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**The Relationship between Social Anxiety and Leadership
Emergence: A Resource Perspective**

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The Relationship between Social Anxiety and Leadership Emergence:
A Resource Perspective

by

Katherine Naomi Rau

A thesis submitted to the College of Psychology and Liberal Arts at
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We the undersigned committee hereby approve the attached thesis, "The Relationship between Social Anxiety and Leadership Emergence: A Resource Perspective," by Katherine Naomi Rau.

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Abstract

The Relationship between Social Anxiety and Leadership Emergence: A Resource Perspective

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Despite its certain prevalence, mental illness has remained largely unstudied in the field of Industrial-Organizational Psychology. The research at hand addresses a widening gap in the literature: what does mental illness mean for leadership, particularly leadership emergence? In attempting to answer this question, I examined the experience of social anxiety as it is the most commonly diagnosed anxiety disorder and has particular relevance to the workplace. By utilizing a resource perspective, I found that controlling for personality, social anxiety did significantly predict emotional exhaustion in terms of both frequency and intensity. Emotional exhaustion and professional self-efficacy significantly predicted leadership emergence but were not found to act as parallel mediators in the relationship between social anxiety and leadership emergence when controlling for personality. Additionally, psychological safety was not found to significantly moderate the relationship between social anxiety and leadership emergence after

controlling for personality. Familiarity was found to mitigate the negative effects of social anxiety on professional self-efficacy but only mitigated the negative effects of social anxiety on emotional exhaustion for those with low levels of social anxiety. Future research is needed to further explore the sequential ordering of the burnout facets and investigate what other interventions may reduce the emotional exhaustion experienced by socially anxious individuals.

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Introduction

A World Health Report published in 2001 estimated that one in four people will be stricken with a mental or neurological disorder at some point in their lives but that only about one-third of those affected will seek help due to stigma, discrimination, or neglect (World Health Organization, 2001). The report alleges that roughly 450 million people suffer from such disorders worldwide and these disorders are the leading cause of illness and disability globally. In this press release, the World Health Organization declares that governments must take on the issue of mental health and better equip their citizens with access to affordable resources and preventative measures where possible. As an IO psychologist, I believe there is also a role organizations may be able to play in bettering the lives of millions.

With an estimated 25% life-time prevalence rate (WHO, 2001), it is a shock that mental illness receives as little consideration by IO psychologists as it currently does. Research linking physical, psychological, and behavioral health with work performance demonstrates that health (in all forms) has serious implications for organizations (e.g., Ford, Cerasoli, Higgins, & Decesara, 2011). After meta-analytically examining 111 independent samples, Ford and colleagues (2011) determined that psychological health (i.e., psychological well-being, depression, general anxiety, and life satisfaction) actually mattered the most to both contextual and task performance, representing a moderate-to-strong correlation. These findings should come as no surprise, given that plenty of research has investigated the negative cognitive, attitudinal, and emotional effects of phenomena associated with psychological health, such as how affective states affect self-efficacy (Michell, Hopper, Daniels, George-Falvy, & James, 1994), how poor psychological well-being may bias memory towards negative events (Blaney, 1986), and how attentional resources are squandered when individuals focus on appraising situations, ruminating, and attempting to self-regulate (Beal et al., 2005).

Despite research empirically indicating the serious ramifications of mental well-being at work, organizations are still suffering the effects of employee illness. For instance, a former large national bank reported that 24% of health-related costs are attributable to medical and pharmaceutical expenses and 63% of these health-related expenditures are thought to be due to impaired performance (Hemp, 2004), suggesting that organizations still have yet to successfully grapple with and best address the issue of employee psychological well-being.

A wonderfully informative work by Kessler and Greenberg (2002) offers insight into the resource allocation rules (e.g., cost effectiveness) needed in order to determine what health services can be and eventually are made available to individuals. The authors argue that the prior effort made by the World Health Organization to assess costs of illness did not take into consideration the comorbidity of various illnesses, misjudged the prevalence, and relied upon subjectively biased information to evaluate the effect of illness on functioning. Kessler and Greenberg (2002) maintain that these three flaws lead to a major underestimation of the cost of anxiety and stress disorders. Considering the prevalence, cohort effects, age at onset, chronicity, adverse effects on distal outcomes, impact on current position performance, comorbidity with other psychiatric disorders as well as physical illness, the treatment of mental health itself, and the misuse of general medical services, Kessler and Greenberg (2002) conclude that prior annual estimates of \$47 billion and \$53 billion for anxiety and depression disorders, respectively, are conservative. These numbers are alarming given that anxiety and stress disorders are the most commonly occurring mental illnesses (Andrade et al., 2013).

Given the prevalence and hugely detrimental effects of mental illness to both organizations and individuals, the research at hand aims to begin filling the literature gap. This research is concerned with the experience of social anxiety at work, as it is the most commonly diagnosed type of anxiety (Stein & Stein, 2008) and possibly one of the more salient diagnoses to the workplace. This research adds to the discourse surrounding the effects of mental health in the workplace in several ways. First, this study adds to the literature by studying social anxiety and its relationship with a different workplace outcome: leadership emergence. Leadership emergence is an especially valuable outcome to study given the predominance of self-managed teams (SMTs) in the workplace. Research has shown that SMTs, or autonomous and self-directed work groups (Moorhead, Neck & West, 1998), are becoming more predominant in the workplace (Lawler, Mohrman, & Ledford,

1995), likely due to the fact that SMTs are beneficial to both individuals (e.g., personal well-being, achievement motivations, job satisfaction; Cordery, Mueller, & Smith, 1991; Kirkman & Rosen, 1991) and organizations (e.g., team and organizational performance, absenteeism, productivity; Cohen & Ledford, 1994; Kirkman & Rosen, 1999). Within SMTs, a formal leader may (or may not) exist outside of the immediate team, which leaves the opportunity for team members to emerge as a leader within the group (Tagger, Hackew, & Saha, 1999). Not all individuals emerge as leaders, nor should they. However, plenty of individuals who emerge as leaders are not effective leaders [e.g., meta-analytic results demonstrate a strong link between conscientiousness and leadership emergence but there is considerable variability in the relationship between conscientiousness and leadership effectiveness (Judge et al., 2002), which suggests that conscientious individuals may often emerge as leaders but fail to be effective in all situations; (Bono, Shen & Yoon, 2014, p. 202)]. It is possible that the inverse of this is true: those who do not emerge as leaders would make effective leaders. While the hypothesized relationships between social anxiety and leadership effectiveness is beyond the scope of this thesis, it is quite possible that socially anxious individuals may make effective leaders because of, or in spite, of their anxiety. For example, a leader with lower levels of efficacy may be more strongly motivated to adequately prepare and gather the appropriate information prior to performance compared to a leader with higher levels of efficacy (Bandura & Locke, 2003). Additionally, some frameworks of social anxiety (e.g., the self-presentation model and cognitive-behavioral model) would suggest that as socially anxious individual searches for feedback on their own performance, these astute observations of those around them may make socially anxious individuals more aware of their subordinate's thoughts and feelings. In turn, this may allow for a richer and more productive relationship between a leader and his or her subordinates. Social anxiety has also not been found to be related to general cognitive ability or other important individual difference predictors of success. It is quite plausible that socially anxious individuals have a lot more to offer organizations than the number of things holding them back. In fact, great leaders such as Abraham Lincoln were documented as experiencing lifetime battles with severe anxiety and depression (Siegel, 2005). Especially in the age of SLTs, leadership emergence is important to organizations not only on a grand scale but also in taking initiative within teams, contributing new ideas, and influencing the team if an individual is highly experienced or skilled

in a particular area. Thus, it is critical to understand what variables may influence leader emergence for socially anxious individuals.

Second, prior investigative works centering on mental illness tend to either focus on very proximal outcomes, failing to link these to practical outcomes or solutions for organizations, or over-generalize by linking these ailments to overall performance. Conversely, this study proposes to examine both more proximal outcomes, such as emotional exhaustion and professional self-efficacy, and the more tangible outcome of leader emergence. Third, this research hopes to identify paramount variables that may buffer the negative effects of social anxiety on workplace outcomes in order to initiate practical and implementable interventions, such as familiarity and psychological safety within the team. This research also contributes to the literature by focusing on an individual's perceptions of important variables, such as psychological safety, in predicting outcomes such as leadership emergence. While there is certainly value in capturing accurate, objective measurements of constructs, research involving mental illness may benefit more from accounting for individual perceptions of work climate. Fourth, this research attempts to use a resource theory to explain how social anxiety affects leadership. In doing so, the burnout triad is studied in a context that is not dependent upon the type of work an individual is engaged in, but rather the individual differences that may act as antecedents of the burnout triad.

Literature Review

Leadership

One of the most studied, and in many ways still yet to be understood, areas of research in social science research is leadership (Avolio, Sosik, Jung & Berson, 2003; Bass, 1990; Bennis, 2007). Leadership is studied by several different disciplines, as the phenomenon of leadership happens across a vast number of situations, thereby making leadership a widely relevant construct. In Industrial-Organizational psychology especially, leadership is of particular interest given its salient outcomes for organizations. In fact, the outcomes associated with leadership may warrant leadership the title of being the “single most important issue in social sciences” (Hogan & Kaiser, 2005).

There is no one best way in which to define leadership (Bass, 1997; Chemers, 1997). However, the various definitions postulated over the past century do give an idea of how researchers and followers alike perceive leadership. Firstly, leadership is historically and inherently a collective phenomenon that ensures group survival and success (Avolio et al., 2003). By its nature, it involves persuasion but not domination and can only occur if individuals are willing to forego, at least temporarily, their individual goals in favor of the group goals (Hogan, Curphy & Hogan, 1994). Hogan and Kaiser (2005) define successful leadership as “the ability to build and maintain a group that performs well relative to its competition,” (p. 172). Ultimately, the various conceptualizations of leadership may be why we have yet to completely understand the phenomenon. Hogan and Kaiser (2005) further explain that the academic literature surrounding leadership lacks context, capping its usefulness. They argue this is a result of researchers largely ignoring personality (in the face of its relationships with leadership criteria) and the tendency to define leadership inconsequentially (i.e., simply defining leadership as management).

Despite the imperfections of how leadership has been defined in the past, several important outcomes have been associated with the phenomenon. Hogan and Keiser (2005) argue that leadership is essential to understand largely because of its close relationship with organizational effectiveness in addition to the well-being of followers. For example, leader dispositions have been found to explain

organizational outcomes, despite situational constraints (e.g., organizational procedures) that may overpower a leader's idiosyncratic tendencies (Carpenter, Geletkanycz, & Sanders, 2004; Lieberman & O'Connor, 1982). However, in order to better understand the important variables surrounding leadership, we must distinguish between the two most often studied aspects of leadership: emergence and effectiveness (Carter, DeChurch, Braun & Contractor, 2015). Leadership emergence refers to the "degree an individual is viewed as a leader by others, who typically have limited information about that individual's performance," (Judge, Bono, Ilies & Gerhardt, 2002, p. 767). Conversely, effectiveness refers to the performance of an individual in a leadership role in influencing and guiding a group towards success (Stogdill, 1950). Leader emergence can be considered a within-group phenomenon while effectiveness is a between-group phenomenon (Judge et al., 2002). The current research is focused on leader emergence within groups.

Leadership emergence

Leadership emergence is studied by identifying the variables associated with an individual being perceived by others as a leader (Hogan et al., 1994). Leadership emergence has been studied through various approaches (e.g., the role of personality, of style, and situation) Bass & Bass, 2008; Avolio et al., 2003). Regardless of the approach, understanding emergence is extremely important for organizations as they make selection and developmental decisions, knowing that the ways in which these emergent leaders perform (or underperform) will have serious consequences for the organization. The following literature review is by no means an exhaustive debrief of the various approaches to leader emergence, but rather a concise summary of the most popular approaches.

The study of emergent leaders was born with a rather simple idea: heroic men shaped the world because they were destined to do so, otherwise known as the "great man" hypothesis. Judge and colleagues (2002) explain that it was this line of thinking that largely spurred the trait theory of leadership. In terms of emergence, this theory, which has been studied for over 100 years (Judge et al., 2002), has proven to be one of the most prevalent approaches to the study of leadership. It surmises that personality differences determine whether or not an individual will become a leader. The trait approach often utilizes the Big 5 personality traits to study emergence but has, in recent years, moved to include other, broader, traits beyond that of agreeableness, extraversion, openness to experience,

conscientiousness, and neuroticism. Recently, traits such as core-self evaluations, proactive personality, hardiness, and integrity have also shown to be highly associated with leadership emergence (Bono, Shen & Yoon, 2014).

While the trait approach to leadership has exhibited mixed results throughout its tenure, meta-analytic results (e.g., Judge, Bono, Ilies & Gerhardt, 2002) have renewed support for this approach. In examining the relationship between the Big 5 personality dimensions and leadership criteria (i.e., leadership emergence and leadership effectiveness) using 222 correlations from 73 samples, Judge and colleagues' (2002) meta-analytic results demonstrated a multiple correlation of .48 between the five personality dimensions and leadership. These findings demonstrate considerable support for the leader trait perspective that employs the Big 5 trait framework.

Judge and colleague's (2002) meta-analytic work determined the strongest personality dimension of the Big 5 associated with leadership emergence and effectiveness was extraversion, which boasted a correlation of .31. Openness to experience and conscientiousness were also strongly correlated to leadership with a correlation of .24 and .28, respectively. The personality dimension of agreeableness had a much weaker relationship ($r = .08$) with leadership. Lastly, with a correlation of $-.24$, they found neuroticism to be negatively related to leadership emergence and effectiveness.

Extraversion is the tendency for an individual to behave in ways that place him or herself at the center of attention (i.e., seeking status and acting dominant, assertive, outgoing, and talkative; Ashton, Lee & Paunonen, 2002). Extraverts also tend to be more dominant than others in social settings (Friedman & Schustack, 2016). In addition to being the strongest correlate of leadership (Judge et al., 2002), extraversion is positively related to being perceived as a leader by others (Hogan, Curphy & Hogan, 1994). Furthermore, a 6-year long longitudinal study that utilized both self- and spousal ratings of personality found that extraversion was strongly related to social leadership (Costa & McCrae, 1988). Additionally, extraversion was also found to be strongly related to leader emergence in groups (Watson & Clark, 1997), and meta-analytic results support extraversion (as well as authoritarian personality) as notably predicative of leader emergence in leaderless groups (Ensari, Riggio, Christain & Carslaw, 2011). Ultimately, Judge and colleagues' (2002) meta-analysis found that extraversion was the most consistent correlate of leadership, regardless of study settings (i.e., military/government, business, and student samples) and leadership criteria (i.e., leadership emergence

vs. effectiveness) and Bono, Shen and Yoon (2014) even go as far as to say, “if there is a single leadership trait, [extraversion] would be it,” (p. 201).

Conscientiousness is the tendency to be well-organized and dependable and is correlated with integrity, planning for the future, and persistence in reaching future goals. Conscientious individuals are seen as honest, are achievement-oriented, and are guided by rules, laws, and principles (Bono, Shen & Yoon, 2014). While the relationship between conscientiousness and leadership effectiveness is still largely up for debate, existing research involving Big 5 traits and leadership emergence suggests that conscientious individuals often emerge as leaders (Judge et al., 2002; Bono, Shen & Yoon, 2014).

Openness to experience is often described as the tendency to be imaginative, nonconforming, unconventional, independent and is correlated with divergent thinking (McCrae, 1987). Individuals high in this trait tend to be more skilled in analytic and problem-solving elements of leadership and cope better with change (Judge, Thoresen, Pucik & Welbourne, 1999), which may explain their likelihood to emerge as leaders (Bono, Shen & Yoon, 2014). Openness to experience may also be termed intellect or imagination in other works (e.g., Donnellan, Oswald, Baird, & Lucas, 2006).

Neuroticism is the only personality trait of the broad Big 5 personality framework to negatively relate to leadership emergence (Judge et al., 2002). It is often conceptualized as the likelihood to exhibit poor emotional adjustment and experience negative affect (e.g., anxiety, insecurity, and hostility; Judge et al., 2002). The link between neuroticism and leadership emergence is often studied through the positive linkages between emergence and indicators of low neuroticism, such as self-confidence and self-esteem (Judge et al., 2002). Hogan and colleagues (1994) have found that neurotic individuals are also less likely to be perceived as leaders, which makes sense given that ‘confident’ is often used to describe leaders (Bono, Shen & Yoon, 2014). While Judge and colleagues’ (2002) meta-analysis demonstrated a significant negative relationship between neuroticism and leadership emergence ($\rho = -.24$), the researchers found that neuroticism’s relationship with leader emergence had an 80% credibility interval that included zero, suggesting this relationship is not without exception.

A discussion of the trait approach to leadership emergence would be remiss without addressing its condemnations and competing theories. Throughout history, the trait approach has received criticism for yielding inconsistent results between personality traits and leadership criteria. However, Judge and colleagues (2002)

maintain that these inconsistent findings were likely attributable to the lack of framework in which personality was organized, prior to the popularization of the Big 5. As noted earlier, the high multiple correlation ($r = .48$) found by Judge and colleagues between personality and leadership criteria suggests there is merit to using the Big 5 to predict leadership criteria across settings. While countless traits have been associated with leadership emergence, the Big 5 is still a promising starting point when beginning to predict personality's effect on leadership (Judge et al., 2002; Bono et al., 2014).

Despite the resurgence of the trait approach to leadership, largely due to a cohesive framework exhibiting consistent relationships, criticisms of the long-standing approach paved the way for more dimensional lenses in which to study the interactions of situations and personhood on leadership. Stogdill (1950), quite possibly the most outspoken critic of the trait approach, argued that traits (or a combination of them) alone would not determine leadership. Rather, he argued that leadership emergence was, at least in part, due to contextual factors and behaviors exhibited by individuals. Such ideas led to the creation of the situational approach to leadership, or the idea that different situations require different styles of leadership (Hersey & Blanchard, 1969). Situational approaches move away from predicting exact traits that are unequivocally relevant and instead focus on the fit between what a situation calls for and what an individual can offer in response. Another approach that arose in response to the trait theory was the behavioral approach to leadership, demonstrating that specific behaviors, such as listening closely, were predictive of leadership emergence (Johnson & Bechler, 1998).

Emergent leader theory also provides interesting insight into the hypothesized procedure a leaderless group engages in when deciding upon a leader. Geier (1967) formed this theory when he found that across participant groups, members emerged through competition and elimination processes, where exhibiting a lack of knowledge, high levels of rigidity as well as being non-participatory led to a lack of emergence for an individual. Additionally, being perceived as quiet, inflexible, unintelligent, or possessing the inappropriate leadership style also prevented members from emerging as leaders. These findings are informative to the field, as they highlight just how important the perceptions, rather than the actual attributes, of an individual by others dictates their role (or lack thereof) within the group.

