DOI:
10.1016/j.ibusrev.2022.102078

Document Version
Peer reviewed version

CEOS' REGULATORY FOCUS AND FIRM INTERNATIONALIZATION: THE MODERATING EFFECTS OF CEO OVERCONFIDENCE, NARCISSISM AND CAREER HORIZON

ABSTRACT

While the international business literature has mainly focused on the firm- or industry-level antecedents of internationalization strategies, scholars have recently advocated a greater focus on the microfoundations of firms' strategic decisions. Building on the regulatory focus theory, this study focuses on how CEO promotion and prevention foci impact firm internationalization. Looking into dispositional and situational attributions, this study also theorizes how these factors moderate the relationship between a CEO's psychological motivations and firm internationalization. Using data from publicly traded US firms listed in the Fortune 500, the findings of this study show that a CEO's promotion focus is positively associated with the extent of a firm's internationalization, whereas a CEO's strong prevention focus limits the extent of a firm's internationalization. The findings also reveal that the relationship between CEO regulatory focus and the extent of a firm's internationalization is moderated by CEO overconfidence, narcissism, and career horizon. These findings have important research and managerial implications for firms engaged in international business.

Keywords: CEO Psychology, Firm Internationalization, Regulatory Focus, Strategic Decision

1. INTRODUCTION

The characteristics of top executives play an important role in determining the extent to which a firm is able to explore and exploit new opportunities beyond its domestic markets. International business (IB) scholars in the microfoundations literature have shown the effect of top executives' personal characteristics on key strategic firm decisions and outcomes (Chen et al., 2021; Chittoor, Aulak & Ray, 2019; Oesterle, Elosge & Elosge, 2016; Maitland & Sammartino, 2015). Underlying this literature is the assumption that the characteristics of the executives who are driving the firm are critical to understanding the firm's strategic choices and decision processes (Coviello, Kano & Liesch, 2017; Felin et al., 2012). Previous studies have predominantly focused on the impact of the CEO's human and social capitals, including prior experience (Le and Kroll, 2017), education (Ramón-Llorens, García-Meca & Duréndez, 2017), entrepreneurial leadership (Sarabi, Froese, Chng & Meyer, 2020), and ambidexterity (Jansen et al., 2008). Only recently have researchers started making theoretical inroads into the psychological makeup and cognitive orientation of CEOs and the impact this orientation has on their strategic decisions (Chittoor, Aulak & Ray, 2019; Adomako, Opoku, & Frimpong, 2017; Oesterle, Elosge & Elosge, 2016).

While the IB literature provides multifaceted reasoning for internationalization from various theoretical angles, scholars argue that the CEO's psychological cognitive fit with the characteristics of the environment in which their firm operates has significant implications for the effectiveness of the firm's actions and decisions (e.g., see Gamache, McNamara, Mannor, & Johnson, 2015; Hmieleski & Baron, 2008). One dimension of CEO psychological motivation that has recently gained greater attention is regulatory focus (Adomako, Opoku, & Frimpong, 2017; Gamache et al., 2015; Zou, Scholer & Higgins, 2014). Regulatory focus refers to a person's motivational orientation, and scholars view it in terms of promoting change (promotion focus) or preventing problems (prevention focus) (Bryant & Dunford, 2008; Brockner & Higgins, 2001). As CEOs' motivations are often reflected in how they engage in firm decision-making activities, their promotion and prevention foci have implications on the goals they aim to achieve. Their regulatory focus also impacts the extent to which they make risky decisions aimed at growth and increasing the firm's market scope and exploring new opportunities (Hmieleski & Baron, 2008). Yet, studies examining the role of CEO psychological motivations particularly in shaping strategy change such as internationalization are noticeably absent (Jiang, Wang, Chu & Zheng, 2020; Herrmann & Nadkarni, 2014), as prior research has mainly examined the firm (structure and resources) and environmental antecedents of strategic change (Dikova, & Van Witteloostuijn, 2007; Audia, Locke, & Smith, 2000). This study addresses this gap and contributes to the limited research on CEO psychological motivation in microfoundations research by examining how CEOs' regulatory focus impacts the internationalization of firms.

Unlike traditional IB studies that focus on internationalization decisions in the context of entry modes or location choices, we aim to contribute to the IB literature on the microfoundations of internationalization by examining the psychological motivations behind CEOs' decisions. Promotion and prevention foci are two independent motivational characteristics (Hmieleski & Baron, 2008). Hence, a CEO's behavior can be regulated by different combinations of their promotion and prevention foci and may have a significant effect on their motivation and the extent to which they explore opportunities (Scholer, Cornwell & Higgins, 2019; Lanaj et al., 2012; Hmieleski & Baron, 2008). Further, a CEO's regulatory focus is at least partly dependent on other dispositional and situational conditions that also influence the types of goals that CEOs set and the actions they take to achieve them (Tuncdogan, Van Den

Bosch & Volberda, 2015; Hmieleski & Baron, 2008; Higgins, 1998). Thus, we examine the moderating effects of CEOs' overconfidence and narcissism as dispositional traits that influence CEOs' strategic decisions and risk-taking behaviors (Zhu & Chen, 2015; Chatterjee & Hambrick, 2011). We also consider CEOs' career horizon, which affects their decision-making behavior, as a critical situational condition in the context of firm internationalization. CEOs exposed to different situational conditions may then differ in terms of how their regulatory focus is associated with the extent to which firms expand globally. We answer recent calls in the literature (e.g., Huang, Battisti & Pickernell, 2021; Adomako, Opoku & Frimpong, 2017; Gamache et al., 2015; Kiss, Williams & Houghton, 2013) for more research on the relationship between decision-makers' psychological motivations and internationalization. In particular, Coviello, Kano, and Liesch (2017) pointed to the need to focus on microfoundations to explore the theoretical and empirical understanding of the relationships between individual characteristics, internationalization and other variables of the multinational business enterprise.

Using a sample of publicly traded US firms listed in Fortune 500, we tested our premise that a CEO's regulatory focus on promotion/prevention affects their firm's decision to expand internationally. This study makes a number of contributions to the literature. First, we contribute to the microfoundations literature by extending examination of the significance of firm level factors and CEO demographic characteristics through greater understanding of how CEOs' psychological motivations can impact firm internationalization. Previous IB studies have shown that firm-specific resources and individual characteristics drive the international expansion of firms. For example, Trevino and Grosse (2002) found that firms tend to engage in more foreign direct investment when they are more technologically intensive and when their managers have more international experience. Our study extends such literature by investigating how CEOs' psychological motivations influence both their desire to explore new international opportunities and their level of attentiveness to opportunities (Lai, Lin & Chen, 2017; Hmieleski & Baron, 2008), thereby deepening our understanding of the nuanced drivers of firm internalization.

Second, we expand the theoretical understanding of regulatory focus theory by showing that other CEO dispositional and situational characteristics, such as overconfidence, narcissism, and career horizon, are important contextual factors that moderate the impact of CEOs' regulatory focus on firm internationalization. An understanding of these key moderators in the context of research on regulatory focus will allow scholars to use the theory in new ways to study organizational leaders' decisions in a variety of settings.

