes they arise in a familiar pattern. A spouse who is very protective might experience fear every time their partner is away, a person driven by novelty might feel bored whenever they have been in a situation for too long. Emotions can also be physiological reactions (Feldman Barrett, 2017) and might be mistaken for something more (Feldman Barrett, 2017; Danzinger et al., 2011). A person with low Self-Efficacy might feel more anxiety and less excitement while taking on a task that is less routine like public speaking. A person with an internal Locus of Control might get attached to a sense of control and conversely feel more trepidation when taking on something unfamiliar because they perceive less is in their control.

Scholars have studied the relationship between Self-Efficacy, Locus of Control, and emotions in various contexts.

Mesurado et al. (2018) examined how negative emotions affect adolescent behaviors, prosocial and aggressive behaviors and how Self-Efficacy might act as a mediator. The authors discovered that while Self-Efficacy does play a role in managing emotions it does not fully account for how early negative emotional experiences influence later behavior.

Marquez et al. (2002) successfully manipulated Self-Efficacy in women who were not very active physically and assessed the impact of Self-Efficacy on their state anxiety. They noticed a decrease in anxiety and increase in Efficacy in the manipulated condition. Research on how perceived control (Schrader & Nett, 2018) revealed that higher perceived control led to more positive emotions (enjoyment) and less negative emotions (anger and frustration), but the effects were short lived.

Conversely, studies also revealed that negative emotions also impede the feeling of control and performance. A study by Ruthig et al. (2007) demonstrated that negative emotions led to worse performance in students who perceived that they had high control.

In the field of education, scholars studied the role of Self-Efficacy and achievement emotions like anxiety and enjoyment on the ability to persist while learning. They discovered that Self-Efficacy was positively related to being persistent at learning and the enjoyment of learning but they found that Self-Efficacy was negatively related to anxiety (Tang et al., 2021).

Related to how challenging and unexpected situations can affect Self-Efficacy, a study during COVID-19 (Caprara et al., 2023) demonstrated that negative affect could predict lower levels of Self-Efficacy. They found that people with more positivity were found to have higher Self-Efficacy. There was a virtuous cycle between positive emotions and Self-Efficacy where higher levels of Self-Efficacy in managing emotions leads to increased positivity and this increases emotional Self-Efficacy.

2.5 Aims and Objectives of this Dissertation

As the literature review demonstrates, Self-Efficacy and Locus of Control have been important variables in the past but have played a role mostly as mediators and moderators in recent history or as a component of personality. Also, emotions can affect perceived control and

Self-Efficacy the same way these traits can influence our affective states. However, a high number of components remain to be examined across these variables.

The goal of the present study was to understand the relationship between the emotional journeys people experience when they take on an uncomfortable task and their Self-reported levels of generalized Self-Efficacy and Locus of Control. In order to test this, participants were asked to answer questions related to their Self-Efficacy and Locus of Control and were then asked to complete a task in a category they had previously reported as challenging. Participants were also asked to report their emotions before, during and after the test. Self-Efficacy and Locus of Control were re-measured after the test. In addition to the hypotheses below, I was interested in examining the general emotional journeys that individuals take before, during and after something challenging and how these journeys vary based on gender.

- *Hypothesis 1: Individuals experiencing positive emotions will have higher levels of Trait Self-Efficacy (vs. lower levels of Trait Self-Efficacy)*

  This hypothesis is grounded in Bandura's (1977) theory of Self-Efficacy, which suggests that individuals with higher trait Self-Efficacy are more likely to perceive challenges as manageable and therefore experience positive emotions when confronted with difficult tasks.
- *Hypothesis 2: Individuals experiencing higher arousal levels will have lower Trait Self-efficacy*

  This hypothesis is derived from the notion that individuals with lower trait Self-Efficacy may perceive challenges as more threatening and therefore experience increased arousal levels (Lazarus & Folkman, 1984).
- *Hypothesis 3: Individuals with higher internal Locus of Control (vs. lower internal Locus of Control) will report experiencing more threat emotions during the completion of challenging tasks.*

  This hypothesis is founded on the premise that individuals with an external Locus of Control may perceive themselves as less able to influence outcomes, leading to feelings of helplessness. (Lefcourt, 1976).

- *Hypothesis 4: Individuals in the timed condition (vs. untimed condition) will exhibit a greater prevalence of threat emotions compared to challenge emotions during the completion of challenging tasks.*

  It is posited that trait Self-Efficacy as a trait will moderate this mediation, with individuals possessing higher Trait Self-Efficacy demonstrating a stronger buffering effect against perceived threat emotions in the timed condition compared to individuals with lower trait Self-Efficacy.

These hypotheses are constructed to guide the investigation into the complex interplay between individual characteristics and emotional responses during challenging circumstances.

While scholars have examined the relationships between these variables and emotions and affect, there is still opportunity to study these in more depth as primary variables adding other moderators and mediators that might affect their relationship. There is also an opportunity examine sequencing of emotions and how this sequencing might relate to Self-Efficacy and Locus of Control.

Chapter 3: Methods

3.1 Participants

Prior to conducting the study, a power analysis was performed to determine the necessary sample size to detect a medium effect (Findley et al., 1983; Sheeran et al., 2016) size. The power analysis was conducted using the G*Power statistical software (Faul, Erdfelder, Lang, & Buchner, 2007). The following parameters were set for each analysis.

For the independent samples t-Task, comparing emotional experiences between timed and untimed Task conditions, the effect size was set at 0.5 (medium). The alpha level was set at .05, and the power at .80. The analysis indicated that: To detect a medium effect size (d = 0.5), a total of 102 participants per group were required.