While an abundance of trait, behavioral, situational, and interactional variables have been studied in regards to their ability to predict leader emergence,

we are far from finished in our work. Recently, Forbes shined a spotlight on employers who have begun to consider their workforce's mental health more seriously by encouraging employees to take mental health days, offering counseling services onsite, and even investing in technological tools to aid diagnosis and access to affordable care (Zimmerman, 2017). Other organizations have begun considering physical design in their approach to addressing mental health concerns (Argawal, 2018). Practitioner outlets, such as the HR Technologist, have also begun discussing the impact of holistic wellness programs, including mental health treatment, on employee engagement (Serbinis, 2018). These conversations likely mirror the public and media conversations regarding mental health, most of which are unfortunately, only instigated by national tragedies or high-profile suicides. In recent months, mental health has been a frequent topic in the news media, from ways to better monitor one's mental health (Nutt, 2018) to the overwhelming and increased demand placed on cities for mental health services (AP, 2018). Mental health has become a central focus of school lessons for some states (Spector, 2018) and experts are urging prisons and jails to better serve their population (Kuhlman, 2018). Specifically, with the conversation around mental health ramping up for both organizations and society as a whole, we do not yet have a firm grasp on what these niche variables mean for important organizational and developmental outcomes such as leadership. Just as multiple disciplines have crossed their own borders to better understand leadership, it is time for IO to broaden its horizons once again to begin to understand how mental illness affects individuals working within organizations.

Social Anxiety

To begin the discussion of social anxiety, its roots, and implications, it is first important to understand the definition of "anxiety" in and of itself. Lesse (1970) has defined anxiety as:

A cognitive and affective response characterized by apprehension about an impending, potentially negative outcome that one thinks one is unable to avert. The source of the apprehension may be conscious or nonconscious, and the impending threat real or imagined. (as quoted in Schlenker & Leary, 1982)

This definition may confuse some with the experience of what we commonly refer to as stress, conversely defined by the New Oxford American Dictionary as "a state

of mental or emotional strain or tension resulting from adverse or very demanding circumstances” (McKean, 2005). However, the two concepts, while similar, are conceptually distinct. The Anxiety and Depression Association of America (ADAA) differentiates the two by saying that stress is a response to stimuli, while anxiety is a reaction to the stress itself (2018). Furthermore, David Spiegel sums up the difference in laymen terms by comparing the known source of stress to the possible inability of an individual to pinpoint the root cause of their anxiety. Conversely, he says, the reaction of anxiety becomes the problem (Holmes, 2017).

Anxiety manifests itself within individuals in several forms. The research at hand, however, is focused predominantly on social anxiety, which has also been termed social phobia in earlier literature. Social anxiety in its mildest, non-clinical form is often regarded as shyness and the occurrence alone is not considered pathological; however, if concern about one’s shyness or the occurrence of such an experience impairs function, “a diagnosis of social anxiety disorder (SAD) is probable” (Stein & Stein, 2008; p. 1117). If shyness is on one end of the spectrum, generalized social anxiety disorder is at the absolute other end. Generalized social anxiety disorder involves fear and avoidance of a large range of circumstances, such as speaking to others in small groups, socializing at parties, and speaking to authority figures (Kessler, Stein & Berglund, 1998) and is regarded as the most disabling form of the disorder. Generalized social anxiety is extremely pervasive; clinical psychologists believe it accounts for roughly half of community cases and almost all of the individuals seeking treatment for SAD (Kessler et al., 1998; Katzelnick et al., 2001). However, as with most psychological illness, social anxiety exists in a scalar fashion, with the experience of social anxiety alone not necessarily lending itself to a diagnosis. Nonetheless, the more frequently one experiences such anxiety or the greater extent to which they experience these symptoms, the more likely it is to bleed into other aspects of one’s life and thus, hamper daily functioning.

Given the various levels of social anxiety that may be experienced, it is extremely important to note that the particular research at hand is not purposed or intended to diagnose clinical social anxiety. Rather, I am interested in exploring the understudied relationships that exist between the experience of social anxiety at any level and important organizational and developmental outcomes, specifically leader emergence. However, given the definition of social anxiety and parameters in which it and other relevant forms of anxiety have been studied in both the clinical and IO literatures, a discussion of social anxiety in a clinical form is warranted.

Additionally, important to note is that this research is proposed to be conducted on a general population of students and working adults as opposed to a patient sample, and therefore these individuals are not likely to exhibit extreme levels of social anxiety. The choice of sample is essential to not only mirror the working population but to validate the relationships between the existence of social anxiety within individuals and other variables, as the experience of social anxiety should exhibit a normal distribution and should provide an insightful look into how varying levels of the phenomenon affect related variables.

As such, the brief discussion of clinical social anxiety (SAD) will further explain the symptoms and experience of social anxiety, bearing in mind that these symptoms and experiences described at the clinical level reflect diagnosable individuals. Individuals, however, may experience any range of these symptoms, meaning they may be extremely affected, not at all affected, or somewhere in between. Thus, this discussion is not meant to designate the intended sample or even the exact experience that will be studied, but rather further illuminate the experiences and the established nomological network.

To more specifically outline how social anxiety manifests itself within individuals, the diagnostic criteria for social anxiety disorder as outlined by the fifth and most recent Diagnostic and Statistical Manual of Mental Disorders (DSM-V), include the following:

A. Marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others. Examples include social interactions (e.g., having a conversation, meeting unfamiliar people), being observed (e.g., eating or drinking), and performing in front of others (e.g., giving a speech). B. The individual fears that he or she will act in a way or show anxiety symptoms that will be negatively evaluated (i.e., will be humiliating or embarrassing; will lead to rejection or offend others). C. The social situations almost always provoke fear or anxiety. D. The social situations are avoided or endured with intense fear or anxiety. E. The fear or anxiety is out of proportion to the actual threat posed by the social situation and to the sociocultural context. F. The fear, anxiety, or avoidance is persistent. G. The fear, anxiety or avoidance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning. (American Psychiatric Association, 2013, p. 202-3)

Additionally, a clinical diagnosis requires that the anxiety, fear, or avoidance is not attributable to medications or illegal substances and are not better explained by

another disorder (American Psychiatric Association, 2013). The diagnostic criteria clearly demonstrate the ways in which social anxiety would present a challenge to individuals in the workplace, especially those who work within teams and contribute to collaborative tasks. Instances of meeting new individuals (e.g., new teammates, sales clients), conversating with others (e.g., colleagues, a discussion with one's boss), performing in front of others (e.g., giving a presentation to the team or others) are likely to evoke feelings of social anxiety within individuals.

Departing from the strictly clinical discussion of social anxiety disorder, general psychology literature has been interested in the experience of anxiety and its various presentations for quite some time. Research in the 1960s and early 1970s aimed to determine whether or not social anxiety was conceptually and empirically distinct from other 'types' of anxieties being explored at the time (e.g., dating anxiety, heterosexual-social anxiety, stage-fright, speech anxiety) and if the phenomenon being labeled social anxiety unequivocally involved the common property of being evoked by interactions with or the existence of others (Schlenker & Leary, 1982). Empirical work demonstrated support for both of these points (e.g., Endler, Hunt, & Rosenstein, 1962; Landy & Gaupp, 1971; Lawlis, 1971; Miller, Barrett, Hampe, & Noble, 1972; Strahan, 1974; Bates, 1971; Bernstein & Allen, 1969; Braun & Reynolds, 1969). Early factor analyses, however, differed in the number of factors found as part of the social anxiety construct (Schlenker & Leary, 1982). One-factor findings included feelings of nervousness when put in social settings, such as introductions to new people, job interviews, being in a room full of strangers, or giving a speech (Strahan, 1974). Findings that discerned two-factors involved similar social aspects along with concerns of scrutiny and social failures, which Schlenker and Leary (1982) interpreted as a distinction between "being in an evaluative situation where one's behavior is especially scrutinized by others (and might be found lacking) and being in a situation where one's behavior already has been judged as inadequate by others" (p. 642). Social anxiety is thus conceptually distinct from state-based anxiety, because it is closely linked to social situations and the evaluation an individual anticipates. All in all, evidence demonstrates that social anxiety is an empirically and conceptually discernable classification of anxiety.

Prevalent frameworks of social anxiety

There are multiple popular, general approaches that researchers have taken to understand and explain social anxiety through the years: the skills deficit model,

the cognitive self-evaluation model, a classical conditioning model, the personality approach, the self-presentation model, and cognitive-behavioral model (Leary, 1982; Schlenker & Leary, 1982). The skills, cognitive, conditioning, and personality approaches represent earlier schools of thought while the self-presentation and cognitive-behavioral models reflect more integrated approaches. However, each approach has its merits and contributes to our modern knowledge of social anxiety. Thus, each approach will be briefly detailed.

The skills deficit model postulates that anxiety experienced in social situations is caused by a lack of social skills (Curran, 1977; Bellack & Hersen, 1979). This lack of skills translates to unsuccessful social interactions, leading individuals to feel anxious in response to the situation as well as similar, future events. Unsurprisingly, in accordance with this approach, many have suggested social skills training to decrease the experienced anxiety and improve social interactions. Social skills training, however, has exhibited mixed results: some studies have evidenced a decrease in social anxiety following receiving such training (e.g., Bander, Steinke, Allen, & Moshner, 1975; Bellack & Hersen, 1979; Curran, 1977; Curran, Gilbert & Little, 1976; Twentyman & McFall, 1975). To the contrary, Bandura (1969) and Clark and Arkowitz (1975) have found that learning and exhibiting skills alone is not enough to always reduce anxiety.

Such findings show some support for the cognitive self-evaluation model of social anxiety (Rehm & Marston, 1968), which says that social anxiety has less to do with actual skills (or the shortage of them), but an individual's perceptions of their own incompetence. Empirical findings have supported this approach by evidencing that socially anxious individuals suffer from various negative self-evaluations (e.g., rate themselves poorly, underestimate their own social skills, and misinterpret social interactions with others as negative; Cacioppo, Glass & Merluzzi, 1979; Clark & Arkowitz, 1975; Gilkison, 1943; Glass, Merluzzi, Biever, & Larsen, 1982; Smith & Sarason, 1975) when compared to their non-anxious counterparts. Additionally, treatments designed to reduce such negative self-evaluations have been shown to be effective in reducing social anxiety (Clark & Arkowitz, 1975; Kanter & Goldfried, 1979; Meichenbaum, Gilmore, & Fedoravicius, 1971; Rehm & Marston, 1968; Sherman, Mulac, & McCann, 1974).

Classical conditioning, the third approach to social anxiety, attempts to explain social anxiety in a less conscious manner. This approach states that social anxiety is a conditioned response following neutral stimuli that resulted in negative social outcomes (Wolpe, 1973). Systematic desensitization, a type of therapy used

to treat phobias, obsessions, compulsions, and anxieties (Wolpe, Brady, Serber, Argas, & Liberman (1973), has been found to be an effective course of action in reducing social anxiety, lending support to this approach (Bander et al., 1975; Fishman & Nawas, 1973; Kondas, 1967; Mitchell & Orr, 1974; Schlenker & Leary, 1982).

The fourth approach is the personality trait approach, which garnered the attention and support of many researchers (Schlenker & Leary, 1982). This approach focuses on the differences between individuals in affect, cognition, and behaviors associated with social anxiety and has found some evidence to suggest social anxiety is akin to a major trait (Cattell, 1973; Crozier, 1979; Layman, 1940). However, it is important to note that while this approach focuses on individual traits, it does not assume that social anxiety is equivalent to trait anxiety since social anxiety is evaluative-based with specific origins (i.e., social situations). Additionally, while social anxiety has been correlated with neuroticism (Norton, Cox, Hewitt, & McLeod, 1997), anxiety is only one of the six underlying facets of neuroticism (McCrae & Costa, 1987) and neuroticism is not specific to social cues. Thus, despite the relationship, equivocating social anxiety with neuroticism is remiss and loses important aspects of both constructs.

The self-presentation model of social anxiety is likely one of the most followed approaches to social anxiety today, with its original work by Schlenker and Leary (1982) being cited over 1,600 times. In this approach, social anxiety is experienced when individuals expect to receive negative evaluations by those they view as influential, despite being motivated to make favorable impressions. This model posits that, while individuals desire to make these positive impressions, socially anxious individuals doubt they will do so. Thus, the self-presentation approach makes two important assumptions: that socially anxious individuals are concerned with the opinion of others and that these individuals do not have the confidence that they will succeed in soliciting positive opinions of themselves from others. Schlenker and Leary (1982) suggested that the antecedents to social anxiety are the motivation to impress others (and that social anxiety will increase as motivation increases), the “strength of others” (e.g., power, esteemed, attractive, etc.; p. 647) as it will determine the weighting of the subjective evaluation they dole out, the importance of the interaction or event, how central to one’s identity the interaction or event is, and how inwardly focused or self-attended one is. Furthermore, personality traits such as the high need for social approval (Crowne & Marlowe, 1964), high fear of negative evaluation (Watson & Friend, 1969), and

other-directedness (or the tendency to act and think according to external norms rather than one's own values; Hogan & Cheek, 1983) may also contribute to the anxiety one experiences.

Finally, the cognitive-behavioral model focuses on the ways in which individuals perceive and process stimuli that is perceived as relevant to the possible evaluation of themselves (Rapee & Heimberg, 1997, p. 741). This model of social anxiety was developed to be applicable to any individual when he or she encounters a social situation and becomes anxious, meaning it applies to the general population but is still meant to differentiate between those low and high in trait social anxiety. The cognitive-behavioral model begins with an individual perceiving an audience, and thus, an evaluation to be made about themselves. Once an audience is perceived, an individual then carefully allocates cognitive-attentional resources, of which individuals utilize to observe any cues of negative evaluation and to self-appraise based on perceptions of the audience's opinions. The self-appraisal is then compared with a perceived audience's prototype, or rather, what is believed to be the audience's standard, which leads to a process of determining probabilities of receiving a negative evaluation. Ultimately, this process results in physical, cognitive, and behavioral manifestations, which drive perceived internal cues and create a cycle of social anxiety (Rapee & Heimberg, 1997, p. 743). While this approach was the most comprehensive for its time, some empirical works have shown that social anxiety may operate via emotional mechanisms more so than cognitive ones (e.g., Eysenck & Calvo, 1992; Wine, 1980; McCarthy, Hrabluik & Jelley, 2009; McCarthy, Trougakos & Cheng, 2016, etc.).

Social anxiety and personality

Social anxiety has been briefly studied in terms of its relationships with personality traits. However, this is not to be misconstrued as the personality trait approach to studying social anxiety; this specific stream of research merely aims to find the correlations between the existence of different subtypes of social anxiety and the five-factor model of personality.

Both logic and empirical evidence indicate that an individual is not likely to be both extraverted and socially anxious. In accordance with this, a strong negative relationship has been found between extraversion and a clinical diagnosis of social anxiety. Norton, Cox, Hewitt and McLeod's (1997) work found a correlation of -.47 between generalized social anxiety and extraversion. Norton and colleagues (1997) also assessed the relationship between circumscribed social anxiety (or non-

generalized social anxiety that may be caused by one or two discrete situations such as public speaking), generalized social anxiety and extraversion. While circumscribed social anxiety involves feeling anxious as a response to anxiety-inducing situations for non-clinically diagnosed individuals, they found that circumscribed anxiety was still strongly negatively related to extraversion ($r = -.40$). This suggests that individuals who experience social anxiety on non-clinical levels (i.e., experience social anxiety but are not affected enough to be considered clinically socially anxious) still likely exhibit low levels of extraversion.

Conscientiousness and generalized social anxiety at the clinical level has been found to be negatively related ($r = -.31$), mirroring the relationship between conscientiousness and circumscribed social anxiety ($r = -.31$; Norton et al., 1997). Perhaps the explanation for this negative relationship lies in the self-presentation model of social anxiety, where Schlenker & Leary (1982) argue that all individuals feel motivated to convey specific, preferred impressions of themselves to others in order to receive favorable subjective evaluations. In this model, they postulate that the doubt and fear of failing to impress others and thus receiving negative subjective evaluations is what causes feelings of anxiousness within individuals. It is possible that due to their lower levels of comfortability in social situations, a socially anxious individual's motivation and subsequent behaviors to convey a preferred impression may be interpreted by others as ingenuine and dishonest. Conversely, non-socially anxious individuals may be able to interact and portray favorable impressions more naturally.

Negative relationships between openness to experience and circumscribed social anxiety ($r = -.22$) and openness and generalized social anxiety ($r = -.20$) have been found (Norton et al., 1997). These findings make sense: in fearing scrutiny, embarrassment, rejection, or negative subjective evaluation from others, individuals experiencing social anxiety inherently will not engage in nonconforming and autonomous behaviors for fear of disapproval from others.

Based on its definition, it should come as no surprise that generalized social anxiety is highly, positively correlated to neuroticism ($r = .58$ Norton et al., 1997). Circumscribed social anxiety is also positively related to neuroticism, but less so ($r = .44$), which makes sense given this type of anxiety is more situation-specific and therefore is likely not a stable occurrence in an affected person's day to day life (Norton et al., 1997).

Finally, a moderately strong relationship has also been found between generalized social anxiety and agreeableness ($r = -.30$). A slightly less strong

relationship has also been found between circumscribed social anxiety and agreeableness ($r = -.23$). While less theorizing has been done regarding these particular relationships, it is possible that socially anxious individuals tend to be less agreeable as a learned response to their own anxieties. In this sense, individuals may become less interested in or trusting of others as they experience social situations and experience anxiety.

Known associated outcomes

Various conceptualizations and subtypes of anxiety have been studied in the field of general psychology and have been able to ascertain an understanding of what (non-work specific) outcome variables are associated with its occurrence. While not all subtypes and conceptualizations of anxiety are relevant or applicable to the experience of social anxiety, findings associated with anxiety that are likely to be replicated by the examination of social anxiety in the workplace are discussed. In addition, work-specific outcomes associated with related anxiety constructs are also discussed.

State anxiety has been related to making unethical decisions (Kouchaki & Desi, 2015) while trait anxiety has been linked to lower levels of behavioral control (Derryberry, Reed, & Pilkenton-Taylor (2003). In a study comparing a non-patient sample, 'pure' social anxiety, comorbid social anxiety, and subthreshold social anxiety, it was found that social anxiety specifically demonstrated significantly lower levels of quality of life (Wittchen, Fuetsch, Sonntag, Müller Liebowitz, 2000). Specifically, both those experiencing diagnosable levels of social anxiety and those whose social anxiety levels classified them as 'subthreshold' scored significantly lower on general health, role limitations due to emotional problems, social functioning, general mental health, and vitality (Wittchen et al., 2000, p. 6-7). Wittchen and colleagues (2000) also found that social phobics also exhibited increased levels of alcohol consumption, which was theorized to be a coping mechanism. Lastly, the researchers also found that social phobics included in the study experienced higher levels of unemployment rates.