Finally, we contribute to the broad domain of firm decisions by expanding the understanding of the role of the CEO's psychological motivation with respect to firms' internationalization activities. The ability to clearly lay the foundation of how a specific psychological motivation orientation (regulatory focus) impacts the specifics of a strategic choice (internationalization), highlights the importance of using cognitive variables in regard to internationalization actions and outcomes. Through this, we broaden the understanding of firm internationalization beyond its characterization as a deliberate decision that depends on differences in factor endowments and environmental characteristics in markets.

2. THEORY DEVELOPMENT AND HYPOTHESES

2.1. Regulatory focus theory

Regulatory focus is a motivational orientation that reflects an individual's strategic tendency to attain goals or standards (Brockner & Higgins, 2001; Higgins, 1998). Regulatory focus theory accounts for the differences in individuals' motivations and explains why people adopt certain motivational orientations as they try to achieve their goals (Brockner & Higgins, 2001). Regulatory focus composed two distinct dimensions: promotion and prevention. A promotion focus represents the 'ideal self" and directs the individual's attention toward opportunities for accomplishment and growth, whereas a prevention focus represents the 'ought self" and includes duties, obligations, and responsibilities, and directs people toward vigilance and avoiding errors (Higgins & Spiegel, 2004).

Researchers have shown that CEOs' characteristics have a profound influence on core firm decisions (Coviello, Kano, & Liesch, 2017; Hambrick & Mason, 1984). While prior studies have often used demographic characteristics, such as age, education and experience, to investigate how CEOs make internationalization decisions, recent studies have shown that psychological traits have a more direct and powerful impact on how CEOs make risky decisions for their firms (Bryant & Dunford, 2008; Chatterjee & Hambrick, 2011; Zou, Scholer & Higgins, 2014). The basic premise of research into CEO psychology is that when CEOs face ambiguity and complexity in their environment, their psychological traits determine how they view, filter, and process information (Aktas et al., 2016; Huang, Battisti & Pickernell, 2021).

The CEO's subjective interpretation of reality directs their focus onto specific stimuli. For example, in the context of entrepreneurship, Hmieleski and Baron (2008) argued that the cognitive construct of the entrepreneur may intervene in the relationship between their motivation and the extent to which they explore opportunities. Specifically, they argued that for entrepreneurs who operate in uncertain environments, a promotion focus would be the most effective self-regulatory mode. Whereas a prevention focus would be the most effective self-regulatory mode for entrepreneurs operating in more stable industry environments. Thus, understanding the CEO's psychological disposition helps us to understand which stimuli they attend to and which they ignore. Their focus will, in turn, impact the strategic directions of the firm. Recent studies indicate that CEOs' psychological motivation, particularly their regulatory focus, may have a more powerful and direct influence on CEO behavior and work performance than other personality traits (Stajkovic et al., 2019; Lee, Hwang & Chen, 2017; Lee, Yoon, and Boivie, 2020).

Psychological motivations to achieve something or to avoid loss influence whether decision-makers view a situation as a positive or negative risk, thereby influencing their decision preferences (Higgins & Spiegel, 2004). Promotion and prevention foci coexist and are independent of each other rather than at opposite ends of a continuum (Förster, Higgins & Bianco, 2003; Lanaj et al., 2012). It is possible, therefore, for individuals to have high levels, or low levels, of both the promotion and prevention foci, or alternatively to have high levels of one focus and low levels of the other (Cesario & Higgins, 2008). Although promotion and prevention foci are theoretically independent constructs, scholars have suggested that when situations dictate that individuals must make a decision that results in advancing gains or avoiding losses, the relative dominance of one's promotion or prevention focus will influence which regulatory focus gains traction (e.g., Camacho, Higgins & Luger, 2003; Gamache et al., 2015; Lanaj et al., 2012). Thus, scholars should concentrate on the relative strength or level of the promotion and prevention foci (Bilgili et al., 2020; Förster et al., 2003).

According to Lanaj et al. (2012), it is critical to consider both promotion and prevention foci because each has a different outcome on behavior. Recent studies on senior firm leadership motivations suggest that how a particular problem or situation is framed has a major impact on whether CEOs perceive prospects as opportunities or threats (Bryant & Dunford, 2008; Hamstra, Bolderdijk & Veldstra, 2011; Zou, Scholer & Higgins, 2014). However, it remains unclear how these motivations affect CEOs' internationalization decisions. The regulatory focus (promotion/prevention focus) impacts the preference for actions, such as a person's willingness to explore and their level of vigilance (Wallace et al., 2010). Yet, scholars have undertaken limited theoretical and empirical research into the link between psychological motivation and rationale for firm internationalization in the executive setting (Chittoor, Aulakh & Ray, 2019; Van Tulder, 2015). As such, we believe that examining the influence of CEO regulatory focus on firm internationalization will help to address this gap.

The decision-makers' preference to exploit opportunities or to avoid loss will be more evident in risky decisions (Bryant & Dunford, 2008). Prior studies in the IB field suggest that a broad range of firm internationalization activities, such as expanding assets and sales abroad, and increasing geographic scope of sales and number of affiliated subsidiaries, etc., are high-risk decisions that expose the company to a heightened "multi-point competition" (Filatotchev & Wright, 2011), which in turn makes the impact of regulatory focus readily observable. To date, research on internationalization has viewed the CEO's decision to internationalize as a rational economic consideration, ignoring the psychological motivations, such as regulatory focus, that underlie the decisions (i.e., Agnihotri & Bhattacharya, 2019). Even studies that have applied an upper echelon perspective in internationalization research have used mainly observable demographic characteristics as a proxy for CEOs' personality attributes. This may undermine the robustness of theories regarding the links between the psychological characteristics of CEOs and firm level decisions (Aharoni, Tihanyi & Connelly, 2011; Bryant & Dunford, 2008). Therefore, we extend the research on both internationalization and the psychological motivations of CEOs by examining the influence of CEOs' regulatory focus on firm internationalization.

2.2. CEO regulatory focus and firm internationalization

A CEO's regulatory focus influences the types of goals their firm pursues, and an individual's psychological motivation (Adomako, Opoku & Frimpong, 2017; Jiang et al., 2020). Based on regulatory focus theory, those with a strong promotion focus will tend to direct their attention and efforts toward opportunities for accomplishment and growth (Crowe & Higgins, 1997). Scholars have noted that those who have a promotion focus have a higher exploratory orientation, which suggests that CEOs with a strong promotion focus tend to explore a wide range of possible market opportunities. For example, Brockner, Higgins and Low (2004) noted that a promotion focus sensitizes people to have a positive attitude towards potential gains compared to possible losses.