The study comprised 100 English speaking participants recruited through Prolific Academic (www.prolific.ac), with gender distribution nearly equal: 49 participants identified as male, 48 as female, and 3 preferred not to disclose their gender or identified as 'Other'. Regarding educational attainment, participants exhibited diverse backgrounds. Approximately a quarter (25%) reported having a high school education or less, while the majority held undergraduate degrees (46%). Additionally, a significant proportion possessed master's degrees (23%), and a smaller percentage had attained doctorates (6%).

Participants were evenly distributed between the Timed vs. Untimed conditions, with 51 participants assigned to the Timed condition and 49 to the Untimed condition.

Age distribution varied across age brackets, with the largest proportion falling within the 18 to 25 age range (37%), followed by those aged between 26 and 30 (27%). Furthermore, 19% were aged between 31 and 35, 9% were between 36 and 40 years old, and 8% were 41 years old or older.

The participants' demographic profile encompassed a diverse range of characteristics, providing a comprehensive representation for the study's analyses and interpretations.

3.2 Design

Time-Pressure: Participants were randomly assigned to one of the two time-pressure conditions: Timed vs. Untimed condition. The design was a between-subjects design, with 51 participants assigned to the Timed condition and 49 to the Untimed condition.

For the Timed condition, participants were instructed to complete a set of challenging questions within a 2-minute time limit, whereas in the Untimed condition, participants were given unlimited time to complete the same set of questions (see Appendix D for an example). The questions were simple: participants were asked to form as many words as they could with a list of letters, do a math problem or interpret a piece of art.

3.3 Measurements & Instruments

The following instruments were deployed during the survey.

Trait Self-Efficacy[1]*:* Baseline measures of Trait Self-Efficacy were obtained using the short form of the General Self-Efficacy Scale (GSE-6) developed by Romppel et al. (2013), which has been validated in intercultural non-clinical samples. The Trait Self-Efficacy was measured using items such as "*NO MATTER WHAT COMES MY WAY, I AM USUALLY ABLE TO HANDLE IT*", on a scale of 1-4, where 1 means "not at all true" and 4 means "exactly true". To aggregate the items, the scores were added up and then adjusted to a scale of 10-40 similar to the GSE-10, where higher values mean higher generalized self-efficacy. Cronbach's alpha was computed to assess the internal consistency reliability of the scale measuring Trait Self-Efficacy. The analysis revealed a Cronbach's alpha of .82, indicating a high level of internal consistency among the items in the scale. This suggests that the items in the scale are highly correlated with each other, demonstrating reliability. The mean of Trait Self-Efficacy was 28.63 with a standard deviation of 5.43.

Trait Locus of Control Internal and Trait Locus of Control External: Participants completed baseline measures of Locus of Control using a validated measure with demonstrated psychometric properties: The Internal–External Locus of Control Short Scale–4 (IE-4) (Nießen et al., 2022). An example of an item is "*IF I WORK HARD, I WILL SUCCEED*", ranging from 1 (Does not apply at all) to 5 (Applies completely). The two internal and two external questions were averaged separately resulting in a Trait Locus of Control Internal score and a Trait Locus of Control External score, where higher scores translated into higher levels of both internal and external locus of control. The correlation was computed to assess the internal consistency of the scale measuring Trait Locus of Control Internal. The analysis revealed a correlation of .28 for the

[1] Self-Efficacy measured at the beginning was considered 'Trait Self-Efficacy' since it wasn't manipulated while Self-Efficacy measured at the end was considered 'State Self-Efficacy'since it might get manipulated

Trait Locus of Control Internal, indicating a mild correlation among the items in the scale. The mean of the Trait Locus of Control Internal was 3.49 with a standard deviation of 0.86. The correlation was computed to assess the internal consistency of the scale measuring Trait Locus of Control External. The analysis revealed a correlation of .35 for the Trait Locus of Control External, indicating a mild-medium correlation among the items in the scale. The mean of the Trait Locus of Control External was 2.52 with a standard deviation of 0.88.

Pre-Task Emotional Valence and Arousal: Emotions, their valence (positive vs. negative) and arousal (low vs. neutral vs. high) were measured using the Valence × Arousal Circumplex-Inspired Emotion Questionnaire (CEQ) with the prompt *"HOW DO YOU FEEL ABOUT THE UPCOMING QUIZ?"*. The CEQ consists of 12 emotional categories such as "Energetic, Excited" and "Tense, Bothered" that measure emotional valence and arousal and relate to Russell's circumplex of affect (Appendix A). Participants were asked to pick one primary feeling from the selection of 12 states. The 12 emotional states from the Circumplex-Inspired Emotion Questionnaire (CEQ) were categorized as follows (Table 1). The classification is based on how they sit on the CEQ. Based on the valence and arousal categorization of the CEQ, emotions were categorized as positive, negative, and neutral on valence and as high, low, and neutral on arousal. The results are summarized in Table 2 and 3.

Pre-Task Threat and Challenge: Using the answers from the, the valence x arousal circumplex-inspired emotion questionnaire, participants emotional choices were grouped into challenge vs. threat emotions based on whether they were negative or positive valence emotions on the CEQ. The two neutral valence emotions i.e. 'Passive, Quiet' and 'Active, Alert' were grouped under Threat and Challenge respectively because neutral and low arousal was assumed to be more passive, staying still under threat emotion while neutral and high arousal was assumed to be a challenge emotion. Based on the valence and arousal categorization of the CEQ, emotions were categorized challenge or threat emotions (Table 1). The results are summarized in Table 4.