Meta-analytic results have shown general anxiety to be strongly, negatively correlated with job performance (Ford, Cerasoli, Higgins & Decasare, 2011). A study carried out by researchers at Harvard Medical School found significant relationships between various anxiety disorders (including social phobia) and work cutback, or missing part of the day or performing work tasks less efficiently than usual. On average, various disorders affected 1.1 days to 4.9 days a month but no

significant relationships were found between these disorders and missing full days of work (Kessler & Frank, 1997). This suggests that while these disorders may not reduce the overall time spent at work, they do reduce the quality of performance (Kessler & Greenberg, 2002). Wittchen and colleagues' (2000) work resulted in similar findings: pure and comorbid social phobics exhibited significantly reduced work productivity in terms of days missed and impairment in work performance. Further supporting these findings, Kessler, Mickelson, Barber and Wang (2001) found that anxiety disorders, specifically generalized anxiety disorder and panic disorder, were among the top five chronic disorders (e.g., thyroid disease, tuberculosis, varicose veins) to be correlated with the highest average levels of work impairment days in the month prior. By calculating the financial cost using salary equivalent magnitudes, Greenberg and colleagues (1999) estimated that after partialing out the effects of comorbid physical and mental disorders anxiety disorders, the missed work and lost productivity attributed to anxiety is approximately \$4.1 billion per year.

Additionally, while social anxiety has been virtually absent from IO and adjacent literature, other closely related forms of anxiety have been studied in workplace settings, such as workplace anxiety. Due to the conceptual similarities and the settings in which this anxiety is triggered, it is worth discussing the outcomes associated with workplace anxiety. Workplace anxiety is a domain specific construct and refers to nervousness and apprehension regarding the achievement of job tasks (Eysenck et al., 2007; Muschalla & Linden, 2012; & Zeidner & Matthews, 2005). Similar to social anxiety, it is thought to have both individual difference and workplace components (Ganster & Schaubroeck, 1991; Motowidlo, Packard, & Manning, 1986; Spielberger, 1972). However, workplace anxiety is subsumed under the larger umbrella of performance anxiety (McCarthy, Trougakos, & Cheng, 2016), where social anxiety is not. Empirical evidence suggests workplace anxiety may lead to higher levels of job dissatisfaction and negatively impact organizational effectiveness (Boyd, Lewin & Sager, 2009), economic prosperity (Forsyth, Kelly, Fusé & Karekla, 2004), and job performance (McCarthy, et al., 2016).

The common and relatable human experience of feeling “butterflies in one’s stomach” has given fuel to critic arguments in the past, saying that social anxiety pathologizes typical personality variation (Wakefield, Horwitz, & Schmitz, 2005). Such criticisms may explain why the study of social anxiety was largely nonexistent in the clinical realm until roughly 20 years ago (Stein, 1996). While

this line of thinking is a valid consideration, these censures often use shyness in children as central backbones for their arguments (Stein & Stein, 2008). However, evidence suggests that the shy children who eventually grow up into shy adolescents and adults are, firstly, a small minority of children who experienced shyness, and secondly, also have risk factors predisposing them to such a diagnosis (e.g., family history of SAD; Cooper & Eke, 1999). It's also important to note that experiencing shyness in childhood is not considered a risk factor in a SAD diagnosis. Roughly half of the adults diagnosed with SAD actually did not report having experienced excessive shyness as a child (Cox, MacPherson, & Enns, 2005), meaning experiencing shyness is not synonymous nor a requisite precursor to SAD (Stein & Stein, 2008). These criticisms of the clinical diagnosis do, however, further bolster the argument that social anxiety is, on some level, a normal, fluctuating, human experience. Additionally, research has demonstrated the negative outcomes associated with social anxiety and related phenomenon. Therefore, while the study of workplace outcomes related to social anxiety is relevant and important in the mental health domain, this research is also beneficial to the general working population as well.

Psychological Safety

In discussing the proposed relationships between the experience of social anxiety and leader emergence in groups, psychological safety and familiarity are necessary topics of conversation given the nature of social anxiety. While familiarity simply refers to how acquainted individuals are on an interpersonal or professional level, psychological safety warrants further definition. The construct of psychological safety was originally developed by Schein and Bennis (1965) but has been popularized in recent decades. Originally, the construct was seen as a necessary part of eliciting organizational change (Edmonson & Lei, 2014). In a recent literature review, Edmonson and Lei (2014, p. 23) defined psychological safety as “people’s perceptions of the consequences of taking interpersonal risks in a particular context such as a workplace.”

Psychological safety is a versatile construct, as it has been researched at individual, organizational, and team levels. At the individual level, psychological safety is usually researched as an antecedent to various types of work engagement, such as voice behaviors (Miceli & Near, 1992), knowledge sharing (Siemsen, Roth Balasubramanian & Anand, 2009) feelings of vitality, creative work produced, and

employee proactivity (Gong, Cheung, Wang & Huang, 2012). Meta-analytic results suggest that at the individual level, psychological safety is highly correlated with engagement, task performance, information sharing, learning behaviors, citizenship behaviors, voice, and satisfaction (Frazier, Fainschmidt, Klinger, Pezeshkan, & Vracheva, 2017). At the organizational level, psychological safety has been linked to organizational performance (Collins & Smith, 2006) and organizational learning (Carmeli, Brueller, & Dutton, 2009). Examination of group level psychological safety began in the 1990s but has produced a large portion of the research surrounding the construct (Edmondson & Lei, 2014). At the group level, psychological safety has been studied as an antecedent (e.g., resulting in team performance; Huang, Chu & Jiang, 2008), as a mediator (e.g., between boundaries and performance; Faraj & Yan, 2009), as an outcome (e.g., through various antecedents such as personality; Edmondson & Mogelof, 2005); and as a moderator (e.g., between goal clarity and performance outcomes; Burke, Stagl, Salas, Pierce & Kendall, 2006).

Psychological safety is closely conceptually tied with psychological empowerment, work engagement, and trust. However, psychological empowerment and work engagement refer to cognitive evaluations regarding one's position or tasks (Spreitzer, 1995). In contrast, psychological safety is a broader perception of the environment as a whole and particularly, how individuals in that environment will respond to actions and behaviors involving risk-taking (Carmeli & Gittel, 2009). Trust and psychological safety, however, are two sides of the same coin. While trust is the willingness to be vulnerable to the actions of others (Mayer, Davis, & Schoorman, 1995), psychological safety is concerned with the perception of whether or not others will be willing to accept them when taking risks (Edmondson, 2017; Frazier et al., 2017).

Perceptions of psychological safety

As mentioned, psychological safety can be conceptualized at, and aggregated to, the group level and has important implications for group level outcomes. Given that the current research is concerned with how psychological safety may affect individual leader emergence within groups, it may seem appropriate to use group level analyses of psychological safety. However, since the research aims to understand how individuals who experience mental illness perceive group work and then determine what behaviors to enact, I argue that individual perceptions of psychological safety are of greater consequence than

averaged group levels of psychological safety. While assessing group level psychological safety may provide an accurate picture of group dynamics, individuals, especially those who suffer from mental illness, will act based upon their own impressions of a situation. Thus, the relationship between social anxiety and leader emergence will be better informed by an individual's perceptions of the group's psychological safety than by actual measurements of the group's psychological safety.

Conservation of Resources Theory

The Conservation of Resources (COR) theory was first introduced by Hobfoll in 1989. Resources are defined as “objects (e.g., a house, car), conditions (e.g., job security, good marriage), personal characteristics (e.g., social aplomb, mastery), or energies (e.g., money, knowledge, favors owed) that are valued by the individual or that serve as a means of obtaining that which is valued by the individual,” (Hobfoll, Freedy, Lane & Gellar, 1990, p. 466). The first principle of COR theory states that individuals are active participants in trying to obtain and prevent the loss of resources; thereby, individuals are motivated to enhance and protect their resources. However, individuals are only able to preserve and protect such resources through the use of other resources (e.g., using wealth to obtain health), which is the second principle of COR theory. Thirdly, COR theory states that the investment of resources to gain others or prevent loss comes at the expense of such resources, meaning that when used, some resources will be expended (e.g., money, favors) or placed at risk (e.g., a sense of optimism or specific self-efficacy). Lastly, the status of resource loss – both objective and appraised – are important, as appraisal is often made based on actual experience. Hobfoll and colleagues greatly emphasize this final principle for its explanatory nature, saying “there are individual differences in responding to stress but these reflect actual differences in resource availability and environmental circumstances,” (Hobfoll et al., 1990, p. 467).

Burnout

The flip side to resources is stress. According to COR theory, three different scenarios will result in stress: when the threat of a net loss of resources exists, when resources are actually lost, and when a prior expenditure of resources to gain other resources does not result in an equivalent amount of resources (Hobfoll et al.,

1990). The burnout process refers to the continued experience of low resources coupled with high demands, which ultimately leads to an erosion of other resources such as energy, identification, and perceived efficacy (Hobfoll & Shirom, 1993).

Burnout is conceptualized as having three facets, the first of which is exhaustion (Maslach, Schaufeli, & Leiter, 2001). Exhaustion represents the stress dimension of burnout and involves feelings of overextension and being depleted of one's emotional and physical resources. Cynicism, or depersonalization, is the second facet of burnout and represents the interpersonal effect of stress. Cynical or depersonalized individuals are "negative, callous, or excessively detached to various aspects" of their job (Maslach et al., 2001, p. 399). The final facet of burnout is reduced efficacy or personal accomplishment, which represents the self-evaluation dimension of burnout. Individuals who have a reduced sense of efficacy will feel incompetent and lacking in both achievements and productivity (Maslach et al., 2001). Inefficacy is the least understood of the three facets. It is thought, at times, to be a function of either emotional exhaustion, cynicism, or both (Byrne, 1994, Lee & Ashforth, 1996). Maslach and colleagues (2001) explains that a scenario riddled with consistent, overwhelming demands that contribute to exhaustion (or depersonalization) will take a toll on one's sense of effectiveness, further clarifying that it is "difficult to gain a sense of accomplishment when feeling exhausted" (p. 403). Additionally, Maslach and colleagues (2001) explain that feelings of ineffectiveness seem to arise from a lack of resources, rather than the presence of more direct demands (e.g., overload or conflict).

There is plenty of theoretical support for the three facets of burnout occurring in sequential order (e.g., Hobfoll, 1989; Hobfoll et al., 1990; Maslach et al., 2001; Hobfoll & Shirom, 1993; Hobfoll & Freedy, 1993; Alarcon, 2011) but less empirical support. Taris and colleagues (2005b) reviewed prior works that had investigated burnout and determined that there has been no substantial support to determine a causal ordering of the three facets. The researchers went on to conduct their own longitudinal study and found evidence to support the sequential ordering of the three, as emotional exhaustion was associated with higher levels of depersonalization over time. They found these high levels of depersonalization were also associated with higher levels of emotional exhaustion over time as well as reduced personal accomplishment (Taris et al., 2005b). However, the authors note that the size of the lagged effects were not large enough to assume this causal order without doubt; therefore, more research into the chronological nature of burnout is warranted.

Prolonged worked demands “consistently deplete resources at a faster rate than resources can be replenished,” (Freedy & Hobfoll, 1994, p. 312), meaning organizational demands and resources have understandably demonstrated an important role in the development of burnout (Maslach et al., 2001). For bullied employees, COR and burnout theories provided better insight into the individual responses to such a stressor. Researchers found that weekly emotional exhaustion partially mediated the negative effects of weekly workplace bullying on both optimism and self-efficacy (Tuckey & Neall, 2014). These findings supported the concept of the resource loss process: where the exposure to a demand (i.e., workplace bullying) eroded job and personal resources (i.e., optimism and self-efficacy) by depleting energy (i.e., emotional exhaustion). Similarly, McCarthy, Trougakos and Cheng (2016) used COR and burnout theories to explain how workplace anxiety affects performance. They argued that experiencing workplace anxiety was a long-term drain on resources and thus likely to cause burnout. They found that emotional exhaustion mediated the effect of workplace anxiety on performance above and beyond cognitive interference, which is an important discovery in light of theoretical and empirical evidence that anxiety worked through cognitive interference to harm performance (e.g., Eysenck & Calvo, 1992; Wine, 1980; McCarthy et al., 2009, etc.).

Social support

In discussing COR and burnout theories, important boundary conditions must also be explored. In COR theory, social support is conceptualized as a personal resource (Hobfoll, 1989) and defined as “social interactions or relationships that provide individuals with actual assistance or with a feeling of attachment to a person or group that is perceived as caring or loving,” (Hobfoll & Stokes, 1988, p. 499). Such social resources help mitigate the negative effect of demands. Social support resource theory (Hobfoll et al., 1990) was derived from COR theory to explain in greater detail the effects of such an important resource. Social support not only provides individuals with a sense of identity but also widens the availability of outside resources, serving both self-defining and instrumental functions (Hobfoll et al., 1990). Given these functions, social support theory postulates that individuals strive to preserve relationships to both meet their needs to maintain or acquire resources or alternatively, to protect their own identity (Hobfoll et al., 1990). In COR and social support theory, social support provides individuals, who otherwise have access to finite resources, the means to acquire

infinite resources to help counterbalance the demands of the environment, ultimately making social support a supremely valuable resource in the face of demands.

Hypothesis Development

The primary hypothesis in the current research is that socially anxious individuals will be less likely to emerge as leaders within work team contexts. Being a member of a group or team inherently involves social interaction. For those who experience social anxiety, the social interactions required by membership will likely be viewed as a source of stress and anxiety, given that socially anxious individuals experience fear and anxiety in social situations where scrutiny is possible (APA, 2013; Schlenker & Leary, 1982; Rapee & Heimberg, 1997). When an individual joins a team, they will be forced to intermingle with individuals that they possibly have never met or have never shared any personal interaction with. For socially anxious individuals, this event will initiate feelings of anxiety as they fear having to interact with others interpersonally and also worry that others may make unfavorable judgments about them (Schlenker & Leary, 1982).

The initiation of these feelings of anxiety will likely lead individuals to determine a way to cope with these feelings to make the situations more bearable. The Transactional Model of Stress and Coping (Lazarus & Cohen, 1977) supports this notion by positing that in the face of stressful experiences, individuals will first appraise a stressor, consider the resources at hand, and then determine a coping mechanism to utilize (Antonovsky & Kats, 1967; Cohen, 1984). Since socially anxious individuals do not have confidence in their own abilities to interact socially (Rehm & Marston, 1968; Schlenker & Leary, 1982) and deeply fear that their actions and behaviors will exhibit their anxiety symptoms to others who will then deem them as embarrassing (APA, 2013), it is likely that these individuals will cope with these situations by limiting their social interactions. For example, when first interacting with a team, a socially anxious individual may avoid eye-contact with teammates and not participate in small-talk in order to avoid further feelings of nervousness and discomfort. The Transactional Model has been used to explain differential reactions to developmental challenges (i.e., job assignments perceived as challenging) among leaders, postulating that those with lower resources (i.e., lower levels of self-efficacy) engaged in a laissez-faire leadership style (e.g., absentee leadership and avoidance of decision making) as a means to coping (Courtright, Colbert, & Choi, 2014). These findings support that avoidance

behaviors may be a coping method engaged in when one is facing a stressful situation and has lower levels of resources.

However, just as laissez-faire leadership is likely to result in detrimental outcomes (Skogstad, Einarsen, Torsheim, Aasland, & Hetland, 2007), avoidance behaviors engaged in by socially anxious individuals may also have negative effects within team settings. If a socially anxious individual avoids social pleasantries (e.g., eye-contact, small-talk, etc.), then such tactics will not readily lend themselves to forging bonds among teammates or markedly demonstrating one's passion for the work at hand. Instead, these behaviors (or lack there-of) may be interpreted by others as an individual being distant, uncaring, or uninterested in the work or organization itself (rather than being seen as a response to the stressful social situation). Conversely, the trait approach to leadership maintains that those who emerge as leaders within leaderless groups have been described as "active," "assertive," "energetic," and "not silent or withdrawn," (Gough, 1988 as cited by Judge et al., 2002). Thus, the use of avoidance behaviors as a coping mechanism is not likely to result in leader emergence.

Membership to a work team in particular implies that the team was assembled in order to complete tasks to ultimately benefit the organization. Completion of these group tasks ideally and theoretically require certain levels of performance from each individual in order to attain positive outcomes for the team and organization. Performing in front of others is a trigger of social anxiety (APA, 2013), which could be in the form of speaking in meetings, voicing opinions, or presenting one's own work. These instances will be met with fear and anxiety, as individuals will fret over the possibility of their colleagues making negative subjective evaluations towards themselves and their work. Socially anxious individuals are likely to avoid these situations if possible or endure them with intense fear or anxiety (APA, 2013), which may mean they will contribute less work or only begrudgingly communicate their own ideas to the group. By avoiding the performance episodes or lacking pride and confidence in their work, socially anxious individuals may be seen as lazy, incompetent, or less reliable by other team members.

Additionally, unique to workplace teams is the notion of teammates having differential levels of status and power within the organization. For individuals who experience social anxiety, this is likely another trigger of discomfort, as these individuals strive to make positive impressions on those they view as influential (Schlenker & Leary, 1982). As stated in the cognitive-behavioral model of social

anxiety (Rapee & Heimberg, 1997), socially anxious individuals first perceive an audience and subsequently expect subjective judgments to be made about them by their perceived audience. Socially anxious individuals then spend time and energy paying attention to cues offered by their audience so they may appraise their own behavior and subsequently compare it to the perceived prototype of the audience. Socially anxious individuals may experience anxiety in response to working with higher status individuals for fear they'll be seen as less competent or less experienced than their more senior counterparts, failing to impress those higher in status. While working with individuals of less status and power, socially anxious individuals may feel pressure to convey an elevated sense of knowledge or ability in order to match what they assume are expectations of those lower in status or power. However, while a socially anxious individual expends effort to pay particular attention to cues and then evaluate themselves, the cognitive-behavioral model assumes that these individuals will then have less cognitive resources to attend to other aspects of the situation at hand (i.e., the task itself; Rapee & Heimberg, 1997), likely resulting in suboptimal levels of performance for that individual. The likely utilization of avoidance behaviors, the impressions made upon others by doing so, and decreased attention devoted to the task, suggest that socially anxious individuals will not emerge as leaders.