Previous studies have generally suggested that firm internationalization offers growth opportunities for firms, the potential for long-term profitability, the ability to acquire knowledge, and access to new resources in foreign locations (Filatotchev & Piesse, 2009; Hsu, Chen & Cheng, 2013). In contrast, IB and strategy scholars view firm internationalization as the firm's "global posture" which is an aggregate concept that includes investment in foreign assets, relative importance of global sales, number of overseas subsidiaries and geographic scope of foreign operations (Sanders and Carpenter, 1998). We employ a theoretical perspective here which is consistent with the view that a promotion focus encourages CEOs to explore new opportunities to obtain strategic gains and to avoid missing out on a valuable opportunity. Adomako, Opoku and Frimpong (2017) found that competition intensity positively increases the effect of promotion focus on SME internationalization. Accordingly, CEOs with a strong promotion focus will direct their attention to the positive implications of such a decision and the resultant action. As such, they will likely be motivated to exploit perceived gains and base their decisions on evidence, suggesting that entering new markets will benefit the firm; promotion-focused CEOs will even tend to evaluate unclear or ambiguous information more positively. As a result, we expect that CEOs with a strong promotion focus will likely have higher motivation to explore new international opportunities, evaluate those opportunities more favorably, and enter new markets to exploit the opportunities identified. Hence, we hypothesize the following:

> **Hypothesis (H1).** *The extent of a firm's internationalization will be positively associated with a CEO's strong promotion focus.*

In contrast to the opportunities and perceived gains, firm internationalization may also expose firms to uncertainty and risks that may result in significant negative returns (Borda et al., 2017; Kraus et al., 2015; Lu & Beamish, 2004). Although traditional IB studies suggest that risks may be mitigated by choosing an appropriate entry mode or location for the firm's FDI, when the firm expands its range of global activities, it also faces increased costs in co-ordination, uncertainty and multi-point competition, as discussed above. As such, we expect a prevention focus will be associated with the tendency for CEOs to engage in less internationalization. CEOs with a strong prevention focus will be more concerned about possible losses than about exploiting perceived gains (Brockner & Higgins, 2001; Lanaj et al., 2012). A prevention focus sensitizes people to be more vigilant against making mistakes and tends to frame problems as negative risks (Lanaj et al., 2012). The possibility of risk and loss from entering new markets is likely to have a considerable effect on CEOs who have a strong prevention focus. A CEO with a high prevention focus will be more concerned with the possibility of making a bad decision with respect to entering new markets than with missing out on the potential opportunity for market power and profitability.

Research on regulatory focus (see, for example, Lanaj et al., 2012) has also noted that uncertainty may amplify a prevention focus. As such, CEOs with a higher prevention focus will likely exhibit greater caution when exploring new markets and will interpret unclear or ambiguous information more negatively. This suggests that a CEO will likely decide against entering a new market and instead operate or expand in areas where the firm is well established. We are not suggesting that CEOs with high prevention focus will never engage in internationalization—only that they will more likely make internationalization decisions only when the entry mode for internationalization is less risky and/or when internationalization is critical for the firm due to the significant potential benefits (Agnihotri & Bhattacharya, 2019). As CEOs undertake due diligence prior to internationalization decisions, CEOs with a prevention focus will likely pay more attention to how entry to a new market could go wrong, than to potential gains from successful internationalization. This, we expect, would lead to more conservative internationalization decisions. Hence, we hypothesize the following:

> **Hypothesis (H2).** *The extent of the firm's internationalization will be negatively associated with a CEO's strong prevention focus.*

2.3. The moderating role of dispositional and situational characteristics

If CEOs' regulatory foci dispose them towards certain strategic choices, then what personality factors can amplify or dampen the impact of this regulatory focus? A person's regulatory focus does not operate in a vacuum (Adomako, Opoku & Frimpong, 2017; Gamache et al., 2015). Studies assert that an individual's salient dispositional and situational traits condition their regulatory-related motivations (Chatterjee & Pollock, 2017; Chen, Ho & Yeh, 2020; Gamache et al., 2015; Lanaj et al., 2012). For example, in situational context, Adomako, Opoku and Frimpong (2017) showed that the intensity of domestic market competition has a moderating effect on the relationship between CEOs' regulatory focus and SME internationalization. These dispositional and situational traits are highlighted when they are congruent with a person's motivation—a phenomenon called *regulatory fit* (Higgins, 2005). Regulatory fit is the alignment between an individual's motivational orientation (promotion or prevention) and their dispositional and situational characteristics that result in increased motivational intensity. That is, people experience strong motivation or fit when they pursue strategies consistent with their regulatory orientation (Spiegel, Grant-Pillow & Higgins, 2004). When personality traits and actions sustain a person's regulatory focus, an "it-just-feels-right" experience results and, in turn, leads to a stronger motivational orientation toward whatever goal the person is pursing at the moment (Aaker & Lee, 2006). It is therefore possible for other personality traits to influence internationalization decisions within the firm.

CEOs' personality traits, such as overconfidence and narcissism, can result in managerial decision bias (Chatterjee & Hambrick, 2011; Li & Tang, 2010), whereas regulatory focus influences CEOs' motivation toward certain goal orientation (Brockner & Higgins, 2001; Lanaj et al., 2012). As such, CEOs with the same motivation toward goal orientations could have different personality traits. However, no extant research adequately explains the interplay between psychological motivations and dispositional traits, or the implications of this dynamic on risky decisions, such as internationalization. While one can expect that there will be interplay among dispositional and situational concerns, the exact nature of the relationship is not clear (Lanaj et al., 2012). Therefore, building on recent studies on risk-taking behavior, we will next examine CEO overconfidence, narcissism, and career horizon as moderators of the relationship between CEO regulatory motivations (promotion/prevention) and the decision to undertake internationalization.

2.3.1. The moderating role of CEO overconfidence

The effects of promotion and prevention focus motivations could be conditioned by the salient dispositional traits of a person (Cowden & Bendickson, 2018). Thus, CEOs' regulatory focus impact will vary based on congruent or incongruent fit with their salient traits—that is, their regulatory fit (Higgins, 2005). In executive settings, scholars suggest that leaders with overconfidence as a core personality trait possess a powerful risk-taking drive (Chen, Ho & Yeh, 2020; Li & Tang, 2010; Brown & Sarma, 2007). Picone, Dagnino and Minà (2014) noted that often studies use the terms *overconfidence* and *hubris* interchangeably (see e.g., Li & Tang, 2010; Hayward, Shepherd & Griffin, 2006). As such, studies often use similar measures to assess both hubris and overconfidence at CEO level. For example, Tang et al. (2018, 2015) adopted a media-based measure to assess CEO hubris. Similarly, Chen, Crossland and Luo (2015) used media- and option-based measures, in the same way as our study, to assess CEO overconfidence. However, some studies have distinguished between the two concepts in terms of impact and sources of overconfidence and hubris (e.g., Chen, Crossland & Luo, 2015; Hayward, Rindova & Pollock, 2004). For example, Hayward and Hambrick (1997) pointed out that hubris will more likely be damaging for an individual. In contrast, Leary (2007) indicated that overconfidence may lead to higher personal well-being or social success. We exclusively employ the term "overconfidence" for clarity, as this term tends to be more widely used in the literature closely related to our study when connecting CEO overconfidence with firm level decisions and strategies (e.g., Campbell et al., 2011; Hirshleifer, Low & Teoh, 2012). In this paper, CEO overconfidence represents a CEO's overestimation of future outcomes, and their favorable attitude towards risk-taking.