During-Task Emotional Valence and Arousal: Emotions, their valence (positive vs. negative) and arousal (low vs. neutral vs. high) were measured after the task using the Valence × Arousal Circumplex-Inspired Emotion Questionnaire (CEQ) with the prompt *"WHAT PRIMARY EMOTION DID YOU FEEL DURING THE QUIZ?*". The CEQ consists of 12 emotional categories such as "Energetic, Excited" and "Tense, Bothered" that measure emotional valence

and arousal and relate to Russell's circumplex of affect (Appendix A). Participants were asked to pick one primary feeling from the selection of 12 states. The 12 emotional states from the Circumplex-Inspired Emotion Questionnaire (CEQ) were categorized as follows (Table 1). The classification is based on how they sit on the CEQ. Based on the valence and arousal categorization of the CEQ, emotions were categorized as positive, negative, and neutral on valence and as high, low, and neutral on arousal. The results are summarized in Table 2 and 3.

During-Task Threat and Challenge: Using the answers from the same questionnaire, the valence x arousal circumplex-inspired emotion questionnaire, participants emotional choices were grouped into challenge vs. threat emotions based on whether they were negative or positive valence emotions on the CEQ. The two neutral valence emotions i.e. 'Passive, Quiet' and 'Active, Alert' were grouped under Threat and Challenge respectively because neutral and low arousal was assumed to be more passive, staying still under threat emotion while neutral and high arousal was assumed to be a challenge emotion. Based on the valence and arousal categorization of the CEQ, emotions were categorized challenge or threat emotions (Table 1). The results are summarized in Table 4.

Post-Task Emotional Valence and Arousal: Emotions, their valence (positive vs. negative) and arousal (low vs. neutral vs. high) were measured after the task using the Valence × Arousal Circumplex-Inspired Emotion Questionnaire (CEQ) using the prompt *"WHAT PRIMARY EMOTION ARE YOU FEELING NOW?"*. The CEQ consists of 12 emotional categories such as *"Energetic, Excited"* and *"Tense, Bothered"* that measure emotional valence and arousal and relate to Russell's circumplex of affect (Appendix A). Participants were asked to pick one primary feeling from the selection of 12 states. The 12 emotional states from the Circumplex-Inspired Emotion Questionnaire (CEQ) were categorized as follows (Table 1). The classification is based on how they sit on the CEQ. Based on the valence and arousal categorization of the CEQ, emotions were categorized as positive, negative, and neutral on valence and as high, low, and neutral on arousal. The results are summarized in Table 2 and 3. With regards to Emotional Valence and Arousal women on average experiencing higher arousal and more negative affective states during and after than men.

Post-Task Threat and Challenge: Using the answers from the same questionnaire, the valence x arousal circumplex-inspired emotion questionnaire, participants emotional choices were grouped into challenge vs. threat emotions based on whether they were negative or positive

valence emotions on the CEQ. The two neutral valence emotions i.e. 'Passive, Quiet' and 'Active, Alert' were grouped under Threat and Challenge respectively because neutral and low arousal was assumed to be more passive, staying still under threat emotion while neutral and high arousal was assumed to be a challenge emotion. Based on the valence and arousal categorization of the CEQ, emotions were categorized challenge or threat emotions (Table 1). The results are summarized in Table 4.

State Self-Efficacy: Participants completed a measure of State Self-efficacy using a validated measure with demonstrated psychometric properties: The Single Item Self-efficacy scale (Williams & Smith, 2016). Participants answered the question, "*I AM CONFIDENT IN MY ABILITY TO SOLVE PROBLEMS THAT I MIGHT FACE IN LIFE*", ranging from 1 (Strongly disagree) not apply at all) to 10 (Strongly Agree). The mean of the State Self-Efficacy was 7.3 with a standard deviation of 1.94.

State Locus of Control Internal and State Locus of Control External: Participants completed measures of Locus of Control using a validated measure with demonstrated psychometric properties: The Internal–External Locus of Control Short Scale–4 (IE-4) (Nießen et al., 2022). An example of an item is "*IF I WORK HARD, I WILL SUCCEED*", ranging from 1 (Does not apply at all) to 5 (Applies completely). The two internal and two external questions were averaged separately resulting in a State Locus of Control Internal score and a State Locus of Control External score, where higher scores translated into higher levels of both internal and external locus of control. The correlation was computed to assess the internal consistency of the scale measuring State Locus of Control Internal. The analysis revealed a correlation of .24 for the State Locus of Control Internal, indicating a mild correlation among the items in the scale. The mean of the State Locus of Control Internal was 3.48 with a standard deviation of 0.85. The correlation was computed to assess the internal consistency of the scale measuring State Locus of Control External. The analysis revealed a correlation of .37 for the State Locus of Control External, indicating a mild-medium correlation among the items in the scale. The mean of the State Locus of Control External was 2.57 with a standard deviation of 0.95.

Table 1: Categorization of Emotional Valence & Arousal and Threat and Challenge

	Valence	**Arousal**	**Threat/Challenge**
Dull, Bored	Negative	Low	Threat
Happy, Satisfied	Positive	Neutral	Challenge
Energetic, Excited	Positive	High	Challenge
Secure, At Ease	Positive	Low	Challenge
Passive, Quiet	Neutral	Low	Threat
Enthusiastic, Inspired	Positive	High	Challenge
Active, Alert	Neutral	High	Challenge
Unhappy, Dissatisfied	Negative	Neutral	Threat
Jittery, Nervous	Negative	High	Threat
Relaxed, Calm	Positive	Low	Challenge
Blue, Uninspired	Negative	Low	Threat
Tense, Bothered	Negative	High	Threat

Table 2: Distribution of Pre-Task Valence, During-Task Valence, and Post-Task Valence

	Pre-Task				**During-Task**				**Post-Task**			
	M	F	Other	Total	M	F	Other	Total	M	F	Other	Total
Neutral	13	7	1	21	12	5	0	17	15	12	0	27
Negative	15	22	0	37	18	30	2	50	13	16	3	32
Positive	21	19	2	42	19	13	1	33	21	20	0	41

Table 3: Distribution of Pre-Task Arousal, During-Task Arousal, and Post-Task Arousal