As discussed, much research has been conducted on the relationships between personality factors and leader emergence (e.g., Judge et al., 2002; Bono et al., 2014). Additionally, social anxiety has, as a clinical construct, has been shown to relate to the five-factor model of personality in patterns that would imply social anxiety, as a clinical disorder, is unlikely to result in leader emergence (Norton et al., 1997). However, the examination of the relationship between clinical social anxiety and personality is not enough to assume the relationships between social anxiety and leadership. Firstly, the evidence that links clinical social anxiety and personality does so by investigating extreme, or clinically diagnosable, levels of social anxiety. While this stream of research is important, it does not tell us what relationships the momentary, or even less extreme, experience of social anxiety has with important organizational outcomes such as leader emergence. The fluctuating experience of social anxiety leads into the second reason for examining these relationships: traits are stable, whereas social anxiety is not. Therefore, it is not safe to assume that these relationships will have the same effects on outcomes. Thirdly, social anxiety, while correlated to the five-factor of personality, does not exist only within that framework. In other words, most modern theories of social anxiety (e.g.,

Curran, 1977; Bellack & Hersen, 1979; Rehm & Marston, 1968; Wolpe, 1973; Schlenker & Leary, 1982; Rapee & Heimberg, 1997) argue that social anxiety, while related to, is not caused by personality traits. Rather, it is caused by apprehension surrounding social situations. Given that individuals may vary in levels of social anxiety between and within-individuals and that these experiences are evoked by a situational phenomenon, it is likely that socially anxious individuals are less likely to emerge as leaders after controlling for the Big-Five Personality Factors.

Hypothesis 1: Social anxiety will be negatively related to leadership emergence after controlling for the Big Five Personality Factors.

It is hypothesized that psychological safety will moderate the relationship between social anxiety and leader emergence. Psychological safety, or the “perceptions of the consequences of taking interpersonal risks in a particular context,” has implications for the performance aspect of social anxiety (Edmonson & Lei, 2014; p. 23). One of the major hindrances that prevents socially anxious individuals from flourishing in work contexts is their fear of negative subjective evaluations (Schlenker & Leary, 1982). As discussed, performance is a major trigger of social anxiety since individuals worry how others will perceive them. As a result, these individuals may avoid contributing work or engaging in performance episodes that involve social interaction (e.g., leading a meeting, presenting work to a larger unit, voicing opinions, etc.). However, it is important to consider the context in which this team is functioning. It is possible that within the team, making mistakes in the pursuit of learning is encouraged, or that individual team members are more open to others going out on a limb in the event that it pays off for the group. In such a case, a socially anxious individual may see this behavior modeled (i.e., a coworker taking a risk and not being negatively evaluated by others) and feel as though they are also able to contribute without receiving a negative evaluation. In this instance, a socially anxious individual working in a team with high levels of psychological safety may feel safer to present their thoughts, ideas, and work to others, thereby demonstrating their value as a team member as well as their interest in the work. When compared to the avoidance behaviors socially anxious individuals likely engage in to avoid situations that evoke feelings of fear or anxiety (APA, 2013), these active contributions to the team (i.e., presenting thoughts, ideas, and work to others) are more likely to signal the possibility of leader emergence. The social aspect of teamwork may still evoke feelings of fear and anxiety within socially anxious individuals but the fear and

anxiety surrounding performance may be lessened by the knowledge that one's teammates are more accepting of interpersonal risks being taken.

Hypothesis 2: Psychological safety moderates the relationship between social anxiety and leader emergence, such that when psychological safety is high, the negative relationship between social anxiety and leader emergence is weaker.

It is also hypothesized that emotional exhaustion and professional self-efficacy will simultaneously mediate the relationship between social anxiety and leadership emergence. As previously described, the anxiety experienced as a result of social situations is a major stressor for affected individuals. Furthermore, engagement in social interactions is likely to remain a stressor for socially anxious individuals. This notion is supported by the cognitive behavioral model of social anxiety (Rapee & Heimberg, 1997), which postulates that once an individual experiences physical, cognitive, and behavioral manifestations of anxiety (following the comparison of their own self appraisal to their perceived audience's expected prototype), the presentation of such symptoms drive internal cues and ultimately result in a cycle of social anxiety. Essentially, an individual will experience symptoms of social anxiety (e.g., blushing, panicking, stuttering) in response to an event and this signals back that similar future events should be met with the same feelings of apprehension and anxiety, reinforcing the anxiety itself. Thus, individuals who experience social anxiety in team-based work settings will likely repeatedly feel this way over time.

Over time, the social interactions with team members means that socially anxious individuals will repeatedly be exposed to stressors and thus, feelings and manifestations of anxiety time and time again. The repeated exposure to such stressors is likely to result in a strain felt by these individuals. In response to the social aspects of teamwork (e.g., meetings, contributing new ideas to the group, providing feedback), socially anxious individuals will fixate on their ability to engage with others in such tasks, using up precious resources in doing so. This social aspect of teamwork places a greater demand on socially anxious individuals than non-socially anxious individuals. In group work, other tasks and responsibilities that do not involve social interaction (e.g., completing a task) will be viewed as demands by all members alike. According to COR theory, to meet all the demands posed by working in a team, all individual team members must work to expend and try to replenish resources. As socially anxious individuals will perceive greater demands placed on them due to the social nature of teamwork,

they will need to use more resources to meet all demands associated with the work. As socially anxious individuals will be forced to expend more resources to meet demands, they are likely to experience burnout in the face of these responsibilities. Given burnout theory, over time, as individuals experiencing social anxiety expend resources at a greater rate than they are replenished, they will first experience emotional exhaustion by feeling overextended and drained of resources (Hobfoll & Shirom, 1993). This feeling is likely very relatable to most people: one stressful day here or there is manageable but facing stressors on a regular basis leaves one feeling run-down and unable to function at his or her best. These mechanisms are probably why everyone values the weekend as much as they do – brains get to recharge and bodies may recuperate in comfortable environments. However, if one is not able to rest and recharge, emotional exhaustion will only worsen over time as demands endure despite dwindling resources.

Additionally, as socially anxious individuals engage in team work over time, their coping mechanism of limiting their social interactions may only work to an extent. For example, while a socially anxious individual may do their best to avoid small-talk or presentations in front of their peers, it is likely that eventually, these individuals will have to engage in these behaviors in order to carry out their duties as a member of the group. Continuously having to endure social interactions and risk negative evaluations will likely lead an individual to feel overextended and depleted of their own emotional and physical resources. This notion is supported by COR theory (Hobfoll, 1989), in that individuals have finite resources that must be expended in order to function; yet these resources are deeply valued by an individual. As individuals are faced with increased demands, they must expend an increased amount of resources. In the case of socially anxious individuals, repeated exposure to demands (i.e., social interactions) will force these individuals to expend more of their personal resources (e.g., ability to fake sociability, cognitive resources, effort, persistence). This continued dissipation of resources is likely to result in the first dimension of burnout: emotional exhaustion (Hobfoll & Shirom, 1993). Socially anxious individuals who are faced with anxiety inducing situations repeatedly must expend energy in order to endure these situations, leaving them feeling overextended and drained. The loss of such resources over time has been known to lead to increased levels of emotional exhaustion (Maslach et al., 2001). In the face of work demands consistently expending resources quicker than they can be restored (Freedy & Hobfoll, 1994, p. 312), anxious employees are also naturally at a greater disadvantage thanks to their tendency to exhaust resources by fretting

over task-related issues and criticizing their own abilities (Sarason, 1984), which means emotional exhaustion is a likely fate for those who experience social anxiety.

Hypothesis 3: Social anxiety will be positively related to emotional exhaustion.

There is another outcome that social anxiety is likely to cause in affected individuals: lowered levels of professional self-efficacy. As noted, individuals who experience social anxiety will avoid social interactions as much as possible, or endure them with intense fear (APA, 2013). By avoiding active engagement with others to complete the task at hand, individuals will ultimately not demonstrate their knowledge to others, illustrate their own attributes that may help the team succeed, or fine-tune their skills that would help them develop as an employee and team member. Self-efficacy is appraised by assessing one's actual performances, vicarious experiences one has, information they receive from others, and physiological reactions one experiences (Bandura, 1997). Without engaging in these various developmental practices, an individual is robbing themselves of the ability to build self-efficacy. An individual who does not step out of his or her own comfort zone to participate with others in the task will not be able to assess their own performance, receive information about their performance from others, or experience physiological reactions that act as feedback to the individual; thereby not developing their professional self-efficacy.

This lack of efficacy development must be considered in tandem with the lowered levels of efficacy that socially anxious individuals already have (Schlenker & Leary, 1982; Crozier, 1979; Rehm & Marston, 1968; Curran, 1977; Bellack & Hersen, 1979). Socially anxious individuals will pay special attention to the cues of their perceived audience, and by nature, will assign more negative meanings to potentially innocuous feedback from others. Interpreting such feedback as negative may then cause a lowering of self-efficacy in terms of the task at hand, as individuals perceive these evaluations to be about their social skills as well as their produced work. Thus, it is likely that social anxiety causes individuals to feel lower levels of professional self-efficacy, or their beliefs about their own capabilities regarding their job (Maslach et al., 2001).

Hypothesis 4: Social anxiety will be negatively related to professional self-efficacy.

Both emotional exhaustion and professional self-efficacy have implications for leadership emergence. Emotional exhaustion is the stress dimension of burnout

(Maslach et al., 2001), meaning that it is the strain response to an overload of demands. Individuals who feel emotionally exhausted feel as though they have nothing left to give and likely feel in need of time to 'recharge' and recuperate. These feelings understandably have consequences for workplace functioning and attitudes as well. Emotional exhaustion has been linked to lower levels of performance, voluntary turnover (Wright & Cropanzano, 1998), and lower levels of organizational commitment (Alarcon, 2011). Individuals who feel emotionally exhausted may be lacking the energy to perform at their best, feel the need to take a break from the job, and may want to distance themselves from the organization to focus on replenishing their energy. In this case particularly, emotional exhaustion may lead to the cynicism dimension of burnout, characterized by being excessively detached or callous in regards to aspects of the job (Maslach et al., 2001). Feeling overextended and depleted of resources already, socially anxious individuals are not likely to take on additional demands (e.g., voluntarily assuming a leadership role) but rather, retreat from their stressors to effectively cope.

Lowered levels of professional self-efficacy are also unlikely to result in leadership emergence. If an individual has low levels of professional self-efficacy, they feel incompetent in performing aspects of their own job. These individuals feel as though they are both lacking in achievement and productivity (Maslach et al., 2001), which may mean they feel lower motivation to engage in job behaviors. An individual who does not feel confident in their own abilities to perform necessary tasks is unlikely to enjoy having to perform such work, set high goals for themselves, or lead others in performing the work. People enjoy doing what they think they are good at, as evidenced by the significant, positive relationship between personal efficacy towards one's job and job satisfaction (Riggs, Warka, Babasa, Betancourt & Hooker, 1994). Self-efficacy also determines the goals individuals set for themselves, such that those higher in self-efficacy tend to choose higher level goals to pursue (Locke, Frederick, Lee, & Bobko, 1984). Furthermore, multiple studies conducted by Singer (1991; 1989a; 1989b) suggest that efficacy is related to leadership aspirations, specifically that individuals with higher levels of efficacy exhibited a greater desire to lead. This relationship is likely especially true for socially anxious individuals: according to the cognitive-behavioral model (Rapee & Heimberg, 1997), assuming a leadership role raises the stakes in terms of the perceived audience's expected prototype, as the perceived audience would likely look to the leader to have certain qualities, attributes, and engage in certain behaviors (e.g., be confident and successful). In turn, this means that a socially

anxious individual would have to exhibit higher levels of performance to meet their perceived audience's expectations or face increased levels of anxiety based on the discrepancy between their own self-appraisal and their perceived audience's prototype. Moreover, the positive relationship between generalized self-efficacy and leader emergence has also been demonstrated (e.g., Smith & Foti, 1998; Bono et al., 2014), which has implications for professional self-efficacy and leadership emergence.

Additionally, as self-efficacy has been conceptualized as a resource in past research (e.g., Courtright, Colbert, & Choi, 2014), socially anxious individuals would essentially be faced with the possibility of taking on another demand (i.e., leading the team) knowing they have lower levels of resources (i.e., self-efficacy) to meet such a demand. Taking stock of these resources, both the Transactional Model of Stress and Coping and COR would suggest that these individuals would not readily accept additional demands.

Hypothesis 5: Emotional exhaustion and professional self-efficacy will act as parallel mediators in the relationship between social anxiety and leadership emergence.

In using COR and burnout theory to explain why socially anxious individuals would not emerge as leaders, important boundary conditions must be explored in order to support such an argument. By definition, social anxiety occurs when an individual experiences fear or anxiety regarding a social situation that may result in scrutiny by others (APA, 2013). Regardless of the different frameworks of social anxiety, the common denominating factor is the fear of negative subjective evaluations by others. However, it is possible that socially anxious individuals may work with others whose subjective evaluations they do not fear immensely. In work teams, if socially anxious individuals are very familiar with their colleagues, they may experience less fear or anxiety in the face of performing work tasks in social settings. Individuals who have already built friendships with coworkers may feel as though these individuals already know them for their true selves. This feeling of familiarity and closeness is likely to make singular social interactions and performance episodes less intimidating, since less pressure and meaning is assigned to them.

However, if a socially anxious individual is not familiar with their perceived audience, the individual is aware that the judgments made about them will be based on their performance in the social situation alone, as their perceived audience has little to no other information about them. For example, any individual

is likely to feel more pressure to make a good impression on someone they have never met compared to someone they know very well. If you have a day where you fail to perform as well as you normally would, you would expect those close to you to not radically change their evaluations of you. Instead, you would believe that this performance episode would be logged into the memories of your close colleagues, joining the collection of other past performance episodes they have witnessed, your personality, prior interactions you have had with them and others, etc. that these individuals rely on to determine their subjective evaluations of you. Those close to you are more likely to forgive you for subpar performance, as they understand performance can fluctuate and everyone has bad days. However, individuals who do not know you as well may not be so forgiving, meaning there are higher stakes in those situations. Thus, if a socially anxious individual feels very familiar with their team members, they are likely to experience less anxiety and fear in the face of social situations and performance episodes, which means they experience less strain over time. These decreased levels of strain mean that an individual is less likely to feel emotionally exhausted as quickly than those who are not as familiar with their team mates. When McCarthy and colleagues (2016) examined the effect of workplace anxiety on performance, their findings indicated that coworker exchange (CWX), or the exchange relationship employees have with their colleagues, mitigated the positive relationship between workplace anxiety and emotional exhaustion. In the face of demands, the existence of other resources (e.g., social support) buffered the harmful effects of stress and demands. As socially anxious individuals work with teammates in which they have social support, they are less likely to experience an increased load of psychosocial stress in response to working in social environments. Even in the face of social demands, socially supported individuals have more resources to buffer against such demands and the draining of resources that leads to burnout.

In a similar vein, familiarity is also likely to affect a socially anxious individual's professional self-efficacy. As a socially anxious individual is more familiar with their team members and feels less intimidated by social interactions and performance episodes, there is a substantially decreased need for coping mechanisms such as avoidance behaviors. If an individual feels less social anxiety while engaging in the social aspects of group work (e.g., presenting in meetings, voicing opinions, etc.), he or she is more likely to engage in these social group behaviors. This active participation does lend itself to developing efficacy of the task at hand and ultimately, their position. As individuals engage in work tasks with

others, they will be able to assess their own performance, receive information from others as they perform, and use their own physiological responses as feedback (Bandura, 1997), thereby developing their professional self-efficacy.

The social support theory of COR also supports the moderating effect of familiarity. Social support provides feelings of attachment to a person or group that are perceived as caring or loving (Hobfoll & Stokes, 1988) and is conceptualized as a personal resource (Hobfoll, 1989). Thus, as the level of familiarity between teammates ranges from having never met to considering someone a ‘best friend,’ this will affect an individual’s level of comfortability as well as the amount of resources they have. Additional resources, in and of themselves, will aid in preventing burnout but social support is an especially valuable resource in that it allows an individual the means to acquire infinite resources through one’s social networks (Hobfoll et al., 1990). While socially anxious individuals are faced with the demands of work as well as the demands of social interaction, any resources that may aid in meeting demands will certainly lessen the negative effects of such demands (i.e., emotional exhaustion and decreases in professional self-efficacy).

In addition to COR and social support theory, social support has also been hypothesized to benefit individuals by ‘buffering’ the effects of psychosocial stress. This theory, known as the buffering hypothesis (Cohen & Willis, 1985; Cohen & McKay, 1984) states that individuals with little to no social support will experience greater negative effects of psychosocial stress on their health and well-being. Conversely, those with stronger ties to others will see much less, if any, of these effects. While this theory speaks to the benefits of having a social support system in general, given the nature of social anxiety, it is likely that those who experience social anxiety will experience less strain if they have some sort of social support within their team. For a visual representation of the theoretically proposed model, see Figure 1).

Hypothesis 6: Familiarity moderates the relationship between social anxiety and emotional exhaustion, such that when familiarity is high, the positive relationship between social anxiety and emotional exhaustion is weaker.

Hypothesis 7: Familiarity moderates the relationship between social anxiety and professional self-efficacy, such that when familiarity is high, the negative relationship between social anxiety and professional self-efficacy is weaker.

Study 1

Methods

Participants

Study 1 utilized the archival data available from a research lab at a mid-size university in the southeastern United States. The research lab conducts an ongoing team-based longitudinal study that captures individual differences, team processes, and emergent states over the course of teams working together. Participants involved in data collection were undergraduate engineering and psychology students participating in semester or year-long group projects. To be included in analysis, individuals had to fill out the individual differences survey, rate their own leadership emergence, and have teammates who also measured their leadership emergence. The final sample consisted of 40 participants (65% female, 77.5% White) who comprised 15 different teams, with an average of 2.67 members per team who were eligible for analysis. Most students classified themselves as juniors (50%) and seniors (32.5%) and a majority reported they were self-employed (62.5%) or worked part-time (32.5%). Participants ranged from 18 to 26 years of age ($M = 20.80$, $SD = 1.79$).

Procedure and materials

Project teams were introduced to the study within the first three weeks of the semester. Each participant then individually completed a Qualtrics based survey, sent directly to their school email address, that captured an array of individual differences such as personality traits, values, and demographics (referred to as T1). Process surveys, which captured team processes and emergent states, were administered in the same fashion roughly every three weeks following administration of T1. The students completed the surveys outside of class and were given 9 days to complete each survey, receiving uniform reminder emails as the deadline approached. The current analysis included leadership emergence data captured by the second process survey, time three (T3). This time point was chosen as it had a higher participation rate than the third and final process survey administered within a semester, time four (T4). Though T3 did not capture data at the culmination of the students' projects, it was administered roughly 10 weeks into

the semester, which still afforded team members ample time to assess one another's leadership emergence within the scope of their project.