Overconfident CEOs tend to overestimate their ability to solve problems, underestimate the resources they need to accomplish goals, and underestimate uncertainties their firm is facing (Brown & Sarma, 2007; Chen, Ho & Yeh, 2020). These tendencies lead an overconfident CEO to frame situations as less risky than would others, and thus such a CEO will engage in more risky activities (Chatterjee & Hambrick, 2011). For example, Hribar and Yang (2006) found that overconfident CEOs tend to exaggerate earnings forecasts for their firm. Similarly, in a laboratory study, Camerer and Lovallo (1999) found that overconfident executives made new market entry decisions despite the market being overcrowded with competitors, based on the belief that they had the ability to outperform the market incumbents. Durand (2003) also showed that overconfident CEOs tend to undermine external information when it conflicts with their own information, which results in the underestimation of uncertainties and risks. These findings, consistent with regulatory fit, suggest that overconfidence, as a dispositional trait, could interact with CEOs' motivational characteristics (regulatory focus) to influence their behaviors and decision preferences (Higgins, 2005).

In line with the above findings, we expect that overconfidence will moderate a CEO's promotion and/or prevention focus and the impact will depend on the fit between their overconfidence and regulatory focus. Specifically, a CEO's strong promotion focus and overconfident personality will compound their optimism and willingness to engage in internationalization, as they will tend to interpret uncertainties and risks in a more positive light. Other recent studies have also connected overconfidence with firm performance. For example, Musso et al. (2022) found that overconfidence positively influence firm's international performance. We expect overconfidence to reinforce the motivation of a promotion-focused CEO for growth and their likelihood to exploit perceived gains in internationalization settings. However, the propensity of overconfident personalities to underestimate uncertainties and overestimate self-capability is incongruent with the motivations of risk- oriented and loss-avoidance behaviors. Thus, the CEO's prevention focus becomes weaker if the CEO is overconfident. As such, we expect that CEO overconfidence will diminish the relationship between prevention focus and firm internationalization. Hence, we hypothesize the following:

Hypothesis (H3a). *The positive relationship between the extent of a firm's internationalization and its CEO's promotion focus will be strengthened by the CEO's overconfidence.*

Hypothesis (H3b). *The negative relationship between the extent of a firm's internationalization and its CEO's prevention focus will be weakened by the CEO's overconfidence.*

2.3.2. The moderating role of CEO narcissism

Narcissism is the degree to which an individual has a magnified sense of self (Campbell, Goodie & Foster, 2004). Some studies have indicated the similar effects of CEO narcissism, hubris and overconfidence on a firm's strategic choices and outcomes (e.g., Li & Tang, 2010; Hirshleifer, Low, & Teoh, 2012). As Asad and Sadler-Smith (2020) noted, the similarity in measuring and applying these personalities traits has emanated from significant overlaps in their respective attributes. For example, Picone et al. (2014) suggested that narcissism as a dispositional trait could be one of the antecedents of managerial hubris. However, other studies found that these CEO personality traits could have different or opposing effects on a firm's strategic decisions. For example, while Li et al. (2022) and Fung et al. (2020) found a positive effect of CEO narcissism on a firm's FDI, other studies reported a negative effect of CEO hubris and overconfidence on firm-level outcomes (Hayward & Hambrick, 1997), and on CSR (Tang, Mack, & Chen, 2018).

Chatterjee and Hambrick (2011) noted that narcissism consists of both cognitive and motivational elements. On the cognitive side, narcissism is about one's inflated self-image. Narcissists have a consistent sense of supremacy (Campbell, Goodie & Foster, 2004). On the motivational side, narcissism entails the strong need for reaffirmation of one's own superiority (Bogart, Benotsch & Pavlovic, 2004). Considering that CEOs greatly impact what takes place in their firms and how, and the behavior of the people who work under them (Carpenter, Geletkanycz & Sanders, 2004; Chatterjee & Hambrick, 2007), researchers have focused on CEOs' personalities and how those personalities interplay with firm actions and performance. Their magnified self-views and intense need for recognition from others will affect how CEOs perceive and assess risky decisions (Chatterjee & Hambrick, 2011). Consistent with regulatory fit, we expect the narcissism personality trait to moderate both the promotion and prevention focus of CEOs and, in turn, influence their decisions.

Specifically, the narcissistic CEOs' belief in their superiority, and desire for recognition of that superiority, will reinforce the effects of their regulatory focus motivations. Thus, narcissistic CEOs will favor options that most suit their personal preferences (Oesterle, Elosge, & Elosge, 2016). As such, if a CEO has a promotion focus, they will seek out actions that are consistent with that focus. In contrast, if a CEO is motivated to prevent, and prefers risk and loss avoidance, their narcissism will strengthen such preference. Sedikides and Gregg (2001) noted that narcissists can be oblivious to stimuli and are driven by their own internal guidance systems. Thus, we expect that a narcissistic personality will amplify the impact of the CEO's prevention focus on the decision to internationalize, as the fear of failure may deter a narcissistic CEO from being overly promotion-orientated given that this may reflect on their own lofty self-view. Hence, we hypothesize the following:

Hypothesis (H4a). *The positive relationship between the extent of a firm's internationalization and its CEO's promotion focus will be strengthened by the CEO's narcissism.*

Hypothesis (H4b). *The negative relationship between the extent of a firm's internationalization and its CEO's prevention focus will be strengthened by the CEO's narcissism.*

2.3.3. The moderating role of CEO career horizon

One of the situational factors that impacts cognitive decision-making is time (Bilgili et al., 2020; Lee, Park & Folta, 2018; Trope & Liberman, 2000). Time is a broad concept that can include time to make a decision (Trope & Liberman, 2000), time between decisions (Liberman & Trope, 1998), or time the decision will be in effect (Cho & Kim, 2017). One key element of time that affects CEO decision preference is the CEO's career horizon, or the time left for a CEO to reach retirement age (Kang, 2016; Matta & Beamish, 2008). Specifically, Bilgili et al. (2020) argued that the number of years a CEO has left until retirement influences the CEO's psychological disposition, which in turn can shape the firm's action and decision patterns. Indeed, scholars have found that CEOs with a short career horizon tend to avoid making risky decisions (Cho & Kim, 2017; Hambrick & Mason, 1984), while CEOs with a longer career horizon tend to engage in more high-risk activities (Pennington & Roese, 2003). In part, the impact of career horizon is driven by the fact that CEOs who are in the late stages of their tenure may not have the time to recover from investment or performance shortfalls; thus, CEOs in the late stages of their career horizon will likely focus on avoiding errors and make decisions with legacy-conservation in mind (Cho & Kim, 2017). There is a line of research that has shown that executives' career horizons significantly affect their strategic decisions, for example, about international acquisitions (Matta & Beamish, 2008), research and development (Zona, 2016), and corporate social responsibility (Kang, 2016). Consistent with these findings, we expect the CEO's career horizon to moderate the relationship between regulatory focus and the extent of the firm's internationalization.