	Pre-Task				**During-Task**				**Post-Task**			
	M	F	Other	Total	M	F	Other	Total	M	F	Other	Total
Neutral	3	5	0	8	5	7	0	12	7	12	1	20
Low	28	16	2	46	22	9	1	32	33	22	1	56
High	18	27	1	46	22	32	2	56	9	14	1	24

Table 4: Distribution of Pre-Task Threat and Challenge, During-Task Threat and Challenge, and Post-Task Threat and Challenge

	Pre-Task				**During-Task**				**Post-Task**			
	M	F	Other	Total	M	F	Other	Total	M	F	Other	Total
Challenge	26	24	2	52	29	16	1	46	27	25	0	52
Threat	23	24	1	48	20	32	2	54	22	23	3	48

3.4 Procedure

The online survey contained questions on State Self-Efficacy, Trait Self-Efficacy and Trait Locus of Control Internal, Trait Locus of Control External, State Locus of Control Internal, State Locus of Control External, task related questions, Pre-Task Emotional Valence and Arousal, During-Task Emotional Valence and Arousal, Post-Task Emotional Valence and Arousal and demographic questions.

Participants were informed about the nature of the study and provided written consent before participation. They were assured of confidentiality and their right to withdraw at any point without penalty. The study was conducted in accordance with the guidelines outlined by the Institutional Review Board.

Attention checks were used in the form of the participant having to type the word 'READY' before proceeding to the challenge.

Upon enrollment, participants self-reported baseline measures of Trait Self-Efficacy and their Trait Locus of Control Internal and Trait Locus of Control External.

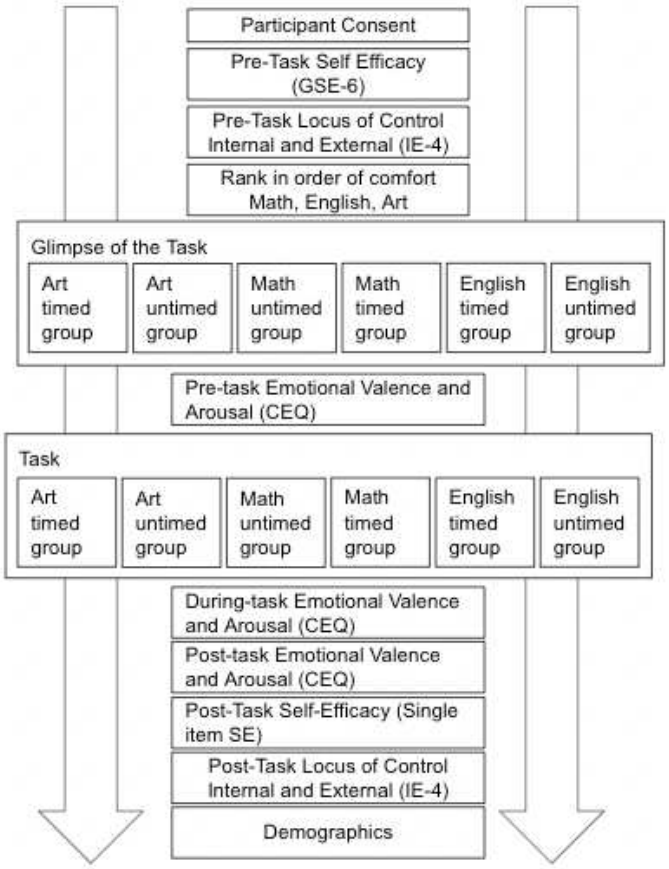
Subsequently, participants were presented with a list of subjects (Mathematics, English, Art) and were asked to rank the subjects from most to least comfortable based on their personal preference. Following this, participants were provided with an example question from the subject

they ranked as least comfortable. They were then asked to report their emotional response i.e. their Pre-Task Emotional Valence and Arousal to the task.

Participants were then randomly assigned to the Timed vs. Untimed conditions. After the experimental manipulation using the assessment, participants were asked to report their During-Task Emotional Valence and Arousal, they were also asked to report their After-Task Emotional Valence and Arousal.

Finally, participants completed State Self-Efficacy and their State Locus of Control Internal and State Locus of Control External. Participants were then asked to report their gender, age, education.

Figure 1: Survey process



Chapter 4: Results

Inferential analyses, including t-test, correlational analysis, chi-square test were conducted to examine differences in emotional responses, Trait Locus of Control Internal and Trait Locus of Control External, and Trait Self-Efficacy between Timed vs. Untimed conditions.

4.1 Correlational analysis

Trait Self-Efficacy and State Self-Efficacy were highly correlated ($r = .79, p < .001$). Trait Self-Efficacy and Trait Locus of Control Internal were also correlated ($r = .43, p < .001$). Trait Self-Efficacy and State Locus of Control Internal were also correlated ($r = .48, p < .001$). Trait Locus of Control Internal and State Locus of Control Internal were also highly correlated ($r = .90, p < .001$). Trait Locus of Control External and State Locus of Control External were also highly correlated ($r= .93, p < .001$).

4.2 Hypothesis Testing

4.2.1 Hypothesis 1: In general, and regardless of the time pressure, people who experience positive emotions more often (Pre-Task Emotional Valence) will have higher Trait Self-Efficacy.

The primary aim of this analysis was to explore the beginning of the emotional journey, before individuals are in the assessment phase. Thus, the main goal was to investigate whether individuals with positive emotions reported higher Trait Self-Efficacy scores through a t-test[2].

As a first step, the emotions were categorized based on the categorization of valence in the CEQ with positive, negative, and neutral emotions. There are 5 positive emotions, 6 negative emotions and 2 neutral emotions according to the CEQ. **Positive emotions**: Happy, Satisfied; Energetic, Excited; Secure, At Ease; Enthusiastic, Inspired; Relaxed, Calm. **Negative emotions**: Dull, Bored; Unhappy, Dissatisfied; Jittery, Nervous; Blue, Uninspired; Tense, Bothered. **Neutral emotions:** Passive, Quiet; Active, Alert. In total, there were 37 participants in the negative group, 42 participants in the positive group and 21 participants in the neutral group.