Social Anxiety. The experience of social anxiety was measured using the Social Phobia Inventory (SPIN; Connor et al., 2006) at T1. This measure is designed to assess the severity of social phobia (which later became referred to as social anxiety disorder) symptoms through its three subscales of fear, avoidance, and physiological symptoms. It is not intended for use as a diagnostic tool, as this tool alone does not indicate the presence of a disorder. However, a higher score does indicate a greater chance of a clinical diagnosis (Davidson, 2017). The 17-item measure prompts participants to respond with how bothered or distressed each instance has made them feel in the last week, with responses ranging from 'Not at all' (0) to 'Extremely' (4). A respondent's score may range from 0-68, but different thresholds to distinguish between those with and those without social anxiety disorder have been found in different cultural populations. Thus, the authors recommend that a score of 25 or above may suggest the presence of social anxiety disorder (Davidson, 2017). Internal consistency has proved adequate, as evidenced by reliability estimates of $\alpha = .95$ in Study 1 and $\alpha = .97$ in Study 2. Sample items from the SPIN include "being criticized scares me a lot" (fear), "I avoid talking to people I don't know" (avoidance), and "I am bothered by flushing in front of people" (physiological symptoms). For a full list of items, please see Appendix A.

Personality. Personality was measured using an adapted version of the Mini-International Personality Item Pool (Mini-IPIP; Donnellan et al., 2006). The Mini-IPIP measures personality using the Five-Factor Model (Goldberg, 1999) and consists of 20-items, where each factor is measured by four items. The 5 factors measured are extraversion, agreeableness, conscientiousness, neuroticism and intellect/imagination, which is often termed openness to experience in the literature. The Mini-IPIP prompts respondents to indicate how accurately a statement describes them on a scale of 1 (very inaccurate) to 5 (accurate). A sample item indicating extroversion reads, "[I] am the life of the party." Reliability estimates in the form of Cronbach's alpha range from $\alpha = .61$ to $.82$ for the various factors in Study 1 and ranged from $\alpha = .60$ to $.78$ within Study 2. An additional item was added to measure extraversion (i.e., "I do not like being the center of attention") in effort to boost the reliability estimate for the extraversion personality factor. For a full list of items, please see Appendix A.

Leadership Emergence. For the purpose of this research, leadership emergence is conceptualized as an individual's average score as rated by their teammates on whether or not they are a leader (i.e., "*TeammateX* is a leader"), have had their leadership relied on (i.e., "I have relied on *TeammateX*'s leadership on the project,") and have influenced the directions and actions of the team (i.e., "*TeammateX* has influenced our team") as measured in the second process survey. Teammates rated each of their teammates on these leadership items by responding to which extent they agree or disagree on a 5-point Likert-type scale. Additionally, participants were asked to self-rate their own leadership emergence using the aforementioned leadership emergence measure in the first-person (e.g., "My team has relied on my leadership"). Other-rated leadership demonstrated adequate reliability within Study 1 ($\alpha = .88$). Self-rated leadership also produced sufficient reliability estimates in Study 1 ($\alpha = .73$) and Study 2 ($\alpha = .84$).

Results

Preliminary analyses were conducted to identify and remove any outliers, participants with missing data, and cases with any missed attention checks. Participants included in the final dataset completed both relevant predictor measures [SPIN (Connor et al., 2006) and the Mini-IPIP (Donnellan et al., 2006)], a self-rating of his or her own leadership emergence, and had his or her leadership emergence rated by at least one other teammate. Descriptive statistics (Table 1), reliability estimates (Table 2), and correlation information (Table 2) for all variables of interest measured in Study 1 were computed. Additionally, a frequency analysis was conducted to explore the distribution of social anxiety within the dataset and can be seen in Figure 2. The sample exhibited a normal, unimodal distribution of anxiety. Davidson (2017) describes the sample means for the SPIN in previously conducted studies. In samples consisting of individuals diagnosed with social anxiety disorder, studies have reported means between 26 and 49, while mentally healthy samples reported means between 8 and 22 (Davidson, 2017, p. 6). Taking this into consideration, the sample within Study 1 may be best described as generally mentally healthy in terms of social anxiety disorder.

While the data was collected in a nested structure (i.e., project teams within classes), analyses were conducted to determine if the data exhibited sufficient within-group and between-group heterogeneity and thus, warranted multi-level analysis. Three statistical artefacts were used to determine the homogeneity:

intraclass correlation coefficient 1 [ICC(1)], intraclass correlation coefficient 2 [ICC(2)], and r_{wg} . ICC(1) is interpreted as the proportion of variance explained by group membership while an ICC(2) value greater or equal to .70 indicates that group means are reliably different from one another (Wallace, Butts, Johnson, Stevens, & Smith, 2016, p. 992). The intraclass correlations for leadership emergence as rated by others were ICC(1) = .01 and ICC(2) = .02, with non-significant between-groups variance, $F(14, 25) = 1.02, p = n.s.$ The r_{wg} statistic is interpreted as the level of within group agreement (James, Demaree, & Wolf, 1993; Wallace et al., 2016) and an r_{wg} statistic greater than or equal to .70 demonstrates acceptable levels of agreement (Grawitch & Munz, 2004). The average r_{wg} value across teams for other-rated leadership emergence did not reach .70, meaning multi-level analyses are the most appropriate statistical approach for this particular data (Grawitch & Munz, 2004; James, Demaree, & Wolf, 1984). Additionally, as self-rated leadership emergence was also captured, homogeneity statistics were also computed for that criterion. The intraclass correlations for self-rated leadership emergence were ICC(1) = .05 and ICC(2) = .11, with non-significant between-groups variance, $F(14, 25) = 1.13, p = n.s.$ The average r_{wg} value across teams for self-rated leadership emergence also did not reach .70, indicating that individual level analyses were the most appropriate statistical method for analyzing the data. These findings (i.e., the non-nested nature of the data) may be attributable to the small sample of teams included in the analyses.

Multiple hierarchical regression analyses were conducted to test hypothesis 1, the relationship between social anxiety and leadership emergence, controlling for personality. First, leadership emergence as rated by others was analyzed. In step 1, all personality variables (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and intellect/imagination) were included as the predictors, and together they failed to explain a significant amount of variance in other-rated leadership emergence, $R^2 = .14, F(5, 34) = 1.07, p = n.s.$ In step 2, social anxiety was added into the model and also did not explain an additional amount of variance in other-rated leadership emergence, [$\Delta R^2 = .00, \Delta F(6, 33) = .11, p = n.s.$]. The results can be seen in Table 3.

A second multiple hierarchical regression was conducted to test the relationship between social anxiety and self-rated leadership emergence while controlling for personality. The results can be seen in Table 4. In step 1, all personality variables (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and intellect/imagination) were included as predictors. While

extraversion was found to be a significant predictor of self-rated leadership emergence in step 1 [$\beta = .47$, $t(34) = 3.11$, $p < .01$], together the personality predictors failed to explain a significant amount of variance in self-rated leadership emergence, $R^2 = .25$, $F(5, 34) = 2.29$, $p = n.s.$ In step 2, social anxiety was added into the model and explained an additional amount of variance in self-rated leadership emergence, [$\Delta R^2 = .09$, $\Delta F(6, 33) = 4.29$, $p < .05$]. Nine percent of the variance in self-rated leadership emergence was accounted for by social anxiety. While model 1 (all personality variables predicting self-rated leadership emergence) was not significant, model 2 [which included extraversion as a statistically significant predictor, $\beta = .66$, $t(33) = 3.86$, $p < .001$, and social anxiety as a statistically significant predictor, $\beta = .44$, $t(33) = 2.07$, $p < .05$] was significant at $p < .05$.

To better understand the relationships between extraversion, social anxiety, and self-rated leadership, a third hierarchical multiple regression was conducted (Table 5). In step 1, only extraversion was entered into the model and explained a significant amount of variance $R^2 = .22$, $F(1, 38) = 10.76$, $p < .01$. Twenty-two percent of the variance in self-rated leadership emergence was accounted for by extraversion. In step 2, social anxiety was entered into the model and failed to add a significant amount of additional variance in predicting self-rated leadership [$\Delta R^2 = .07$, $\Delta F(2, 37) = 3.75$, $p = n.s.$]. Thus, hypothesis 1 was not supported in that social anxiety did not predict other-rated or self-rated leadership emergence while controlling for personality. However, due to the small sample size, the results of Study 1 should be interpreted with caution.

Study 2

Methods

Participants

Participants were recruited for Study 2 using Amazon's Mechanical Turk and were required to be at least 18 years of age, employed at least-part time, located within the U.S. and work in a team-based role. The final sample included 154 participants (55.2% male, 69.5% White) and a majority of respondents were ages 25-44 (78.5%). The majority of respondents indicated they held some type of higher-education degree (28.6% earned an Associate's degree, 50.6% earned a Bachelor's degree, and 20.8% earned either a Master's, Doctoral, or professional degree). Respondents represented 23 different organizational department types across 18 different industries, including technical services, educational services, finance, and health care or social assistance. Most participants worked for an organization that employed 20 or more employees (72.2%) and the most frequently reported organization size was 100-249 employees (19.5%). Only 3.9% of respondents reported that they had been employed by their organization for less than 1-year, 27.9% had been with their company for 1-2 years, 27.3% for 3-4 years, and 40.3% for 5 or more years. In terms of tenure within position, a small percentage (7.8%) had been in their position for less than a year while 35.1% had been in their position for 1-2 years, 29.2% for 3-4 years, and 27.9% for 5 or more years. Close to half (42.9%) of the sample worked in non-managerial positions while 21.4% identified as a manager with less than 3-years of experience, 21.4% identified as a manager with more than 3-years of experience, and 3.2% identified as a regional manager or C-suite executive. A one-way analysis of variance (ANOVA) was conducted to determine if there were any significant differences in social anxiety scores between the different position levels (i.e., individual contributor, manager with less than 3 years of experience, manager with more than 3 years of experience, leader of a region or business area, executive/C-Suite, or 'other') and found no significant differences in social anxiety between the groups.

Procedure and materials

A Qualtrics-based survey was made available to participants through Amazon's MTurk to capture demographic information and all individual measures (e.g., social anxiety, personality, perception of psychological safety, familiarity with team members, emotional exhaustion, and professional self-efficacy). The same measures used for social anxiety, personality, and self-rated leadership were again used in Study 2. Following participant completion of these measures, all participants were prompted to send a separate survey to a team member he or she works with regularly. The separate survey contained the leadership emergence measure, one item that captured the team member's relational position to the main participant, and one item that captured the length of time in which the two team members had worked together.

Emotional Exhaustion. Emotional exhaustion was measured using the 8-item subscale of the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981). This original version of the MBI was originally created for human service professionals but the emotional exhaustion subscale is worded in general terms and thus has been used in broader contexts, such as frontline service employees (Kim, Paek, Choi & Lee, 2012). Sample items include "I feel emotionally drained from my work," and "I feel burned out from my work" (for a full list of items, please see Appendix A). Respondents were prompted to answer both in frequency, which ranged from 1 ("a few times a year or less") to 6 ("every day"), and intensity, which ranged from 1 ("very mild, barely noticeable") to 7 ("major, very strong"), as these two measurement types may reveal different patterns and give respondents more ability to express their feelings (Maslach & Jackson, 1981). The respondents were also given a 'Never' option for each item to indicate they have never experienced the feeling or attitude, which was scored as a 0. Reliability estimates demonstrated sufficient internal consistency for the emotional exhaustion (frequency) scale ($\alpha = .97$) and the emotional exhaustion (intensity) scale ($\alpha = .97$).

Professional Self-Efficacy. Professional self-efficacy was measured using the self-concept and knowledge and skills subscales of Frans (1993) Social Worker Empowerment Scale. These specific subscales have been generalized to other research contexts, such as professional efficacy in dentists (Nili, Moti & Avner, 2011). Respondents were asked to what extent they agree with various opinions and beliefs as they relate to the participant and the participant's profession. Respondents recorded their answers on a 5-point Likert-type scale

ranging from “strongly agree” to “strongly disagree.” Sample items from the self-concept subscale include “I don’t doubt my self-worth even when I think others do,” and “I feel as competent as anyone else I work with.” Sample items from the knowledge and skills subscale include “I usually know what response to take to situations that arise at work,” and “I am frequently told that I am a very knowledgeable worker.” For a full list of items of both subscales, please see Appendix A. Reliability estimates for the combination of the two subscales demonstrated sufficient internal consistency ($\alpha = .91$).

Familiarity with Team Members. Familiarity of team members was measured using the 2-item Social Closeness Index (SCI; Gächter, Starmer & Tufano (2015) which was rated on a 7-point “not close at all” to “very close.” One additional item adapted from Cortes, Demoulin, Rodriguez, Rodriguez & Leyens (2005) familiarity measure was also included, which was rated with the responses “none” to “all.” For a full list of items, please see Appendix A. The scale exhibited adequate reliability ($\alpha = .82$).

Psychological Safety. Perceptions of psychological safety was measured using Edmonson’s (1999) 7-item team psychological safety measure. Psychological safety has been measured at the individual, team, and organizational level and measures how safe individuals feel to engage in interpersonal risk taking. A sample item is “People on this team sometimes reject others for being different,” and respondents recorded their answers in a 5-point Likert type scale, ranging from “strongly disagree” to “strongly agree” (for a full list of items, please see Appendix A). Reliability analyses demonstrated adequate internal consistency ($\alpha = .76$).

Results

Preliminary analyses were conducted on the dataset prior to all hypothesis testing. Participants were automatically removed from the dataset if they did not meet one or more of the required qualifications. Participants were required to be at least 18 years of age, be employed at least-part time, be located within the U.S., work in a team-based role, correctly answer attention check items, and demonstrate they had completed reliable work within the Amazon market place in the past (i.e., participants had to have their prior work approved on 5,000 different tasks). Additionally, the average time and distribution of survey completion was calculated and resulted in the removal of 2 participants who took the survey in an extraordinarily brief amount of time, as to ensure the quality of the data captured.

The standardization of all measures indicated there were no outliers (an item with a z-score above or below +/- 3.29) within the dataset. Additionally, one participant was removed from the dataset for failing to complete a substantial percentage (34%) of measures. Twenty-eight other-rated leadership emergence surveys were completed but only 17 of them could be linked to main participant data through the use of provided email addresses. Additionally, one of these responses was deleted from the dataset for missing 66% of data on the criterion measure. Given the small number of data points obtained, other-rated leadership emergence was not included in any analyses as to not draw erroneous or skewed conclusions. Descriptive statistics (Table 6), reliability estimates (Table 7), and correlation information (Table 7) were also computed for all variables of interest within Study 2. Additionally, a frequency analysis for social anxiety in the respondents of sample 2 was conducted and indicated a bi-modal distribution (Figure 3). In terms of describing the sample as generally mentally healthy, the sample mean for social anxiety was higher than prior documented samples of mentally healthy adults but lower than previously recorded samples of socially anxious adults. Given its higher mean and bi-modal distribution, this sample may have included more socially anxious individuals than Study 1's sample.

In testing hypothesis 1, the correlational relationship between social anxiety and self-rated leadership emergence was first examined (prior to controlling for personality). Bivariate correlation analyses demonstrated a significant correlation between social anxiety and self-rated leadership emergence $r(154) = -.18, p < .05$. Next, a hierarchical multiple regression was conducted to test social anxiety's relationship with self-rated leadership emergence while controlling for the Big Five personality factors. The results are shown in Table 8. In step 1, all personality variables (i.e., extraversion, agreeableness, conscientiousness, neuroticism and intellect/imagination) were included as the predictors, and together they explained a significant amount of variance in self-rated leadership emergence, $R^2 = .10, F(5, 148) = 3.09, p < .05$. Ten percent of the variance in self-rated leadership emergence was accounted for by personality. In step 2, social anxiety was added into the model and did not explain a significant additional amount of variance in self-rated leadership above and beyond personality [$\Delta R^2 = .01, \Delta F(1, 147) = 1.53, p = n.s.$]. Extraversion was the only significant predictor of leadership emergence [$\beta = .26, t(147) = 2.83, p < .01$]. A second hierarchical multiple regression was then conducted with only extraversion included as a predictor in step 1 (Table 9). Extraversion explained a significant amount of variance in self-rated leadership

emergence, $R^2 = .07$, $F(1, 152) = 12.07$, $p < .001$. Seven percent of the variance in self-rated leadership emergence was accounted for by extraversion. In step 2, social anxiety was added into the model and did not explain a significant additional amount of variance in self-rated leadership above and beyond personality [$\Delta R^2 = .00$, $\Delta F(1, 151) = .04$, $p = n.s.$]. Thus, hypothesis 1 was not supported.

A multiple regression analysis was conducted to test the moderating effect of psychological safety on the relationship between social anxiety and self-rated leadership emergence while controlling for extraversion. Due to the strong correlation between social anxiety and psychological safety ($r = -.47$, $p < .01$), the predictor variables were centered to reduce multicollinearity. The moderation analysis shows that the interaction between social anxiety and psychological safety in predicting self-rated leadership emergence was not significant when controlling for extraversion, $\beta = -.07$, $t(149) = -.86$, $p < n.s.$ (Table 10). Thus, hypothesis 2 was not supported.

Hierarchical multiple regression analyses were used to test hypothesis 3, the relationship between social anxiety and emotional exhaustion after controlling for extraversion. In step 1, extraversion was entered as a predictor into the model and explained a significant amount of variance in the frequency of emotional exhaustion [$R^2 = .04$, $F(1, 152) = 6.43$, $p < .05$]. Four percent of the variance in the frequency of emotional exhaustion was accounted for by extraversion. In step 2, social anxiety was entered into the model and explained a significant amount of additional variance in the frequency of emotional exhaustion [$\Delta R^2 = .44$, $\Delta F(1, 151) = 130.14$, $p < .001$]. An additional 44% of variance in the frequency of emotional exhaustion was accounted for by social anxiety (Table 11). A second hierarchical multiple regression was conducted and found that extraversion, when entered into step 1, explained a significant amount of variance in the intensity of emotional exhaustion [$R^2 = .05$, $F(1, 152) = 7.60$, $p < .01$]. Five percent of the variance in the intensity of emotional exhaustion was accounted for by extraversion. In step 2, social anxiety was entered into the model and explained a significant amount of additional variance in the intensity of emotional exhaustion [$\Delta R^2 = .41$, $\Delta F(1, 151) = 113.30$, $p < .001$]. An additional 41% of variance in the intensity of emotional exhaustion was accounted for by social anxiety (Table 12). A third hierarchical regression was conducted using a dependent variable that represented the average of the frequency and intensity emotional exhaustion measures, termed here as “general emotional exhaustion.” When extraversion was entered into step 1, it predicted a significant amount of variance in general

emotional exhaustion [$R^2 = .05$, $F(1,152) = 7.36$, $p < .01$]. Five percent of the variance in general emotional exhaustion was accounted for by extraversion. In step 2, social anxiety was entered into the model and explained a significant amount of additional variance in general emotional exhaustion [$\Delta R^2 = .44$, $\Delta F(1, 151) = 75.52$, $p < .001$]. An additional 44% of variance in general emotional exhaustion was accounted for by social anxiety (Table 13). Thus, hypothesis 3 was supported.