Prior research has shown that high-promotion-focused leaders concentrate on actions to aid future opportunities, while high-prevention-motivated individuals focus more on actions to complete the tasks at hand (Freitas et al., 2002). Consistent with this insight, we expect a shorter career horizon will amplify concerns over success and induce CEOs to preserve their legacy and avoid taking risky actions so that there are fewer errors of commission (Cho & Kim, 2017; Matta & Beamish, 2008). By contrast, we expect CEOs with longer career horizons to seek to build a legacy of success and achievement, evidenced in a greater willingness to take risks and leverage opportunities. Hence, we hypothesize the following:

> **Hypothesis (H5a).** *The positive relationship between the extent of a firm's internationalization and its CEO's promotion focus will be strengthened by the CEO's longer career horizon.*

> **Hypothesis (H5b).** *The negative relationship between the extent of a firm's internationalization and its CEO's prevention focus will be weakened by the CEO's longer career horizon.*

3. RESEARCH METHODOLOGY

3.1. Sample

Our sample frame included publicly traded US firms listed in *Fortune* magazine's Fortune 500 list in 2018. We collected data for each of the firms from 2013 to 2018. To capture a CEO's cognitive and psychological orientations, previous prominent studies in the IB and management fields have used a content analysis of CEO letters to shareholders (See, Gamache et al., 2015; McClelland, Liang & Barke, 2010; Kaplan, 2008). Following these studies, we conducted a similar content analysis of CEOs' letters to shareholders (further discussed in the following section on independent variables) that were included in annual reports to capture a CEO's regulatory focus orientations. We sourced these letters from firms' websites and aggregators of annual reports, such as Mergent Online, Buckmaster, and SEC online interfaces. We also conducted specific searches of ABI/Inform and Google, and collected CEO demographic-related variables from Compustat Execucomp. The firm level variables were collected from various databases, including Osiris and Compustat, for the specified period. Given the lag effects of the independent variables on internationalization, we set up one year lagged model to eliminate any spurious causality. We lagged our independent and control variables one year so that they were used to predict the dependent variable in the following year. Our final sample size consisted of 2,332 firm-year observations from 391 firms. We conducted robustness tests, including adding an additional year and dropping the first and last year of data. The results confirm that our findings were consistent in the sample variation examined, indicating that our results are not sample-frame driven.

3.2. Dependent variable

Firm Internationalization. Following an established tradition in strategic management studies, we used a composite measure of four items to measure the extent of the firm's internationalization (Krause et al., 2015; Singla & George, 2013). Internationalization is a multi-faceted phenomenon, and focusing on a single item, such as entry mode or location choice, would provide only a partial picture within a wider range of strategic options available to the firm. We located data on foreign assets to total assets (FATA), foreign sales to total sales (FSTS), the number of overseas subsidiaries to total number of subsidiaries (OSTS), and the proportion of the highest number of countries with subsidiaries (Scope). Scope was measured by the proportion of the number of countries where a firm has subsidiaries to the highest number of countries where a firm in our sample has subsidiaries in a given year (Singla & George, 2013). In validity tests of our data, these four measures loaded on one factor, with an eigenvalue of 3.02, explaining 75.74% of variance. The measures demonstrated good internal reliability, with a Cronbach alpha of 0.89. We summed the four measure items to form our composite measure of the extent of the firm's internationalization, which had a range of 0 to 4 (Singla & George, 2013).

3.3. Independent variables

CEO regulatory focus. Following Gamache et al. (2015), we captured the strength of the CEOs' promotion and prevention foci by conducting a content analysis of CEO letters to shareholders for the fiscal years 2013–2018. CEO letters to shareholders often reflect what the CEO considers are the important issues for the firm and communicate their short and long-term intentions on how to address the issues. Thus, content analysis of texts in the CEO's letters has been acknowledged as a meaningful way of capturing the executives' psychological orientation and is particularly useful in longitudinal research designs because it provides a consistent, comparable, and annual form of communication (Gamache et al., 2015; Kaplan, 2008). CEOs are more likely be the primary author of these letters, or at a minimum be highly involved in drafting and editing the letter, and this text manifests the cognitive and psychological orientations of the CEO (Gamache et al., 2015; Kaplan, 2008). Recent studies (e.g., Agnihotri & Bhattacharya, 2021; Gamache et al., 2015) have also provided evidence that content analysis of the CEO letter to shareholders is an effective measure of a CEO's regulatory focus because the measure works implicitly or independent of the CEO's awareness. Following Gamache et al. (2015), we used a count of promotion and prevention foci-related words appearing in the letters to shareholders of each company to capture a CEO's regulatory focus.

We used a dictionary – a list of 27 promotion words and 25 prevention words – developed and validated by Gamache et al. (2015) in their study analyzing the prevalence of these terms across CEO shareholder letters. The list of all promotion- and prevention-related words are presented in Table 1.

In content analysis, the Linguistic Inquiry and Word Count (LIWC) software is the most used textual analysis program (Pennebaker et al., 2015). So, first, we uploaded these respective promotion and prevention words into the LIWC software to determine their frequencies. Alternative tenses and synonyms of these words were also taken into consideration in the dictionary employed. Then, using the LIWC software, we calculated the measures for CEO promotion focus and prevention focus, which divided the number of promotion and prevention words found within each CEO letter to shareholders by the total number of words in the letter (Gamache et al., 2015).

This analytical method and the list of promotion and prevention words developed by Gamache et al. (2015) have been used in prominent recent studies to capture the CEO's regulatory focus, including Agnihotri and Bhattacharya (2021), Mount and Baer (2021), Scoresby, Withers and Ireland (2021), and Kanze, Huang, Conley and Higgins (2018).

Insert Tables 1 about here

3.4. Moderator variables

Scholars have noted that examining executives' personality traits is difficult, mainly due to lack of data availability. Chatterjee and Hambrick (2011) noted that it is rare to find accurate self-reported data on the sensitive psychological and personal characteristics of executives. As such, researchers have recently started to use unobtrusive indicators as alternative methods to capture executives' personality characteristics and how these personalities are reflected in firm decision preferences and performance (see e.g., Chatterjee & Hambrick, 2007; Chatterjee &

Hambrick, 2011). Accordingly, we used unobtrusive measures to generate CEO narcissism and overconfidence scores.

CEO narcissism. Following Chatterjee and Hambrick (2007) and Zhu and Chen (2015), we used four dimensions of narcissism: prominence of the CEO's photograph, prominence of the CEO in press releases, relative cash pay for the CEO, and relative non-cash pay of the CEO. We utilized a 4-point scale to quantify the Prominence of the CEO's photograph in the company's annual report: We allocated 4 points when the CEO's photograph covered over half of the page, 3 points if the CEO's photograph covered less than half a page, 2 points if the CEO was photographed with other executives, and 1 point if there was no CEO photograph or if the organization published only the requisite 10K filings. We calculated Prominence of the CEO in press releases as the number of mentions of the CEO divided by the total number of press releases by the company. We calculated Relative cash pay by dividing the CEO's total annual salary and bonus by that of the organization's second-highest-paid executive. We calculated Relative non-cash pay by dividing the CEO's non-cash compensation (including deferred income, stock grants, and stock options, quantified using the Black-Scholes valuation) by that of the organization's second-highest-paid executive.

To build and validate the narcissism index, we followed procedures laid out by Chatterjee and Hambrick (2011) and Zhu and Chen (2015), whereby we standardized and then summed each of the four indicators to generate the initial measure of CEO narcissism. We examined the correlations and ran factor and reliability analyses. The correlations among the indicators were all positive, ranging from .28 to .56, and significant at $p < .001$. The factor analysis indicated a one-factor solution with an eigenvalue of 2.14. The items all loaded on this factor between 0.62

and 0.81. The Cronbach alpha was 0.71 and the composite reliability was 0.82, with the percentage of total variance explained at 53.55%.