[2] I categorized people into two different groups, positive and negative emotions, the goal of the analysis was to see if there was a difference in mean Pre-Task Self-Efficacy based on valence experienced vs. testing causality.

An independent samples t-test between the positive and negative groups[3] was conducted to compare the mean Trait Self-Efficacy scores of those experiencing positive vs. negative emotions at the start of the task.

The mean difference between the positive and negative emotions group was statistically significant, $t(71.73) = -2.20$, $p = .031$, $d = -0.5$, indicating a moderate effect size.

Individuals who experienced positive emotions reported higher Trait Self-Efficacy scores ($M = 29.76$, $SD = 4.91$) vs. those experiencing negative emotions ($M = 27.12$, $SD = 5.67$). The mean difference (*Mdiff* = -2.65, *SEdiff* = 1.204, *95% CI* [0.244; 5.05]) suggests that individuals experiencing more positive valence emotions report higher Trait Self-Efficacy than those experiencing more negative valence emotions.

The results for Trait Self-Efficacy did not vary significantly based on valence experienced during the task. 50 participants experienced negative emotions, 33 experienced positive emotions and 17 experienced neutral emotions during the task.

The mean difference between the positive and negative emotions groups during the task on Trait Self-Efficacy was not statistically significant, $t(76.26) = -0.992$, $p = .324$, $d = -0.215$. Individuals who experienced positive emotions reported slightly higher Pre-Task Self-Efficacy scores ($M = 29.24$, $SD = 4.90$) vs. those experiencing negative emotions ($M = 28.07$, $SD = 5.83$). However, the mean difference (*Mdiff* = -1.18, *SEdiff* = 1.19, *95% CI* [1.19; 3.54]) suggests that individuals with more positive emotions during the task do not have statistically significant higher Trait Self-Efficacy scores.

The results for Trait Self-Efficacy did not vary significantly based on valence experienced post the task. 32 participants experienced negative emotions, 41 experienced positive emotions and 27 experienced neutral emotions during the task.

The mean difference between the positive and negative emotions groups after the task was not statistically significant, $t(63.72) = 0.327$, $p = .745$, $d = 0.078$. Individuals who experienced positive emotions reported lower Trait Self-Efficacy scores ($M = 28.58$, $SD = 5.34$) vs. those experiencing negative emotions ($M = 29.01$, $SD = 5.83$). The mean difference (*Mdiff* = 0.43, *SEdiff* = 1.33, *95% CI* [2.28; 3.08]) suggests that individuals with more positive emotions after the task do not have statistically significant higher Trait Self-Efficacy scores.

[3] Focusing solely on positive and negative valence allows for a more sensitive analysis, as it hones in on the extremes of emotional experience while neutral valence might introduce noise into the analysis.

4.2.2 Hypothesis 2: People with higher arousal emotions will have lower Pre-Task Self-Efficacy

The main objective of this analysis was to examine the relationship between Trait Self-Efficacy and Pre-Task Emotional Arousal, During-Task Emotional Arousal, Post-Task Emotional Arousal levels. An independent sample t-test was conducted to compare the mean Trait Self-Efficacy scores between those with high and low arousal[4]. We failed to reject the null hypothesis.

The results for Trait Self-Efficacy before the task did not vary significantly based on Pre-Task Emotional Arousal experienced. 46 participants experienced high Pre-Task Emotional Arousal, 46 experienced low Pre-Task Emotional Arousal and 8 experienced neutral Pre-Task Emotional Arousal before the task. Although individuals who experienced high Pre-Task Emotional Arousal reported higher Trait Self-Efficacy scores ($M = 28.88$, $SD = 6.07$) than those experiencing low Pre-Task Emotional Arousal ($M = 28.26$, $SD = 4.99$), the mean difference was not statistically significant ($t(86.79) = -0.532$, $p = .596$, $d = -0.111$, $Mdiff = -0.62$, $SEdiff = 1.16$, *95% CI* [1.69; 2.92]).

The results for Trait Self-Efficacy during the task did not vary significantly based on During-Task Emotional Arousal experienced. 56 participants experienced high During-Task Emotional Arousal, 32 experienced low During-Task Emotional Arousal and 12 experienced neutral During-Task Emotional Arousal during the task. The mean difference between the high and low During-Task Emotional Arousal group during the task was not statically significant, $t(77.88) = -0.521$, $p = .604$, $d = 0.108$. Individuals who experienced high During-Task Emotional Arousal reported lower Trait Self-Efficacy scores ($M = 28.96$, $SD = 5.73$) vs. those experiencing high During-Task Emotional Arousal ($M = 29.53$, $SD = 4.47$). The mean difference ($Mdiff = 0.57$ $SEdiff = 1.10$, *95% CI* [1.62; 2.76]) suggests that individuals with higher During-Task Emotional Arousal emotions during the task do not have statistically significant higher Trait Self-Efficacy scores.

The results for Trait Self-Efficacy after the task did not vary significantly based on Post-Task Emotional Arousal experienced. 24 participants experienced high Post-Task Emotional Arousal, 56 experienced low Post-Task Emotional Arousal and 20 experienced neutral Post-Task Emotional Arousal after the Task.

[4] Focusing solely on high and low arousal allows for a more sensitive analysis, as it hones in on the extremes of emotional experience while neutral arousal might introduce noise into the analysis.