To test the relationship between social anxiety and professional self-efficacy while controlling for extraversion, hierarchical multiple regression analysis was conducted (Table 14). In step 1, extraversion was entered into the model and was found to be a significant predictor of professional self-efficacy [$R^2 = .09$, $F(1, 152) = 15.53$, $p < .001$]. Extraversion accounted for 9% of the variance in professional self-efficacy. In step 2, social anxiety was entered into the model and did not explain a significant amount of additional variance in professional self-efficacy [$\Delta R^2 = .02$, $\Delta F(1, 151) = 3.88$, $p = n.s.$]. Thus, hypothesis 4 was not supported.

Model 4 of PROCESS Macro (Hayes, 2013) was used to test the parallel mediating effect of emotional exhaustion and professional self-efficacy on self-rated leadership emergence while controlling for extraversion. The results of this analysis can be seen in Figure 4. Results indicated that after controlling for extraversion, social anxiety was a significant predictor of emotional exhaustion ($a_1 = .77$, $SE = .07$, $p < .001$) and higher levels of emotional exhaustion were subsequently related to lower levels of self-rated leadership emergence ($b_1 = .20$, $SE = .10$, $p < .05$). However, a 95% bias-corrected confidence interval based on 10,000 bootstrapped samples indicated that the indirect effect of emotional exhaustion on self-rated leadership emergence ($a_1b_1 = .15$), holding all other mediators constant, contained zero (CI = $-.01, .33$), suggesting that the indirect effect of emotional exhaustion on self-rated leadership emergence was not significant. Social anxiety was not found to be a significant predictor of professional self-efficacy ($a_2 = -.17$, $SE = .09$, $p = n.s.$), though professional self-efficacy was found to be a significant predictor of self-rated leadership emergence ($b_2 = .47$, $SE = .07$, $p < .001$). A 95% bias-corrected confidence interval based on 10,000 bootstrapped samples indicated that the indirect effect of professional self-efficacy on self-rated leadership emergence ($a_2b_2 = -.08$), holding all other mediators constant, contained zero (CI = $-.18, .00$), suggesting the indirect effect of professional self-efficacy on self-rated leadership emergence was not significant. Social anxiety was not a significant predictor of self-rated leadership when

controlling for extraversion, emotional exhaustion, and professional self-efficacy ($c' = -.09$, $SE = .11$, $p = n.s.$). A 95% bias-corrected confidence interval based on 10,000 bootstrapped samples further indicated that, holding extraversion, emotional exhaustion, and professional self-efficacy constant, the direct effect of social anxiety on self-rated leadership was not significant ($CI = -.30, .12$). Separate mediation analyses were also conducted where each mediator (i.e., general emotional exhaustion, professional self-efficacy) was tested individually (i.e., not using a parallel mediation design), and results were nearly identical to those generated using the parallel mediation analysis. Thus, hypothesis 5 was not supported.

Multiple regression analysis was utilized to test the moderating role of familiarity on the relationship between social anxiety and emotional exhaustion in terms of frequency, intensity, and general emotional exhaustion while controlling for extraversion. Predictor variables in both analyses were centered to make more meaningful interpretations of the main effects (Field, 2013). The moderation analysis shows that the interaction between social anxiety and familiarity in predicting the frequency of emotional exhaustion while controlling for extraversion was significant, $\beta = .15$, $t(149) = 2.58$, $p < .01$ (Table 15). Additionally, the interaction between social anxiety and familiarity in predicting the intensity of emotional exhaustion while controlling for extraversion was also significant, $\beta = .16$, $t(149) = 2.63$, $p < .01$ (Table 16). A third regression analysis (Table 17) was conducted with the emotional exhaustion general variable entered as the dependent variable and demonstrated that the interaction between social anxiety and familiarity also significantly predicted emotional exhaustion in general while controlling for extraversion, $\beta = .16$, $t(149) = 2.73$, $p < .01$. The pattern of this significant interaction (the effect of familiarity x social anxiety on the general measure of emotional exhaustion) is shown in Figure 5.

The simple slopes were tested to better understand the interaction between familiarity and social anxiety on general emotional exhaustion when controlling for extraversion by identifying those with low levels of social anxiety (-1 SD below the mean) and those with high levels of social anxiety (+1 SD above the mean). For those lower in social anxiety, the effect of familiarity on general emotional exhaustion was significant ($\beta = -.24$, $p < .01$), meaning that for those with lower levels of social anxiety, general emotional exhaustion was lowest when familiarity was high. Conversely, for those higher in social anxiety, the effect of familiarity on

general emotional exhaustion was not significant ($\beta = .03, p = n.s$), meaning that familiarity within one's team was not able to buffer against the effects of social anxiety on general emotional exhaustion. Thus, hypothesis 6 was partially supported.

Multiple regression analysis was used to test the moderating effect of familiarity on the relationship between social anxiety and professional self-efficacy while controlling for extraversion. Again, all predictor variables were centered. The moderation analysis indicates that the interaction between social anxiety and familiarity in predicting professional self-efficacy while controlling for extraversion was significant, $\beta = .20, t(149) = 3.07, p < .01$ (Table 18). The pattern of this interaction is shown in Figure 6. Simple slopes were again used to better understand the interaction between familiarity and social anxiety on professional self-efficacy when controlling for extraversion by identifying those with low and high levels of social anxiety as before (± 1 SD above or below the mean). For those lower in social anxiety, the effect of familiarity on professional self-efficacy was significant ($\beta = .28, p < .01$), meaning that for those with lower levels of social anxiety, professional self-efficacy was highest when familiarity with team members was high. For those higher in social anxiety, the effect of familiarity on professional self-efficacy was also significant ($\beta = .64, p < .001$), meaning that familiarity within the team buffers against the negative effect of social anxiety on professional self-efficacy. Generally speaking, the negative relationship between social anxiety and professional self-efficacy is weaker for those who feel more familiar with their teammates. Thus, hypothesis 7 was supported.

Exploratory Analyses

Additional analyses outside the scope of the proposed hypotheses were conducted to better understand the relationships that emerged within both datasets. Firstly, a hierarchical multiple regression analysis was conducted to determine if social anxiety predicted general emotional exhaustion above and beyond neuroticism. Given the strong correlation that was found between neuroticism and social anxiety, both variables were centered in order to reduce multicollinearity. In step 1, neuroticism was entered into the model and predicted a significant amount of variance in general emotional exhaustion [$R^2 = .29$, $F(1, 152) = 63.25$, $p < .001$]. Neuroticism accounted for 29% of the variance in general emotional exhaustion. In step 2, social anxiety was entered into the model and predicted a significant additional amount of variance in general emotional exhaustion [$\Delta R^2 = .21$, $\Delta F(2, 151) = 63.37$, $p < .001$]. Social anxiety predicted an additional 21% of variance in general emotional exhaustion above and beyond neuroticism (Table 19).

A second exploratory analysis was conducted using hierarchical multiple regression to determine if social anxiety predicted professional self-efficacy above and beyond neuroticism (Table 20). Again, both social anxiety and neuroticism were centered to avoid multicollinearity. In step 1, neuroticism was entered into the model and predicted a significant amount of variance in professional self-efficacy [$R^2 = -.36$, $F(1, 152) = 22.51$, $p < .001$]. Neuroticism accounted for 36% of the variance in professional self-efficacy. In step 2, social anxiety was entered into the model and did not account for a significant amount of variance in professional self-efficacy above and beyond neuroticism [$\Delta R^2 = .01$, $\Delta F(2, 151) = 1.66$, $p = n.s.$].

A third exploratory analysis was conducted using hierarchical multiple regression to determine if social anxiety predicted general emotional exhaustion above and beyond both neuroticism and extraversion (Table 21). Extraversion, neuroticism, and social anxiety were all centered to avoid multicollinearity. In step 1, both extraversion and neuroticism were entered into the model and predicted a significant amount of variance in general emotional exhaustion [$R^2 = .30$, $F(2, 151) = 31.68$, $p < .001$]. Extraversion and neuroticism accounted for 30% of the variance in general emotional exhaustion. In step 2, social anxiety was entered into the model and accounted for a significant amount of additional variance in general emotional exhaustion [$\Delta R^2 = .23$, $\Delta F(3, 150) = 73.97$, $p = .001$]. Social anxiety

predicted an additional 23% of the variance in general emotional exhaustion above and beyond extraversion and neuroticism.

Overall Discussion

In Study 1, archival multi-wave team data was analyzed to examine social anxiety's role in predicting self and other-rated leadership emergence above and beyond the predictive role of personality. Interestingly, personality and social anxiety both failed to significantly predict other-rated leadership emergence. In terms of self-rated leadership emergence, extraversion was the only personality predictor of the Big Five factor model to predict leadership emergence. Social anxiety failed to explain any additional variance in self-rated leadership emergence. However, due to the small sample size and low reliability estimates of the personality factors of the Mini-IPIP (Table 2), the results of Study 1 should be interpreted with caution.

Study 2 utilized a cross-sectional design to survey 154 individuals in working environments. While social anxiety was found to be significantly related to self-rated leadership emergence ($r = -.18, p < .05$), social anxiety failed to predict self-rated leadership emergence after controlling for the Big Five personality factors. Of the five personality factors, extraversion was the only factor to significantly predict self-rated leadership emergence. This finding was somewhat surprising given Judge and colleague's past meta-analytic work that found extraversion, openness to experience (or intellect/imagination), and conscientiousness to all be significant predictors of leadership emergence. These incongruent findings may be due to the nature of the criterion (i.e., being self-report) or the low reliability estimates of the personality measure.

While the findings failed to support hypothesis 1, they still offer an interesting contribution to the literature in that very few published empirical works have examined the relationship between social anxiety and personality traits. It is possible that, especially as the level of social anxiety increases, social anxiety becomes more of a trait characteristic as opposed to a fluctuating state. A highly socially anxious individual may have experienced this anxiety for the majority of his or her life, in turn shaping his or her experiences, behaviors, and preferences throughout the years. For instance, socially anxious individuals avoid suspected interpersonal scrutiny based on their performance or impressions, which may prevent them from trying to new things or meeting new people (i.e., openness to experience, which demonstrated the largest correlation with social anxiety, $r = -.63$,

$p < .01$). If the experience of social anxiety is a constant in a person's life, separating the causality between personality and social anxiety would be very difficult to do. It is also possible that a latent construct may be responsible for the relationship between social anxiety and introversion. Additionally, a lack of social anxiety alone does not imply that an individual has any desire to emerge as a leader. The combination of a lack of social anxiety along with other important traits and situations that allow for leadership emergence should be considered in order to provide a more holistic view of the variables at play. The non-significant relationship between social anxiety and leadership may also suggest that despite experiences of social anxiety, those experiences alone will not determine whether or not a person will emerge as a leader, meaning that if a person wants to emerge as a leader, experiences of social anxiety will not stop them. This is an empowering notion considering the extremely high prevalence of social anxiety.

Despite the inability of social anxiety to predict self-rated leadership emergence above and beyond personality, the parallel mediation analysis demonstrated insightful results. The indirect effects of social anxiety, while controlling for extraversion, on self-rated leadership emergence through emotional exhaustion and professional self-efficacy were found to be insignificant (Figure 4). However, the individual relationships between social anxiety and emotional exhaustion and emotional exhaustion and self-rated leadership emergence were noteworthy. It appears that social anxiety is significantly related to emotional exhaustion in the workplace. Even if this relationship does not lead to a lack of leadership emergence, emotional exhaustion still has negative and consequential implications for the workplace, such as laissez-faire leadership (Courtright et al., 2014), lower levels of efficacy and optimism (Tuckey & Neall, 2014), and increased turnover intentions (Alarcon, 2011). Thus, organizations should certainly be aware of emotional exhaustion within employees and what they might be able to do to prevent such a phenomenon. Additionally, exploratory analyses demonstrated that social anxiety predicted general emotional exhaustion above and beyond neuroticism. This suggests that variables other than personality (e.g., mental illness) may have serious implications for stress responses at work. If employees with mental illness are at greater risk to experience emotional exhaustion and thus suffer negative work-related consequences, further research should be dedicated to determining effective interventions to prevent these negative outcomes.

Additionally, exploratory analyses investigated social anxiety's ability to predict professional self-efficacy above and beyond neuroticism. Social anxiety

failed to significantly predict professional self-efficacy above and beyond neuroticism. These findings are interesting when considered with social anxiety's ability to predict emotional exhaustion above and beyond neuroticism. Comparing the phenomena of emotional exhaustion and self-efficacy, both involve some sort of stress or build up in order to culminate. However, in comparison to professional self-efficacy, emotional exhaustion may fluctuate more freely from week to week or month to month and rely more heavily on environmental influences and the emotions a person experiences. On the other hand, self-efficacy is slowly built (or broken) over long periods of time due to actual experiences, vicarious experiences, feedback from others and internal cues (Bandura, 1997). In this case, a more stable predictor (i.e., a personality variable) understandably accounts for more variance in self-efficacy than a predictor that may be unstable or fleeting, especially for those lower in social anxiety.

These findings also have implications for the use of COR and burnout theories in different contexts. Burnout theory has been primarily studied and associated with certain fields of work, such as nursing and social work (Maslach et al., 2001). It makes sense to study burnout through the lens of context such as occupations – especially when the occupations in which burnout is generally studied require long hours, interpersonal interactions with possibly unpleasant individuals, and exposure to traumatic or distressing events. However, as mental illness becomes a topic that individuals and organizations are willing to discuss, COR and burnout theories may prove to be valuable lenses in which to study the effects and possible interventions surrounding mental illness in the workplace. The knowledge that social anxiety has an ability to predict a facet of burnout (i.e., emotional exhaustion), which in turn may predict negative workplace outcomes means that interventions that are purposed to aid such individuals in the workplace should consider approaching it through a resource perspective. Resource-based interventions may include the organization making organizational resources that may benefit employees more accessible, whether it means offering more resources or making sure current and future employees are aware of all the resources the organization already has to offer (e.g., employee-assistance programs, mental health days or other time off, etc.). Another resource-based intervention may involve training individuals to efficiently maintain their own resources through various approaches (e.g., encouraging individual engagement in healthy behaviors). A resource-based intervention may be contrasted with an intervention that aims to improve the experience of those suffering from social anxiety but may be

misguided. For example, when encountering diversity or marginalized groups in the workplace, stigma-based interventions may be employed (e.g., diversity training). While this may be helpful in some circumstances, if further research demonstrates that social anxiety affects important organizational outcomes through the draining of resources and subsequent feelings of emotional exhaustion and lowered professional self-efficacy, stigma-based interventions would likely not best address the issue.

Study 2 also confirmed which important factors may mitigate the negative effect of social anxiety. Psychological safety did not significantly moderate the relationship between social anxiety and leadership emergence when controlling for extraversion. The results suggest that regardless of the amount of perceived psychological safety within a team, extraversion will predict leadership emergence. This does make sense when thinking of the inverse of these variables. Introverted individuals, due to their nature, are unlikely to engage in the dominant social behaviors that result in leadership emergence within leaderless teams (Ensari et al., 2011; Gough, 1988), regardless of psychological safety. While psychological safety has been linked to important workplace behaviors such as voice behaviors (Miceli & Near, 1992), task performance (Frazier et al., 2017), and feelings of vitality (Gong et al., 2012), which have implications for leadership emergence, psychological safety may play a more important role for some individuals as opposed to others. While perceptions of high psychological safety may encourage willing individuals to contribute, for individuals with no desire to contribute (interpersonally or otherwise), psychological safety may make no difference. Conversely, individuals who experience high levels of psychological safety in their team may feel permission to remain as they are and not work outside of their comfort zone (i.e., not emerge as a leader). Additionally, individuals who are self-assured, independently driven, or not as invested in what others think may not be as affected by (or even notice) the psychological safety of their team. It is also possible that certain environments require psychological safety whereas others do not. For example, certain work engaged in by teams may not require any interpersonal risk taking, but rather involve mundane task-work that does not allow for any input from individual team members. In such an instance, psychological safety may not be as crucial to the functioning of the team if it has no chance to be utilized.

Finally, familiarity with teammates was also found to be an important boundary condition of social anxiety's relationships with emotional exhaustion and

professional self-efficacy. Familiarity significantly moderated the relationship between social anxiety and professional self-efficacy, such that when familiarity was high, the negative relationship between social anxiety and professional self-efficacy was weaker. This finding supported the notion of familiarity as a social support resource, where socially anxious individuals in teams with high teammate familiarity may feel as though they have more resources to meet the demands of group work. Additionally, familiarity with team members may lessen the fear of negative subjective evaluations, which in turn allows socially anxious individuals to more freely interact and engage with the work, allowing them to build their self-efficacy.

However, familiarity was found to have a slightly different effect on the relationship between social anxiety and emotional exhaustion. As can be seen in Figure 5, for those with lower social anxiety, familiarity was a more effective buffer in preventing against general emotional exhaustion. However, for those higher in social anxiety, familiarity was less helpful in buffering against general emotional exhaustion. This finding makes sense if we consider the context of the social anxiety measure. A person's score on the SPIN (Connor et al., 2006) can range from 0 to 68, where a higher score indicates a more severe experience of social anxiety. The scores on the SPIN ranged from 0-66 in Study 2's dataset, meaning individuals with extremely high social anxiety were represented in the dataset. Given the severity of social anxiety, it makes sense that familiarity alone would not be able to buffer the effects of emotional exhaustion. When considered clinically, extremely high levels of social anxiety may require treatment such as therapy or prescription medication for effective functioning. As such, familiarity alone will not be able to prevent emotional exhaustion in highly socially anxious individuals. However, for those with less extreme social anxiety, familiarity with teammates did prevent feelings of emotional exhaustion, suggesting that those who experience mild social anxiety would benefit from acquainting themselves with their teammates on an interpersonal level.

Limitations and Future Directions

The present study was certainly not without its limitations. The first limitation of the present work is the relatively low reliability estimates of certain Big Five personality factors (i.e., agreeableness, conscientiousness, and intellect/imagination in Study 1; conscientiousness and neuroticism in Study 2).

Lower reliability estimates affect a variable's predictive abilities, meaning it may be harder to find significant relationships when reliability estimates are low compared to when they are higher (Traub, 1994). The relatively poor reliability exhibited by the personality measure may explain why expected relationships did not occur between personality variables (e.g., conscientiousness and openness to experience) and leadership emergence. While measures, especially concerning personality variables, have to balance scale length and reliability estimates, future research involving these variables (or other important organizational outcomes) should attempt to better reconcile these competing interests.

Another limitation of the present work is the inability to draw any causal inferences regarding social anxiety's relationship with leadership emergence, emotional exhaustion, or professional self-efficacy. Additionally, while the cross-sectional survey design allowed for data collection using a working sample, it also may have allowed common method bias. However, given the relative brevity of the survey and the relationships occurring for the most part, in the directions hypothesized (i.e., some variables were significantly positively related, some were significantly negatively related, some were not related at all) common method bias is likely not a major threat to the validity of the current findings. What may be of concern, however, is the quality of the data as it was obtained through Amazon's MTurk. While all common safeguards were used in order to ensure high quality data (e.g., attention checks, qualifiers that required the participants to have a certain HIT approval), these findings should be replicated on a different sample to bolster the conclusions drawn from this research.