CEO overconfidence. Following Campbell et al. (2011), Hirshleifer, Low and Teoh (2012), and Chen, Ho and Yeh (2020), we measured CEO overconfidence based on the CEO's decision on options holding. We computed the average moneyness of the CEO's holding options for each year using year-by-year aggregated data on CEO vested option holdings for each year from 2013 to 2018, available in ExecuComp. We classified CEOs as *overconfident* and *not-overconfident* based on their tendency to postpone exercising their executive options. We assigned a value of 1 for overconfident CEOs if the CEO holds options that are equal or over 67% in moneyness, and we assigned a value of 0 if the CEO holds moneyness less than 67% in the money.

To determine the CEO's exercise of vested option moneyness, we followed the method of calculation used by Chen, Ho and Yeh (2020) and Hirshleifer, Low and Teoh (2012). First, we calculated the average realizable value per option for each year by dividing the total value of the unexercised exercisable options (ExecuComp variable OPT_UNEX_EXER_EST_VAL) divided by the number of unexercised exercisable options (OPT_UNEX_EXER_NUM). Then, we estimated the average exercise price of the options by subtracting the average realizable value per option from the stock price at the fiscal year-end (PRCCF). Then, we obtained the average percentage moneyness of the options held by the CEO by computing the average realizable value divided by the estimated average exercise price. Thus, the overconfidence variable equals 1 if a firm is managed by an overconfident CEO (moneyness greater than 67%) and 0 otherwise. Consistent with Chen, Ho and Yeh (2020) and Hirshleifer, Low and Teoh (2012), we classify a CEO as overconfident from the year they held options more than 67% in the money, and they continue to retain the overconfident classification for the rest of the sample year. We adopted this manner of measurement for overconfidence to be consistent with the notion that overconfidence is a stable personality trait (Hirshleifer, Low & Teoh, 2012).

We base our measurement of CEO overconfidence on a CEO's decision to hold stock options for a long period of time. When the options are sufficiently in the money, it is reasonable to expect rational CEOs to maximize their utility by exercising their options. However, overconfident CEOs tend to hold on to their options longer, because they tend to hold exaggerated optimism about their firm's future profitability (Campbell et al., 2011).

Career horizon. We measured CEO career horizon by subtracting the age of the CEO from a nominated retirement age; the older the CEO, the shorter the career horizon. To capture the time-varying nature of CEO career horizon, we used a continuous measure of the construct (Heyden, Reimer, and Van Doorn, 2017). Although previous studies have used various benchmarks to measure career horizon (e.g., 63 years by Cheng, 2004; 70 years by Krause & Semadeni, 2014), we used 65 years as the retirement age because according to recently released CEO succession practices by the Conference Board, when firms adopt a retirement policy, the mandatory retirement age is typically set at 65 years (The Conference Board, 2019).

3.5. Control variables

We include 13 controls that could potentially impact a CEO's decision to engage in firm internationalization. Previous studies have reported that firm level factors affect the extent of the firm's internationalization (see e.g., Hsu, Chen & Cheng, 2013; Lu & Beamish, 2004; Roth, 1995; Singla & George, 2013). For example, studies have related firm size to firm internationalization and considered this variable as a predictor of firm performance (Ruzzier & Ruzzier, 2015; Singla & George, 2013; Wolff & Pett, 2000). As such, we controlled firm level variables, including firm size, using the log of total firm sales, firm performance measured by return on assets (ROA), firm age measured using the log of the count of years since the focal firm was established, net income using the log of net income, and Market Capital using the log of market capital. We also controlled Inventories and R&D Expenses to account for firm spending patterns, treating R&D expenses as 0 when data were missing (Seo et al., 2015).

Further, we controlled for a range of CEO-level factors that may influence the way CEOs engage in internationalization. We controlled for CEO change with a dichotomous variable. If the CEO changed in the last six years (2013–2018), we assigned it a value of 1, and a value of 0 otherwise (Gamache et al., 2015). We also controlled CEO gender and other several elements of CEO compensation because previous studies reported relationships between CEO incentives and firm internationalization and other strategic decisions (see e.g., Carpenter & Sanders, 2004; Lin & Cheng, 2013; Singla & George, 2013). Accordingly, we controlled for CEOs' salary, bonus, restricted stock held, and other compensations. We also controlled percentage of shares owned by CEO. The control variables in our regression model are consistent with previous IB studies. We did not include all these controls in the final models presented because they did not have significant correlation with our dependent variables or had no correlation with other study variables with $r > .10$ (Carlson & Wu, 2012). Finally, we included the year dummies in all regression models to assess the stability of the impact of CEO's regulatory focus on firm internationalization, and to control effect of study period (2013–2018).

We analyzed our data using the random effects of generalized least squares (GLS) regression. Fixed- or random-effects estimations are generally used to examine panel data such as ours. First, we used the Hausman specification test using STATA 15 to decide whether a fixed-effects model or random-effects model was more appropriate. When the test fails to reject the null hypothesis, random-effects modeling is considered more efficient (Hausman, 1978). The use of random effects was empirically indicated by a Hausman specification test ($p = 0.000$). The result of the Hausman test for fixed-effects estimates was not statistically significant, which implies that random-effects modeling is more efficient in this case. Second, we used the generalized least squares regression method (*xtgls*, Stata15) account for any cross-sectional heteroskedasticity and time-wise autoregressive problems (Zhang & Rajagopalan, 2010). We also performed robustness tests using different model specifications and estimation methods (please see below).

4. RESULTS

Table 2 presents descriptive statistics and pairwise correlations between variables in our sample. As we mentioned earlier, both regulatory foci – promotion and prevention – are independent constructs (Lanaj et al., 2012). To test for multicollinearity, we checked for variance inflation factors (VIFs). The VIF values for all studied variables were all below 1.28, indicating that multicollinearity was not an issue (O'Brien, 2007). Consistent with this view and other work on CEO regulatory focus (e.g., Gamache et al., 2015), we found a correlation between the promotion and prevention foci, correlated at $r = -0.11$. The correlation between the extent of the firm's internationalization and CEO promotion focus is positive ($r = 0.34$) and significant ($p < 0.001$), whereas the correlation between the extent of the firm's internationalization and CEO prevention focus is negative ($r = -0.38$) and significant ($p < 0.001$). These initial findings indicate a significant relationship between the dependent and independent variables. As shown in Table 2, the correlations between the moderating variables – CEO overconfidence, narcissism and career horizon – vs the extent of the firm’s internationalization were also positive (r = 0.49, 0.31 and 0.53 respectively) and significant ($p < 0.001$).

Insert Tables 2 and 3 about here

Table 3 shows the regression results for all of the hypotheses. Model 1 includes the control variables only, a number of which were significant in predicting the extent of the firm’s internationalization, namely firm size (β = 0.10, *p* = 0.001), firm age (β = 0.001, *p* = 0.042), market capital (β = -0.012, *p* = 0.084), R&D expenses (β = 0.024, *p* = 0.000), CEO salary (β = -0.001, *p* = 0.082), CEO other compensation (β = 0.019, p = 0.001), percentage of shares owned by CEO (β = 0.022, *p* = 0.001), and CEO change (β = 0.207, *p* = 0.001). Our findings are consistent with extant research which found that some of these variables significantly influenced the extent of the firm’s internationalization (see e.g., Agnihotri & Bhattacharya, 2019; Hsu, Chen & Cheng, 2013; Olmos, 2011).