The mean difference between the high and low Post-Task Emotional Arousal group post task was not statically significant, $t(38.26) = -1.411$, $p = .166$, $d = -.366$. Individuals who experienced high Post-Task Emotional Arousal reported higher Trait Self-Efficacy scores ($M = 30.21$, $SD = 5.95$) vs. those experiencing low Post-Task Emotional Arousal ($M = 28.25$, $SD = 5.11$). The mean difference was (*Mdiff* = -1.96, *SEdiff* = 1.39, *95% CI* [0.85; 4.78]) suggesting that individuals with higher Post-Task Emotional Arousal emotions after the task do not have statistically significant higher Trait Self-Efficacy scores.

The analysis did not find evidence of a significant relationship between Trait Self-Efficacy and Pre-Task Emotional Arousal, During-Task Emotional Arousal, Post-Task Emotional Arousal levels. Effect sizes indicate a small-to-medium effect, but the results were not statistically significant. Therefore, it appears that arousal levels are not associated with varying levels of Trait Self-Efficacy.

4.2.3 Hypothesis 3: People with lower Trait Locus of Control Internal (vs. higher Trait Locus of Control External) will feel more threat emotions.

We failed to reject the null hypothesis. This logistic regression analysis aimed to explore if an individual's Trait Locus of Control Internal affected individuals' perceptions of task conditions as measured by Pre-Task Threat and Challenge. The results indicate Trait Locus of Control Internal did not significantly predict perceptions of task conditions ($b = 0.281$, $SE = 0.239$, $Wald = 1.375$, $p = .241$, $Exp(B) = 1.324$, 95% CI [0.828, 2.117]). Furthermore, the overall classification table showed a 58.0% accuracy in Pre-Task Threat and Challenge perceptions based on the entered predictors. The contingency table for the Hosmer and Lemeshow test displayed observed and expected frequencies for each group, with a non-significant chi-square value ($\chi^2(5) = 7.634$, $p = .178$), indicating an adequate fit of the model. However, the omnibus test of model coefficients did not reveal significant results (Step 1: $\chi^2(1) = 1.401$, $p = .237$). These findings suggest that Trait Locus of Control Internal, may not be a strong predictor of how individuals perceive task conditions as threats or challenges as measured by Pre-Task Threat and Challenge.

This logistic regression analysis also aimed to explore if an individual's Trait Locus of Control External affected individuals' perceptions of task conditions as threats or challenges as measured by Pre-Task Threat and Challenge. The findings reveal that Trait Locus of Control

External did not significantly predict perceptions of task conditions as threats or challenges as measured by Pre-Task Threat and Challenge (B = -.252, SE = .232, $Wald$ = 1.180, p = .277, $Exp(B)$ = 0.777, 95% CI [.493, 1.225]). The classification accuracy for predicting threat or challenge perceptions based on the predictors was 56.0%. The Hosmer and Lemeshow test, which assesses the model fit, showed a chi-square value of 2.366 with 5 degrees of freedom (p = .797), indicating a good fit between the predicted and observed classifications. However, the Omnibus Task of Model Coefficients, which evaluate the overall significance of the predictors, yielded a chi-square of 1.199 with 1 degree of freedom (p = .274), suggesting that the model, with Trait Locus of Control External as a predictor, does not significantly enhance the prediction of task condition perceptions as measured by Pre-Task Threat and Challenge over chance levels.

4.2.4 Hypothesis 4: People in the Timed (vs. Untimed) condition will feel more threat emotions than challenge emotions moderated by Trait Self-Efficacy.

In this study, I evaluated participants' emotional journey before, during and after a task as measured by Pre-Task Threat and Challenge, During-Task Threat and Challenge, and Post-Task Threat and Challenge.

Pre-Task Threat and Challenge were measured after showing participants an example of the question they were likely to get during the task. During-Task Threat and Challenge and Post-Task Threat and Challenge were both evaluated after the participant had completed the Task. 64 participants stayed consistent in their perception of their emotions (either as threat or challenge) across all three time points (Pre, During, and Post). A total of 82 participants remained consistent in their perception of the activity as either a threat or a challenge from the pre-activity stage to the during-activity stage. This indicates a substantial level of stability in emotional states between these two stages for the majority of participants. 12 participants transitioned from challenge to threat emotions from pre to during and 6 transitioned from threat to challenge emotions. Of those who transitioned from challenge to threat, 8 or 2/3rds were in the Untimed condition. Given the remarkable consistency in emotional journeys, I restricted the analysis to the relationship between the Pre-Task Threat and Challenge, Timed vs. Untimed condition and Trait Self-Efficacy and did not consider During-Task Threat and Challenge and Post-Task Threat and Challenge.

A Chi-square test was initially used across the two categorical variables; Pre-Task Threat and Challenge and the condition i.e. Timed vs. Untimed, but the relation was not statistically significant (χ^2 (1) = 1.942, p = .164).

In order to explore the moderating effect of Trait Self-Efficacy on the relationship between task condition (Timed vs. Untimed) and Pre-Task Threat and Challenge, I employed a multiple regression and assessed how variations in Trait Self-Efficacy influences individuals' interpretations of task conditions. The initial classification table revealed a baseline accuracy of 52.0%, with a default prediction favoring the challenge perception over threats. However, after introducing the predictors, the model significantly improved in distinguishing between threat and challenge perceptions ($\chi^2(2) = 7.835$, p = .020), with a moderate fit indicated by the Hosmer and Lemeshow test ($\chi^2(7) = 5.762$, p = .568).

The analysis demonstrated that Trait Self-Efficacy significantly predicts the perception of situations as threats or challenges (B = 0.960, SE = 0.414, Wald = 5.368, p = .021, Exp(B) = 2.612, 95% CI [1.159, 5.882]), suggesting that individuals with higher Trait Self-Efficacy are 2.16 times more likely to perceive situations as challenges. In contrast, the task condition (Timed vs. Untimed) did not significantly influence perceptions (B = -0.482, SE = 0.417, Wald = 1.335, p = .248, Exp(B) = .618, 95% CI [.273, 1.398]).