A limitation of the current research was the inability to capture enough other-rated data and thus, a reliance on self-report data. Future research would certainly benefit from capturing meaningful other-rated criterion measures. In this instance, other-rated leadership emergence ratings would have been very insightful, perhaps especially in regards to the first hypothesis. It is possible that individuals may muddy their social anxiety as part of their personality, but others may not interpret those interactions as such. Additionally, using more than one common source for all data collection would help strengthen any findings.

Future research interested in replicating or disputing the findings may find more meaningful variance in these relationships by utilizing experience sampling methods. Experience sampling methods, such as having individuals fill out brief surveys several times throughout the day using a mobile device, would better capture the experience of social anxiety for those individuals who experience social

anxiety as fleeting, as opposed to a more stable, debilitating disorder. However, individuals with more severe social anxiety who experience it as a stable phenomenon may experience different triggers of social anxiety or have these effects mitigated by different moderating variables than those of someone with less severe social anxiety. As both subsets of individuals are important to study, experience sampling methods may provide richer and more meaningful data for the different levels of severity of social anxiety.

Future research may also incorporate a cognitive variable that mediates the relationship between social anxiety and leadership emergence. Cognitive interference has been used to explain the relationship between anxiety and poor performance (e.g., Eysenck et al., 2007). While emotional exhaustion was found to mediate the link between workplace anxiety and job performance above the effect of cognitive interference (McCarthy et al., 2016), incorporating emotional exhaustion and cognitive interference in predicting social anxiety's relationship with leadership emergence may help further explain this relationship.

Another insightful avenue of research might include what other moderating variables may influence the relationship between social anxiety and emotional exhaustion. For example, organizational culture may influence a socially anxious individual's comfortability in the workplace, such that cultures highly focused on interpersonal interactions may place more demands and cause more distress for a socially anxious individual. Additionally, an organization's attitudes towards mental health may also affect how comfortable an individual may feel. An organization that values or is willing to have conversations surrounding mental health may be able to lessen the stigma surrounding mental illness. Companies who recognize the importance of mental health may also be more likely to provide adequate resources and train employees in diversity. Future research should also consider the issue of self-selection when studying social anxiety in the workplace. It is likely that highly socially anxious individuals choose to not work in careers or positions that require excessive social interaction. As such, if studying social anxiety, researchers should be mindful of the sample obtained.

A final, and also important, suggestion for future research is to continue to try to parse out the sequential nature of burnout. As mentioned in the literature review, theoretical arguments are abundant for the different order of the burnout facets – yet virtually no empirical evidence can fully support a single sequential ordering. The current work tested emotional exhaustion and professional self-efficacy as mediators in the relationship between social anxiety and leadership

emergence, while effectively conceptualizing a lack of leadership emergence as the cynicism dimension of burnout. A replication of the current work would contribute to the literature by including a measure of cynicism in a temporal fashion, aiming to understand if a lack of leadership emergence is a conceptualization of cynicism. Such research would greatly inform the resource perspective of studying mental illness in the workplace.

Conclusions

Despite the various approaches to studying leadership emergence (e.g., the trait approach, situational approaches, emergent leader theory, etc.), no singular framework stands out above the rest in its ability to predict who will emerge as a leader and why. While the Big 5 personality approach has received considerable acceptance throughout the years, it provides little insight into the ways in which fluctuating experiences affect individuals' leadership emergence.

Anxiety is the single most prevalent mental health ailment among adults (Stein & Stein, 2008) and affects many aspects of a person's life (Wittchen et al., 2000). Furthermore, social anxiety is the most common of anxiety disorders (Stein & Stein, 2008). As organizations initiate conversations about mental health and offer benefits for employees suffering from mental illness, it is important that the research surrounding these issues remains up to date and answers pertinent questions. Thus, studying social anxiety is a great stepping stone in the large-scale effort to better understand the effects of mental health on employees and employers.

This research attempted to better understand the effects of social anxiety in the workplace. While social anxiety did not significantly predict self-rated leadership emergence above and beyond personality, social anxiety did predict emotional exhaustion above and beyond personality. This may suggest that while personality may play a large, more stable role in what may be considered more deliberate outcomes (i.e., purposely engaging in leadership behaviors), social anxiety is still worth examining given its effects on employee well-being (i.e., emotional exhaustion). In examining these relationships through a resource perspective, the results supported the relationships between emotional exhaustion and leadership emergence and professional self-efficacy and leadership emergence. Nonetheless, the indirect effect of social anxiety on leadership emergence through these two variables when controlling for extraversion was not significant.

Surprisingly, psychological safety did not moderate the relationship between social anxiety and leadership emergence when controlling for extraversion, which may suggest psychological safety may not play as large of a role in determining leadership emergence for some individuals. Lastly, by studying the moderating role of familiarity in the relationship between social anxiety and burnout facets, I found that when familiarity was high, the negative relationship between social anxiety and professional self-efficacy was weaker for those both low and high in social anxiety. In the relationship between social anxiety and emotional exhaustion, however, familiarity was helpful in buffering against the effects of social anxiety on emotional exhaustion for those lower in social anxiety. Unfortunately, familiarity was found to be less helpful in weakening the relationship between social anxiety and emotional exhaustion for those higher in social anxiety. Further research should be conducted to not only make theoretical contributions to the burnout literature, but also to ensure that interventions suggested to organizations drive meaningful results in employee well-being and success.

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Appendix A

Survey Measures

Study 1 Measures:

Social anxiety:

Connor, K. M., Davidson, J. R. T., Churchill, L. E., Sherwood, A., Foa, E., & Weisler, R. H. (2006). *Social phobia inventory* doi:<http://dx.doi.org.portal.lib.fit.edu/10.1037/t03804-000>

Instructions: Please indicate how much the following problems have bothered you during the past week. Mark only one box for each problem, and be sure to answer all items.

1. I am afraid of people in authority
2. I am bothered by blushing in front of people
3. Parties and social events scare me
4. I avoid talking to people I don't know
5. Being criticized scares me a lot
6. Fear of embarrassment causes me to avoid doing things or speaking to people
7. Sweating in front of people causes me distress
8. I avoid going to parties
9. I avoid activities in which I am the center of attention
10. Talking to strangers scares me
11. I avoid having to give speeches
12. I would do anything to avoid being criticized
13. Heart palpitations bother me when I am around people
14. I am afraid of doing things when people might be watching
15. Being embarrassed or looking stupid is among my worst fears
16. I avoid speaking to anyone in authority
17. Trembling or shaking in front of others is distressing to me

Measured on a 5-point scale ranging from 'not at all' to 'extremely'

Note: this scale was also used in Study 2

Personality:

Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The Mini-IPIP scales: Tiny-yet-effective measures of the Big Five factors of personality. *Psychological Assessment*, 18, 192-203. doi:10.1037/1040-3590.18.2.192

International Personality Item Pool: A Scientific Collaboratory for the Development of Advanced Measures of Personality Traits and Other Individual Differences (<http://ipip.ori.org/>). Internet Web Site.

Instructions: Please indicate to what extent these statements accurately describe you. Please describe yourself as truthfully as possible as you are now, not as you wish to be in the future.

1. I am the life of the party.
2. I sympathize with others' feelings.
3. I get chores done right away.
4. I have frequent mood swings.
5. I have a vivid imagination.
6. I don't talk a lot.
7. I am not interested in other people's problems.
8. I often forget to put things back in their proper place.
9. I am relaxed most of the time.
10. I am not interested in abstract ideas.
11. I talk to a lot of different people at parties or gatherings.
12. I feel others' emotions.
13. I like order.
14. I get upset easily.
15. I have difficulty understanding abstract ideas.
16. I keep in the background.
17. I am not really interested in others.
18. I make a mess of things.
19. I seldom feel sad.
20. I do not have a good imagination.
21. I do not like being the center of attention.

Measured on a 5-point scale ranging from 'very inaccurate' to 'very accurate'
Note: this scale was also used in Study 2

Leadership emergence: (3 items)

(self-rating)

Instructions: For each of the following statements, please indicate the extent to which you agree or disagree.

1. I believe my coworkers consider me to be a leader.
2. I think others rely on my leadership at work.
3. I believe others think I influence the team/work group.

(other-rating)

Instructions: You will now be asked to answer the following items regarding the coworker who forwarded you this survey link. For each of the following statements, please indicate the extent to which you agree or disagree.

1. I consider this coworker to be a leader.
2. I rely on this coworker's leadership at work.
3. This coworker has influenced the team/work group.

Both types of ratings are measured on a 5-point Likert-type scale ranging from 'strongly disagree' to 'strongly agree'

Note: this scale was also used in Study 2

Demographics:

What is your gender?

What is your age, in years?

What is your race or ethnic background?

What is your university class standing?

What is your employment status?

Study 2 Measures:

Psych safety:

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative science quarterly*, 44(2), 350-383.

Instructions: For the following statements, please indicate how strongly you agree or disagree with each statement.

1. If you make a mistake on this team, it is often held against you.
2. Members of this team are able to bring up problems and tough issues.
3. People on this team sometimes reject others for being different.
4. It is safe to take a risk on this team.
5. It is difficult to ask other members of this team for help.
6. No one on this team would deliberately act in a way that undermine my efforts.
7. Working with members of this team, my unique skills and talents are valued and utilized.

Measured on a 5-point Likert-type scale ranging from 'strongly disagree' to 'strongly agree'

Familiarity:

3 items, a 2-item measure from Gächter, Starmer & Tufano (2015) and 1 item adapted from the Cortes et al. (2005)

Cortes, B. P., Demoulin, S., Rodriguez, R. T., Rodriguez, A. P., & Leyens, J. (2005). Familiarity measure doi:<http://dx.doi.org.portal.lib.fit.edu/10.1037/t17653-000>

Gächter, S., Starmer, C., & Tufano, F. (2015). Measuring the closeness of relationships: a comprehensive evaluation of the 'Inclusion of the Other in the Self' scale. *PloS one*, 10(6), e0129478.

1. "How many members of this team do you consider good friends?" (responses: none, a few, about half, most, all)
2. "Relative to all your other relationships (both same and opposite sex) how would you characterize your relationship with the members of this team?" (7 point scale: not close at all - very close)
3. "Relative to what you know about other people's close relationships, how would you characterize your relationship with the members of this team?" (7 point scale: not close at all - very close)

Emotional exhaustion:

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of organizational behavior*, 2(2), 99-113.

Instructions: Please indicate **how frequently** you experience each of the following statements/Please indicate **how intensely** you experience each of the following statements.

1. I feel emotionally drained from my work
2. I feel used up at the end of the workday
3. I feel fatigued when I get up in the morning and have to face another day on the job
4. Working with people all day is really a strain for me
5. I feel burned out from my work
6. I feel frustrated by my job
7. I feel I am working too hard on my job
8. I feel like I am at the end of my rope

Measured in terms of frequency and intensity on scale of 1-7 from 'a few times a year' to 'every day'/'very mild, barely noticeable' to 'very strong, major' with 'never' and 'n/a' options, respectively

Professional self-efficacy:

Frans, D. J. (1993). A scale for measuring social worker empowerment. *Research on Social Work Practice*, 3(3), 312-328.

doi:<http://dx.doi.org.portal.lib.fit.edu/10.1177/104973159300300305>

Instructions: For the following statements, please indicate the extent to which you agree or disagree.

Self-concept subscale:

1. I feel that I am important to the people I work with.
2. I feel as competent as anyone else I work with.
3. I feel pretty sure of myself even when people disagree with me.
4. I think I serve a valuable role in my professional capacity.
5. I generally make a good impression with others.
6. I feel self-assured around my superiors.
7. I don't doubt my self-worth even when I think others do.

Knowledge and skills subscale:

1. I usually know what response to take to situations that arise at work.
2. My education prepared me for my job.
3. I have adequate information resources to solve most professional problems.
4. I am aware of all the pertinent issues related to my field of practice.
5. I rarely run into unfamiliar problems at work anymore.
6. I often read professional journals.
7. I attend frequent conferences and training sessions to improve my skills.
8. If I don't have the answer to a question, I always know where to get it.
9. I am frequently told that I am a very knowledgeable worker.

Both subscales are measured on a 5-point Likert-type scale ranging from 'strongly disagree' to 'strongly agree'

Demographics:

What is your age?

What is the highest level of school you have completed or the highest degree you have received?

Choose one or more races that you consider yourself to be:

What is your sex?

Which of the following industries most closely matches the one in which you are employed?

How many employees work in your establishment?

Which of the following best describes your tenure in your organization?

Which of the following best describes your tenure in your current role?

What is your job title?

Which of the following departments do you work in?