Model 2 includes the focal predictor variables: promotion and prevention focus. Hypothesis 1 predicted a positive association between CEO promotion focus and the extent of the firm’s internationalization. The coefficient for CEO promotion focus in Model 2 provides support for Hypothesis 1 (β = 0.034, *p* = 0.001). This finding suggests that the extent of the firm’s internationalization increases when the CEO has a strong promotion focus, thus supporting Hypothesis 1. It was predicted by Hypothesis 2 that CEO prevention focus has a negative association with the extent of the firm’s internationalization. In support of this hypothesis, the coefficients for CEO prevention focus were both negative and significant (β = -0.042; *p* = 0.001). This finding suggests that firms headed by a CEO with a strong prevention focus tend to engage less in internationalization, supporting Hypothesis 2.

Model 3 tests Hypothesis 3a and Hypothesis 3b by adding the interactions between CEO promotion focus and CEO overconfidence, and the interaction between CEO prevention focus and CEO overconfidence. The variable CEO overconfidence has a positive and significant coefficient ($p < .01$) in Model 2; the more overconfident the CEO, the more likely they will be to seek new opportunities and engage in risk-taking activities. Consistent with our prediction in Hypotheses 3a and 3b, we find that CEO overconfidence has a moderating effect on the relationship between CEO regulatory focus and the extent of the firm's internationalization. The interaction coefficient of CEO overconfidence and CEO promotion focus in Model 3 of Table 3 was positive and significant ($\beta = 0.033$; $p = 0.007$). Similarly, the interaction effect of CEO overconfidence and CEO prevention focus was positive and significant ($\beta = 0.030$; $p =0.005$). The findings for Hypotheses 3a and 3b suggest that for CEOs with a strong promotion focus, an overconfident personality parallels their optimism and their gain-oriented disposition. Similarly, even for loss-oriented prevention focus CEOs, an overconfident personality may undermine uncertainties and guide them to interpret risks in a more positive light. As such, their overconfidence will diminish their risk-preventative focus and they therefore diverge towards riskier activities.

In Model 4, using two interaction terms created by computing the product of CEO promotion focus and CEO narcissism, and the product of CEO prevention focus and CEO narcissism, we tested Hypotheses 4a and 4b. We predicted that CEO narcissism would significantly affect the interaction between both CEO promotion focus and CEO prevention focus, with the extent of the firm's internationalization. The interaction coefficient between promotion focus and CEO narcissism was not significant, failing to support Hypothesis 4a. The lack of significant findings here is important because it suggests that narcissistic behavior in a

CEO with a strong promotion focus does not further amplify their aggressiveness in internationalization activity. This finding requires further attention; hence, we will elaborate in the Discussion section. However, the coefficient of the interaction term created to test Hypothesis 4b (prevention focus and CEO narcissism) was negative and significant for the extent of the firm's internationalization ($\beta = -0.014$; $p = 0.019$). This suggests that the narcissistic behavior of CEOs appears to amplify the tendency of CEOs with strong prevention focus to engage less in internationalization as they follow their own internal guidance systems and undermine the external pressures advocating for firm internationalization. Similarly, the sense of superiority inherent in narcissistic CEOs may also exacerbate a fear of failure due to the impact that any high-profile failure could have on their reputation.

In Model 5 we tested Hypotheses 5a and 5b. Hypothesis 5a predicted that career horizon would significantly affect the positive relationship between CEO promotion focus and the extent of the firm's internationalization. Our findings supported this hypothesis, as the coefficients for CEO promotion focus and career horizon interaction term were positive and significant ($\beta = 0.002$; $p = 0.006$), indicating that when the CEO is young or far from retirement, they will be more willing to engage in risk-taking activities and this behavior will be amplified when the CEO has a stronger promotion focus. This confirms the regulatory fit between career horizon and promotion focus. The interaction coefficient between CEO prevention focus and career horizon was also positive and significant ($\beta = 0.001$; $p = 0.079$), supporting the prediction in Hypothesis 5b that career horizon would affect the interaction of CEO prevention focus and the extent of the firm's internationalization. This result suggests that CEO prevention focus has a negative relationship with extent of the firm's internationalization when the CEO is closer to retirement (prevention focus diminishes the further the CEO is from retirement). In summary, we find support for 7 of the 8 hypotheses; only 4a concerning narcissism and promotion focus was not supported.

In our test for robustness, we used a different model specification looking at annual change in our measure of the firm's internationalization as the dependent variable. However, using a difference based dependent variable creates significant econometric problems as has been indicated in prior studies (Greene 2012; Johnson, 1996). For example, Filatotchev et al. (2000) have indicated that this approach could cause such problems as compounding measurement errors (Johnson, 1996; Edwards, 1994) and correlation between change scores of the dependent variable and its initial level (O'Connor, 1972). Thus, following Filatotchev et al. (2000) we estimated all regression models in levels using a lagged variable as a regressor (Edwards, 1994). As anticipated, the lagged of the dependent variable was significant, and this method did not cause changes in our results. Further, we also run several versions of the primary model, including adding an additional year and dropping the first and last year of data. We find that this analysis does not change our results. Due to space limitation, we did not report it in the paper. The results are available upon request.

4.1. Assessing potential endogeneity

We considered endogeneity concerns regarding our key independent variables – whether firms with internationalization priorities are more likely to appoint a promotion-focused CEO? First, we addressed this concern by measuring CEOs' promotion focus orientation prior to the period in which we tracked CEOs' regulatory focus and the extent of the firm's internationalization (2013–2018). We randomly selected a sample of 40 CEOs appointed after 2013 and separately measured the average score of the CEOs' promotion focus in the years 2010 and 2011 and the years 2014 and 2015. We found the correlation of CEOs' promotion scores between these two separate time periods was significant. This shows that CEO regulatory focus is a psychological motivation that remains stable over time, indicating it has a considerable impact on firm decision-making.

To account for further potential exogeneity assumptions, we adopted the endogeneity control approach recommended by Reeb, Sakakibara and Mahmood (2012) and used by Chatterjee and Hambrick (2007), Kashmiri, Gala and Nicol (2019), and other IB researchers. To test the robustness of our findings, we conducted a two-step instrumental variable regression. In the first step, we regressed CEOs' regulatory focus using instrumental variables that were correlated with independent variables – CEO's promotion/prevention focus – but uncorrelated with the extent of the firm's internationalization: CEO gender and a dummy variable for CEO insider/outsider status. Despite these variables potentially playing a part in the CEO appointment, they cannot be changed after appointment in relation to the firm's internationalization. As such, this approach can potentially address concerns about endogeneity in which the firm's internationalization could potentially affect the regulatory focus of the CEO. In the first stage, we found that the two instrumental variables were not correlated with the error terms, as the test was not significant in any of our models. In the second stage we included CEOs' promotion and prevention foci as our key independent variables. Results, therefore, support our view that endogeneity was not a concern in our results.