Chapter 5: Discussion

The goal of this dissertation was to test the relationship between Self-Efficacy, Locus of Control, and the emotional experiences of individuals taking on uncomfortable tasks.

The results indicate that there is a relationship between Self-Efficacy as a trait as measured by Trait Self Efficacy and the Pre-Task Emotional Valence experienced by someone taking on an uncomfortable task. In the first hypothesis, we were seeking to find a difference between groups, those who experienced negative emotions vs. those who experienced positive emotions. Individuals who felt more positive emotions before the test tended to have higher Trait Self-Efficacy indicating that people with higher Trait Self-Efficacy are more likely to approach an uncomfortable situation with more positivity or that those who are more positive in approaching uncomfortable tasks also have higher Trait Self-Efficacy.

For the second hypothesis on the relationship between Emotional Arousal and Trait Self-Efficacy, the null hypothesis was found to be valid in the case of Pre-Task Emotional Arousal.

Hypothesis 3 was also disproven, people with lower Trait Locus of Control Internal (vs. higher Trait Locus of Control External) did not feel more threat emotions as measured by Pre-Task Threat and Challenge, During-Task Threat and Challenge, and Post-Task Threat and Challenge.

Finally, in Hypothesis 4, participants in the Timed condition vs. Untimed condition were expected to experience more threat emotions than challenge emotions as measured by Pre-Task Threat and Challenge, moderated by Trait Self-Efficacy. While the Timed vs. Untimed condition did not directly impact whether a situation was perceived as a threat or a challenge, Trait Self-Efficacy levels significantly predicted emotions, with higher Trait Self-Efficacy associated with a challenge-oriented interpretation. This underscores the importance of Trait Self-Efficacy in psychological responses to stress and suggests potential pathways for enhancing resilience through Trait Self-Efficacy enhancement interventions (Cassidy, 2015; Sagone et al., 2020; Wu et al. 2021). The cognitive pressure based on the situation being timed did not have an effect, this might be because the amount of time, two minutes, was sufficient for the task to be completed in the timed condition. On average, the participants finished the Timed Math task in 76.6 seconds and those in the Timed Art task finished in 77 seconds vs. the 120 seconds that were available to them. Given participants were recruited on a platform where they are paid for every minute of

their time, it is in their interest to complete a task as quickly as possible so perhaps both groups had implicit time pressure acting upon them and thus there were no differences to evaluate.

In addition, participants' emotional journeys in interpreting the situation as a challenge or threat remained surprisingly stable suggesting a degree of emotional resilience or rigidity. 82% of participants did not change their interpretation from challenge to threat before and during the Task and 64% remained consistent before, during and after. Finally, men and women experienced different journeys with women on average experiencing higher arousal and more negative affective states during and after than men.

These findings suggest that Pre-Task Emotional Valence is associated with variations in Trait Self-Efficacy levels and that Trait Self-Efficacy does predict individual's Pre-Task Threat and Challenge interpretations.

These results highlight the complex interplay between Self-Efficacy, Locus of Control, and emotional experiences during challenging tasks, shedding light on the differential effects of individual characteristics on emotional responses.

5.1 Limitations

This study is not without limitations. An overreliance on self-reported data introduces several forms of bias, including social desirability bias and recall bias. In addition, because the task was conducted online for a paid sum of money, participants would have an incentive to complete the task faster and less effectively.

The results demonstrate that people who experience positive emotional states have higher Self-Efficacy, however, it was not possible to test the causal relationship between these two variables. The analysis used to test this difference was based on differential psychology, or people who naturally can belong to different groups (e.g., some people will see the glass half full, and some people will see the glass half empty). The main goal here was not to test causality, but to identify patterns of emotions and trait self-efficacy. Further studies should investigate the presence or absence of this relation as being causal.

Self-reporting emotional states assumes an awareness and understanding of one's emotional state, individuals may have different levels of emotional intelligence. Since the task are being conducted online, other circumstances outside of the task such as home environments might also influence their emotional states during the task. Future studies might incorporate

more objective measures of emotional and psychological states, such as physiological assessments or third-party observations.

While the sample was demographically diverse, the generalizability of the findings may be limited by the specific context of the study—participants recruited via an online platform, which may not accurately represent broader workplace populations, we might go so far as to say those actively trying to make money on a platform like Prolific might be self-selecting in terms of life situations and psychological traits. The cross-sectional design restricts our understanding of the temporal dynamics between Self-Efficacy and emotional responses. Longitudinal designs would provide a more robust framework for understanding how these relationships develop over time. Discomfort in doing a task might be subjective, some individuals might be equally good at all three subjects they were asked to rank. In addition, the simplicity of questions posed to participants might be too simplistic and too easy to solve using access to the internet. The study's design, focusing on Timed vs. Untimed tasks, may not fully capture the complexity and variety of real-world work tasks and environments. Future research should consider a broader array of task types and contextual settings to enhance external validity.

5.2 Organizational implications:

Understanding that Self-Efficacy can significantly impact emotional responses to uncomfortable tasks, management should consider developing training programs that focus on building self-confidence, Self-Efficacy, and task-specific skills. Programs that simulate stressful conditions in a controlled manner could help employees build resilience and prepare for real-world challenges. The findings suggest that customized support systems could be beneficial, especially for demographic groups that may experience higher levels of stress or anxiety such as women. Support systems could include mentorship programs, peer support groups, or access to counseling services.

Managers could use insights from this research to better understand how Self-Efficacy influences performance. Recognizing employees who may have lower Self-Efficacy and providing them with targeted support could prevent underperformance and improve overall job satisfaction.