Appendix B Figures

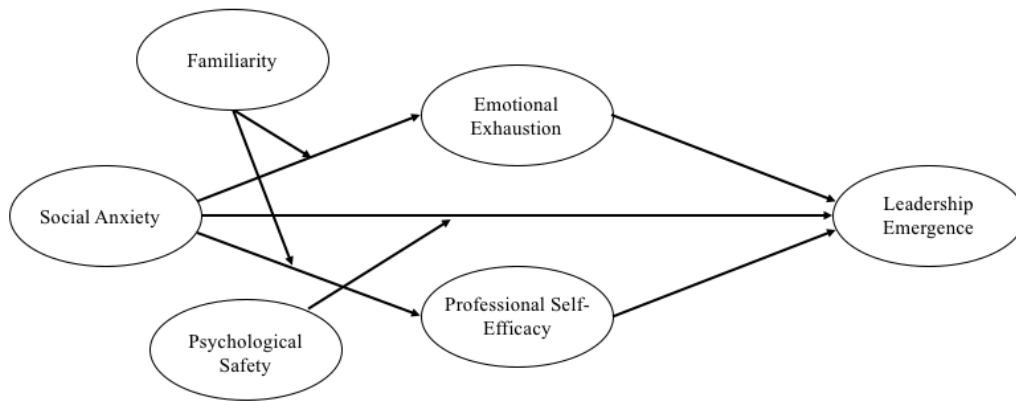


Figure 1. Theoretical Model of Proposed Relationships

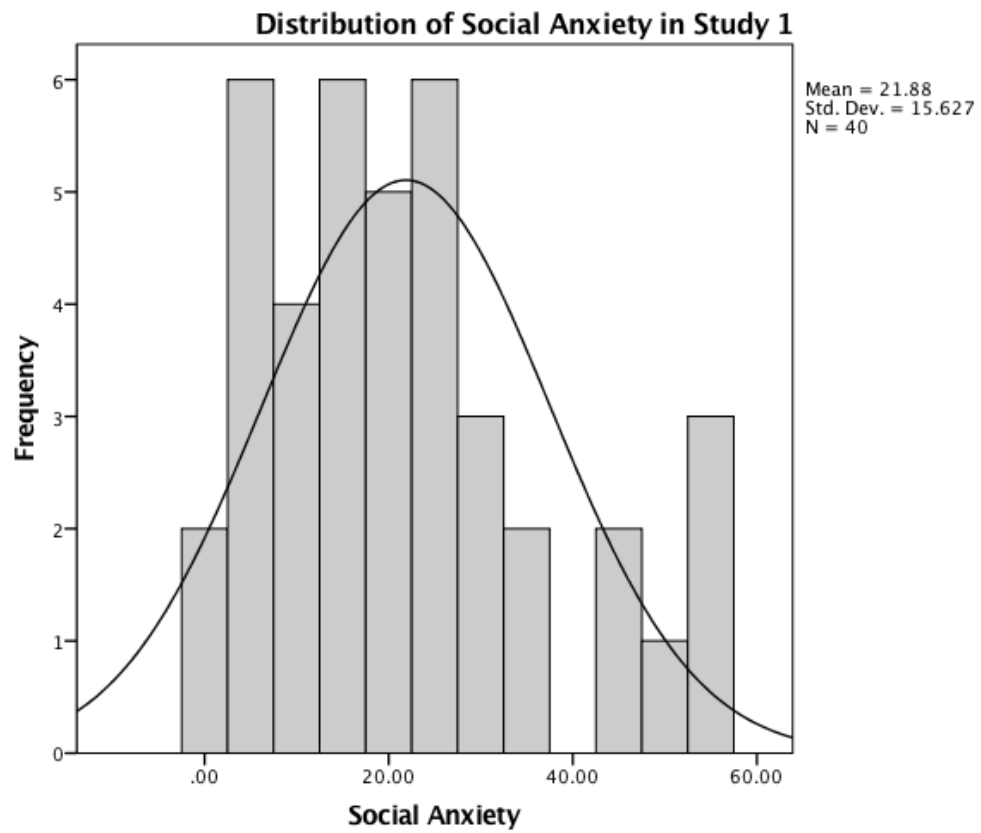


Figure 2. Distribution of Social Anxiety Scores in Study 1

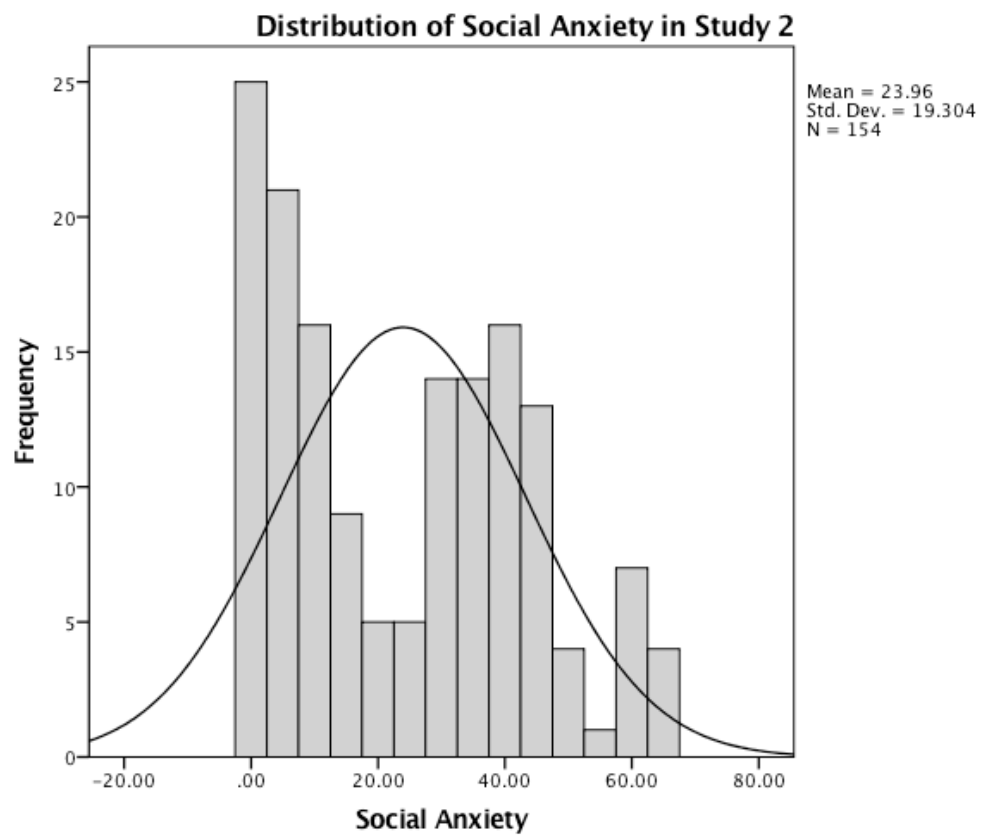


Figure 3. Distribution of Social Anxiety Scores in Study 2

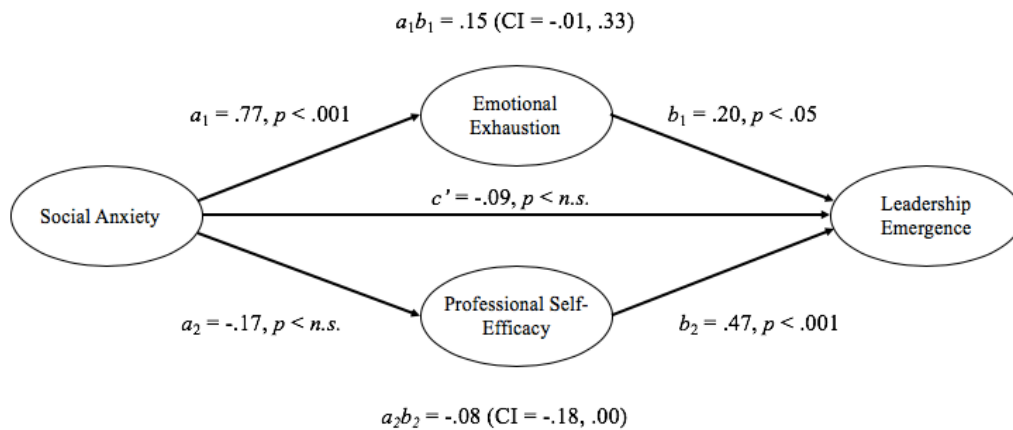


Figure 4. Parallel Mediation Results for Hypothesis 5

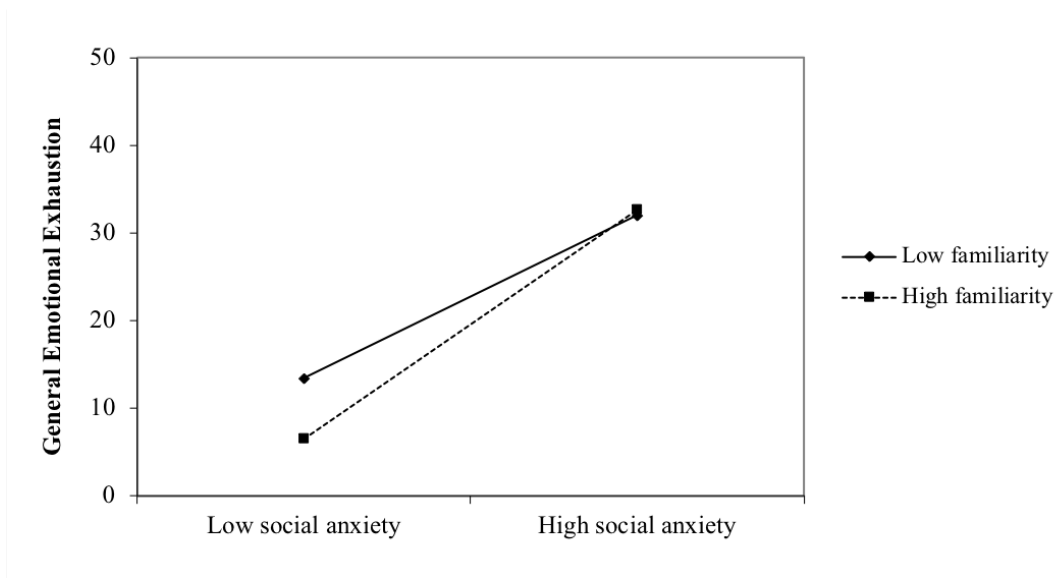


Figure 5. The Interaction Effect of Familiarity and Social Anxiety on General Emotional Exhaustion

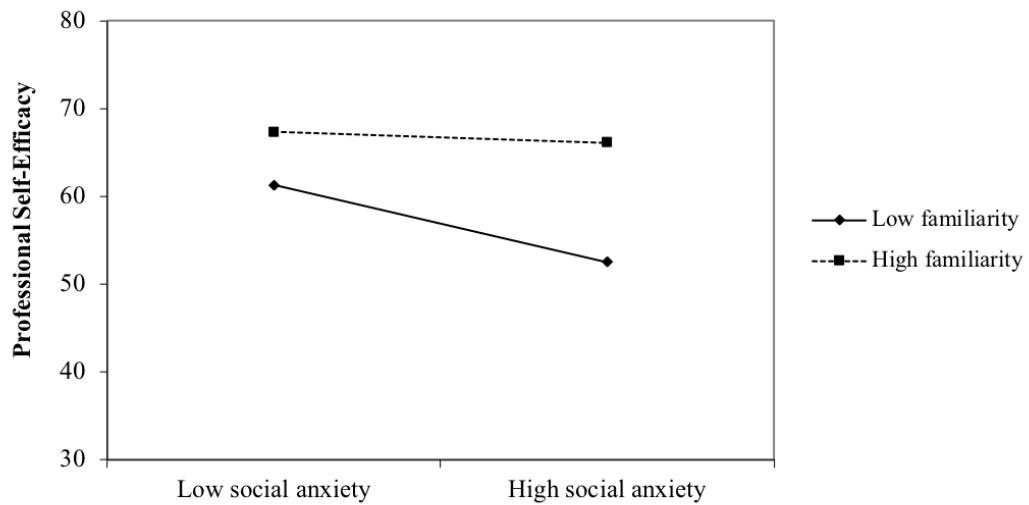


Figure 6. The Interaction Effect of Familiarity and Social Anxiety on Professional Self-Efficacy

Appendix C Tables

Table 1. Descriptive Statistics for Unstandardized Predictor and Criterion Measures in Study 1

Variable	Min	Max	Mean	SD	Skewness		Kurtosis	
					Statistic	SE	Statistic	SE
Social anxiety	.00	57.00	21.88	15.63	.734	.37	-.17	.73
Extraversion	7.00	23.00	15.23	4.33	.05	.37	-.51	.73
Agreeableness	9.00	20.00	15.55	2.66	-.17	.37	-.25	.73
Cons	8.00	19.00	14.45	3.10	-.36	.37	-.59	.73
Neuroticism	4.00	17.00	11.13	3.70	-.41	.37	-.39	.73
I/I	8.00	20.00	15.13	2.88	-.51	.37	.16	.73
Self-rated LE	1.7	5.0	3.82	.79	-.64	.37	.38	.73
Other-rated LE	1.3	5.0	3.54	.91	-.58	.37	-.09	.73

$n = 40$; *note*: Cons = Conscientiousness, I/I = Intellect/Imagination LE = Leadership emergence

Table 2. Uncorrected Correlations for Study 1 Variables

Variable	1	2	3	4	5	6	7	8
1. Social anxiety	(.95)							
2. Extraversion	-.52**	(.81)						
3. Agreeableness	.18	-.11	(.62)					
4. Cons	-.25	.151	.12	(.55)				
5. Neuroticism	.53**	-.16	.41**	.02	(.75)			
6. I/I	-.27	-.08	.13	.20	-.06	(.61)		
7. Other-rated LE	-.12	.12	.20	-.02	.03	.29	(.88)	
8. Self-rated LE	-.02	.47**	.05	.18	.05	.09	.23	(.73)

** $p < .01$ level (2-tailed); * $p < .05$ level (2-tailed); *note*: bold indicates scale reliabilities; Cons = Conscientiousness, I/I = Intellect/Imagination, LE = Leadership emergence

Table 3. Summary of Regression Analysis for Predictor Variables on Other-rated Leadership Emergence in Study 1

Variable	R^2	F	R^2 change	F change	β
Step 1	.14	1.07	.14	1.07	
Extraversion					.13
Agreeableness					.20
Conscientiousness					-.11
Neuroticism					-.02
I/I					.27
Step 2	.14	.89	.00	.11	
Extraversion					.10
Agreeableness					.20
Conscientiousness					-.13
Neuroticism					.02
I/I					.26
Social anxiety					-.08

Note: I/I = Intellect/Imagination

Table 4. Summary of Regression Analysis for Predictor Variables on Self-rated Leadership Emergence in Study 1

Variable	R^2	F	R^2 change	F change	β
Step 1	.25	2.29	.25	2.29	
Extraversion					.47**
Agreeableness					.04
Conscientiousness					.10
Neuroticism					.12
I/I					.04
Step 2	.34	2.81*	.09	4.29*	
Extraversion					.66**
Agreeableness					.04
Conscientiousness					.17
Neuroticism					-.09
I/I					.12
Social anxiety					.47*

** $p < .01$, * $p < .05$; Note: I/I = Intellect/Imagination

Table 5. Summary of Regression Analysis for Extraversion and Social Anxiety on Self-rated Leadership Emergence in Study 1

Variable	R^2	F	R^2 change	F change	β
Step 1	.22	10.76**	.22	10.76**	
Extraversion					.47***
Step 2	.29	7.64**	.07	3.75	
Extraversion					.64***
Social anxiety					.31

*** $p < .001$, ** $p < .01$, * $p < .05$; Note: I/I = Intellect/Imagination

Table 6. Descriptive Statistics for Unstandardized Predictor and Criterion Measures in Study 2

Variable	Min	Max	Mean	SD	Skewness		Kurtosis	
					Stat	SE	Stat	SE
Social anxiety	.00	66.00	23.96	19.30	.35	.20	-1.07	.39
Extraversion	5.00	25.00	15.07	4.95	-.06	.20	-.41	.39
Agreeableness	4.00	20.00	14.91	3.75	-.31	.20	-.52	.39
Cons	9.00	20.00	15.25	3.15	-.03	.20	-1.13	.39
Neuroticism	4.00	20.00	10.07	3.58	.28	.20	-.01	.39
I/I	6.00	20.00	14.69	3.96	-.26	.20	-1.05	.39
EE (frequency)	.00	48.00	19.49	14.20	.29	.20	-1.03	.39
EE (intensity)	.00	56.00	22.56	16.02	.35	.20	-.94	.39
PSE	27.00	80.00	61.71	10.74	-.46	.20	-.14	.39
Familiarity	3.00	19.00	12.30	3.27	-.34	.20	-.01	.39
PS	14.00	35.00	26.10	5.14	.24	.20	-1.10	.39
LE	3.00	15.00	11.73	2.72	-1.14	.20	1.24	.39

n = 154; *Note*: Cons = Conscientiousness, I/I = Intellect/Imagination EE = Emotional exhaustion, PSE = Professional self-efficacy, PS = Psychological safety, LE = Leadership emergence

Table 7. Uncorrected Correlations for Study 2 Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Social anxiety	(.97)											
2. Extraversion	-.50**	(.78)										
3. Agreeableness	-.37**	.13	(.75)									
4. Cons	-.52**	.11	.39**	(.60)								
5. Neuroticism	.57**	-.32**	-.12	-.44**	(.65)							
6. I/I	-.63**	.28**	.58**	.54**	-.30**	(.78)						
7. EE (frequency)	.68**	-.20*	-.22**	-.48**	.52**	-.44**	(.97)					
8. EE (intensity)	.66**	-.22**	-.26**	-.55**	.54**	-.49**	.92**	(.97)				
9. PSE	-.28**	.30**	.28**	.45**	-.36**	.29**	-.22**	-.24**	(.91)			
10. Familiarity	-.07	.21**	.18*	.11	-.21**	.06	-.14	-.10	.49**	(.82)		
11. PS	-.47**	.00	.47**	.54**	-.31**	.50**	-.48**	-.48**	.47**	.24**	(.76)	
12. Self-rated LE	-.18*	.33**	.07	.12	-.26**	.19*	-.03	.00	.51**	.40**	.13	(.84)

** $p < .01$ level (2-tailed); * $p < .05$ level (2-tailed); *note*: bold type indicates scale reliabilities; Cons = Conscientiousness I/I = Intellect/Imagination, EE = Emotional exhaustion, PSE = Professional self-efficacy, PS = Psychological safety, LE = Leadership emergence

Table 8. Summary of Regression Analysis for Predictor Variables on Self-Rated Leadership in Study 2

Variable	R^2	F	R^2 change	F change	β
Step 1	.10	3.09	.10	3.09	
Extraversion					.22*
Agreeableness					-.06
Conscientiousness					.01
Neuroticism					-.12
I/I					.08
Step 2	.10	2.84'	.01	1.53	
Extraversion					.26**
Agreeableness					-.06
Conscientiousness					.04
Neuroticism					-.16
I/I					.14
Social anxiety					.16

** $p < .01$, * $p < .05$; note: I/I = Intellect/Imagination

Table 9. Summary of Regression Analysis for Extraversion and Social Anxiety on Leadership Emergence in Study 2

Variable	R^2	F	R^2 change	F change	β
Step 1	.07	12.07**	.07	12.07**	
Extraversion					.27**
Step 2	.07	6.02	.00	.04	
Extraversion					.26**
Social anxiety					-.02

** $p < .001$

Table 10. Summary of Regression Analysis for Psychological Safety Moderation on Leadership Emergence

Variable	R^2	F	R^2 change	F change	β
Step 1	.07	12.07**	.07	12.07**	
Extraversion					.27**
Step 2	.10	4.32*	.03	1.68	
Extraversion					.30*
Social anxiety					.08
Psychological safety					.17
SA x PS					-.07

** $p < .001$; * $p < .01$; note: SA x PS = the interaction of social anxiety and psychological safety

Table 11. Summary of Regression Analysis for Extraversion and Social Anxiety in Predicting the Frequency of Emotional Exhaustion

Variable	R^2	F	R^2 change	F change	β
Step 1	.04	6.43*	.04	6.43*	
Extraversion					-.20*
Step 2	.49	71.01***	.44	130.14***	
Extraversion					.19**
Social anxiety					.77***

*** $p < .001$, ** $p < .01$, * $p < .05$

Table 12. Summary of Regression Analysis for Extraversion and Social Anxiety in Predicting the Intensity of Emotional Exhaustion

Variable	R^2	F	R^2 change	F change	β
Step 1	.05	7.60**	.05	7.60**	
Extraversion					-.22**
Step 2	.46	63.25***	.41	113.30***	
Extraversion					.16*
Social anxiety					.74***

*** $p < .001$, ** $p < .01$, * $p < .05$

Table 13. Summary of Regression Analysis for Extraversion and Social Anxiety in Predicting General Emotional Exhaustion

Variable	R^2	F	R^2 change	F change	β
Step 1	.05	7.36**	.05	7.36**	
Extraversion					-.22**
Step 2	.49	75.52***	.44	131.37***	
Extraversion					.17*
Social anxiety					.77***

*** $p < .001$, ** $p < .01$, * $p < .05$

Table 14. Summary of Regression Analysis for Extraversion and Social Anxiety in Predicting Professional Self-Efficacy

Variable	R^2	F	R^2 change	F change	β
Step 1	.09	15.53***	.09	15.53***	
Extraversion					.30***
Step 2	.12	9.86***	.02	3.88	
Extraversion					.22*
Social anxiety					-.18

*** $p < .001$, ** $p < .01$, * $p < .05$

Table 15. Summary of Regression Analysis for Familiarity Moderation on Frequency of Emotional Exhaustion

Variable	R^2	F	R^2 change	F change	β
Step 1	.04	6.43*	.04	6.43*	
Extraversion					-.20
Step 2	.52	40.73***	.48	50.09***	
Extraversion					.21*
Social anxiety					.76***
Familiarity					-.13*
SA x Fam					.15**

*** $p < .001$, ** $p < .01$, * $p < .05$; note: SA x Fam = the interaction of social anxiety and familiarity

Table 16. Summary of Regression Analysis for Familiarity Moderation on Intensity of Emotional Exhaustion

Variable	R^2	F	R^2 change	F change	β
Step 1	.05	7.60	.05	7.60	
Extraversion					-.22**
Step 2	.49	35.35***	.44	42.53***	
Extraversion					.17*
Social anxiety					.72***
Familiarity					-.08
SA x Fam					.16**

*** $p < .001$, ** $p < .01$; note: SA x Fam = the interaction of social anxiety and familiarity

Table 17. Summary of Regression Analysis for Familiarity Moderation on General Emotional Exhaustion

Variable	R^2	F	R^2 change	F change	β
Step 1	.05	7.36**	.05	7.36**	
Extraversion					-.22**
Step 2	.53	41.19***	.48	50.09***	
Extraversion					.19**
Social anxiety					.75***
Familiarity					-.11
SA x Fam					.16**

*** $p < .001$, ** $p < .01$; note: SA x Fam = the interaction of social anxiety and familiarity

Table 18. Summary of Regression Analysis for Familiarity Moderation on Professional Self-Efficacy

Variable	R^2	F	R^2 change	F change	β
Step 1	.09	15.53***	.09	15.53***	
Extraversion					.30***
Step 2	.35	20.41***	.26	20.09***	
Extraversion					.09
Social anxiety					-.23**
Familiarity					.46***
SA x Fam					.20**

*** $p < .001$, ** $p < .01$; note: SA x Fam = the interaction of social anxiety and familiarity

Table 19. Summary of Regression Analysis for Neuroticism and Social Anxiety on General Emotional Exhaustion

Variable	R^2	F	R^2 change	F change	β
Step 1	.29	63.25***	.29	63.25***	
Neuroticism					.54***
Step 2	.50	76.28***	.21	63.37***	
Neuroticism					.23***
Social anxiety					.56***

*** $p < .001$

Table 20. Summary of Regression Analysis for Neuroticism and Social Anxiety on Professional Self-Efficacy

Variable	R^2	F	R^2 change	F change	β
Step 1	.13	22.51***	.13	22.51***	
Neuroticism					-.36***
Step 2	.14	12.13***	.01	1.66	
Neuroticism					-.28**
Social anxiety					-.12

*** $p < .001$, ** $p < .01$

Table 21. Summary of Regression Analysis for Extraversion, Neuroticism, and Social Anxiety on General Emotional Exhaustion

Variable	R^2	F	R^2 change	F change	β
Step 1	.30	31.68***	.30	31.68***	
Extraversion					-.04
Neuroticism					.53***
Step 2	.53	55.98***	.23	73.97***	
Extraversion					.19**
Neuroticism					.24***
Social anxiety					.64***

*** $p < .001$, ** $p < .01$, * $p < .05$