The link between Self-Efficacy and emotional stability suggests that assessments of Self-Efficacy could be useful in recruitment and selection processes, especially for roles that involve high stress or require strong emotional regulation.

Training for managers and leaders should include components on fostering Self-Efficacy among team members, as well as strategies for recognizing and mitigating the impact of task-related stress on employees.

At a policy level, organizations could develop guidelines that promote practices to enhance Self-Efficacy in the workplace, such as recognizing achievements, providing clear and attainable goals, and ensuring that tasks are matched to employees' skill levels to prevent feelings of overwhelm and stress.

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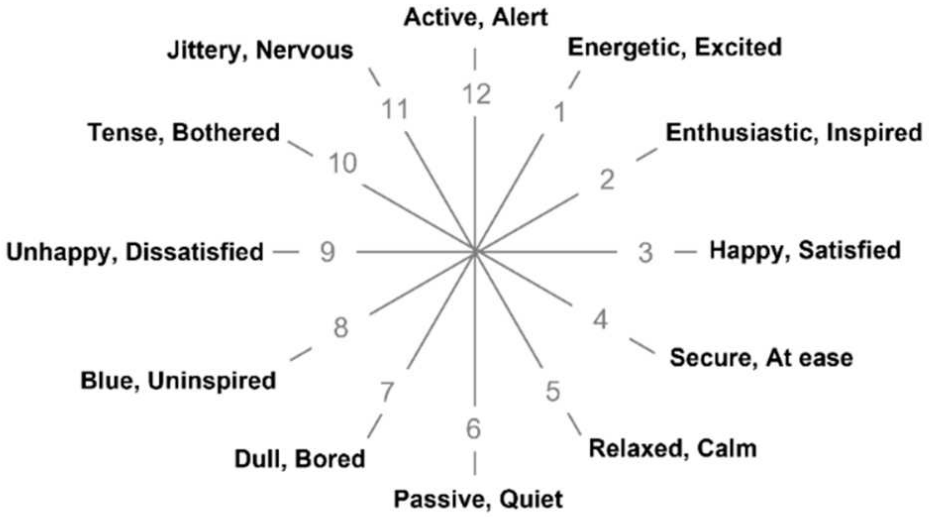
Appendices

Appendix A: Valence × Arousal Circumplex-Inspired Emotion Questionnaire (CEQ)



(B) List layout variant of the CEQ

Active, Alert	Energetic, Excited	Enthusiastic, Inspired
Happy, Satisfied	Secure, At ease	Relaxed, Calm
Passive, Quiet	Dull, Bored	Blue, Uninspired
Unhappy, Dissatisfied	Tense, Bothered	Jittery, Nervous

Appendix B: Generalized Self-Efficacy 6 used to measure Trait Self-Efficacy

Please read each statement carefully and respond based on your view of yourself.

	Not at all true (1)	Hardly true (2)	Moderately true (3)	Exactly true (4)
If someone opposes me, I can find means and ways to get what I want (1)	○	○	○	○
It is easy for me to stick to my aims and accomplish my goals (2)	○	○	○	○
I am confident that I could deal efficiently with unexpected events (3)	○	○	○	○
Thanks to my resourcefulness, I know how to handle unforeseen situations (4)	○	○	○	○
I can remain calm when facing difficulties because I can rely on my coping abilities (5)	○	○	○	○
No matter what comes my way, I am usually able to handle it (6)	○	○	○	○

Appendix C: IE-4 Locus of Control

The following statements may apply more or less to you. To what extent do you think each statement applies to you personally?

	Does not apply at all (1)	Applies a bit (2)	Applies somewhat (3)	Applies mostly (4)	Applies completely (5)
I'm my own boss (1)	○	○	○	○	○
If I work hard, I will succeed (2)	○	○	○	○	○
Whether at work or in my private life: What I do is mainly determined by others (3)	○	○	○	○	○
Fate often gets in the way of my plans (4)	○	○	○	○	○

Appendix D: Task questions for Math, English, and Art

MATH_timed If 30% of Y equals 45% of 120, what is the value of Y? Remember, no calculator allowed! You have 2 minutes.

_____

Math_no_time If 30% of Y equals 45% of 120, what is the value of Y? Remember, no calculator allowed!

_____

ENG You have two minutes to create as many 4-8 letter words as you can with the letter E, A, C, M, P, R, O, S.
The letter S has to be in every word you make.

_____

ENG_notime Create as many 4-8 letter words as you can with the letter E, A, C, M, P, R, O, S. The letter S has to be in every word you make.

_____

Art_no_time What is the key message behind this piece of art according to you?

_____

ART_TIMED What is the key message behind this piece of art according to you? You have 2 minutes to share your thoughts.

_____

Appendix E: Single item Self-Efficacy used to measure State Self-Efficacy

To what extent do you agree or disagree with this statement: **I am confident in my ability to solve problems I face in life.** *For example: I can usually handle what comes my way, if I try hard enough I can overcome difficult problems, I can stick to my aims and accomplish my goals.*

	1 Strongly Disagree (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 Strongly Agree (10)
(1)	○	○	○	○	○	○	○	○	○	○

Appendix 6: Emotional categorization

	Valence	**Arousal**	**Threat/Challenge**
Dull, Bored	Negative	Low	Threat
Happy, Satisfied	Positive	Neutral	Challenge
Energetic, Excited	Positive	High	Challenge
Secure, At Ease	Positive	Low	Challenge
Passive, Quiet	Neutral	Low	Threat
Enthusiastic, Inspired	Positive	High	Challenge
Active, Alert	Neutral	High	Challenge
Unhappy, Dissatisfied	Negative	Neutral	Threat
Jittery, Nervous	Negative	High	Threat
Relaxed, Calm	Positive	Low	Challenge
Blue, Uninspired	Negative	Low	Threat
Tense, Bothered	Negative	High	Threat