5. DISCUSSION AND CONCLUSION

Building on regulatory focus theory (Hmieleski & Baron, 2008; Higgins, 1998; Spiegel et al., 2004), this study provides empirical evidence that CEO psychological motivations – promotion and prevention foci – influence the extent of a firm's internationalization. This is one of the first studies to theorize and explicitly test the relationship between CEO regulatory focus and the internationalization of firms. Previous studies in IB research have shown that CEOs' demographic characteristics, experience, and other human capital factors influence firm decision-making processes and outcomes (Hsu, Chen & Cheng, 2013; Li, 2018; Nielsen & Nielsen, 2011; Nielsen, 2010; Ramón-Llorens, García-Meca & Duréndez, 2017; Sanders & Carpenter, 1998), but very few studies (e.g., Adomako, Opoku & Frimpong, 2017) have examined how CEO psychological motivations affect major firm decisions in internationalization. Our study demonstrates that a strong CEO promotion focus is positively associated with the extent of the firm's internationalization, whereas a strong CEO prevention focus limits the extent of the firm's internationalization. An important implication of these findings is that CEO psychological motivations have a powerful and direct impact on firm strategic directions and outcomes (Hmieleski & Baron, 2008). As such, scholars should extend research beyond CEO demographic characteristics and afford more attention to personal characteristics and psychological motivations. Moreover, as a response to calls to investigate microfoundations of internationalization, including the importance of top executives' psychological motivations and their effects on firm-level decisions and outcomes (Bilgili et al., 2020; Adomako, Opoku & Frimpong, 2017; Gamache et al., 2015; Hamstra, Bolderdijk & Veldstra, 2011), this study advances research on the role of top executives' psychological motivations in determining firm-level decision preferences.

Our findings also demonstrate how other CEO characteristics moderate the relationship between a CEO's regulatory focus and firm internationalization. Regulatory fit theory highlights that CEOs' promotion and prevention foci are "a function of dispositional and situational factors" (Brockner & Higgins, 2001, p. 40). Our findings are consistent with the notion that the intensity of promotion and prevention motivations and their impact on decision-making largely depend on whether the actor's internal and external characteristics sustain or disrupt their goal orientations (Camacho, Higgins & Luger, 2003; Spiegel et al., 2004). Studies on the relationships between CEO regulatory focus and firm decisions and their outcomes have examined the moderating effect of various CEO situational characteristics, such as compensation (Gamache et al., 2015), environmental dynamism (Wallace et al., 2010), competitive intensity (Adomako, Opoku & Frimpong, 2017; Kammerlander et al., 2015), CEO power (Chen, Meyer-Doyle & Shi, 2018; Kashmiri, Gala & Nicol, 2019), entrepreneurial action (Hmieleski & Baron, 2008), and prior performance (Jiang et al., 2020). This prior scholarship has not emphasized the moderating effect of psychological traits that characterize CEOs. The findings of our study contribute to the domain by demonstrating that CEO personalities can have important implications for magnifying or dampening effects on the relationships between CEO regulatory focus and firm decisions and outcomes — an important yet under-investigated prediction of the regulatory focus theory. Future research can generate additional insights by further exploring CEO psychological motivations in depth.

Our findings also shed new light on the implications of CEO personality traits. With respect to Hypothesis 3b, we predicted that the negative relationship between the extent of the firm's internationalization and its CEO's prevention focus would be weakened by the CEO's overconfidence, and we found support for our hypothesis. We do note, however, that if CEO overconfidence is considered to be closely related with hubris, as has been the case in some previous studies, overconfidence may strengthen prevention motivation rather than weaken it. Thus, future research could further explore the direction and significance of this relationship.

The empirical analysis of Hypothesis 4a suggests that narcissistic behavior in a CEO with a strong promotion focus does not seem to further amplify their strategic aggressiveness.

Hypothesizing on the basis of findings from prior studies, we expected the narcissism personality trait to moderate both the promotion and prevention foci of CEOs and in turn influence their decision-making. It appears from a cognitive perspective, that narcissistic CEOs are less concerned with enhancing their image through engaging in high-risk decisions, as they are more concerned with preserving their own self-image. In a motivational sense, the fear of failure may deter a more narcissistic CEO from being overly promotion orientated, given this may reflect on their own lofty self-view and the associated strong need for reaffirmation from others on this perceived superiority.

6. LIMITATIONS AND FUTURE RESEARCH

There are several shortcomings in our research that offer future research directions. Our study demonstrates that CEO regulatory focus has a significant impact on the extent of the firm's internationalization, yet we set our frame of reference for the regulatory focus broadly. First, we have noted that it is possible for both promotion- and prevention-focused CEOs to engage in a variety of firm internationalization activities; thus, researchers can examine more specific elements within the broad domain of internationalization. For example, what is the impact of institutional and geographic factors on regulatory focus? A CEO with a strong promotion focus may tend to explore opportunities in new and far-distant markets, whereas a CEO with a strong prevention focus may prefer to invest and explore more in existing and closer markets. Future research should further examine in greater detail the range of internationalization decisions that can be pursued and how differing levels of CEO promotion and prevention foci impact these internationalization efforts.

Second, multinational corporations are subject to a high degree of processes as distinct to outcome controls and hence the individual and socio-demographic factors may have implications on the decision-making power of the CEO. We found that a CEO's gender was uncorrelated with both the CEO regulatory focus and firm internationalization in our sample. This is because in our sample, only 3% of the CEOs were female. However, other studies have indicated that gender does play a role in a CEO's psychological orientations and personality. Therefore, future researchers should consider gender in their analysis and focus on samples with a higher level of gender diversity among CEOs.

Further, our findings on CEOs' regulatory focus may not hold for firms that are managed by top management teams because internationalization can also be influenced by other team members of the executives. Hence, future research could examine the regulatory focus of top management teams and other dispositional and situational characteristics that influence firm internationalization. Moreover, the results of our study did not examine the performance outcomes of firms' international activities. Future research should extend the logic developed here to examine whether and how regulatory focus influences firms' likelihood of success in their internationalization activities. This could include developing arguments regarding conditions or moderating factors under which high levels of both promotion and prevention foci may lead to success or failure in internationalization. Thus, an exploration of the relationships between CEO psychological characteristics and firm performance in the internationalization of the firm presents another potential avenue of inquiry.

While our theoretical arguments should be applicable in other organizational settings, it would be useful to examine the logic developed here with another sample of firms to understand if our findings are contingent on other characteristics, such as firm size or firm ownership. For example, our results show that firm size directly affects the extent of internationalization. However, it is also conceivable that size effects may manifest themselves indirectly by shaping the CEO's psychological orientation. Specifically, we discussed earlier that CEOs with a strong promotion focus are motivated to maximize their achievements; however, their decision preferences and actions for achievement may depend on the size of their firms. A promotion-focused CEO of a small-sized firm may seek to maximize gains by engaging in a search for new opportunities, whereas a promotion-focused CEO of a large-sized firm may maximize gains by engaging in exploitative activities (Adomako, Opoku & Frimpong, 2017; Kammerlander et al., 2015). Similarly, large firms have better resource augmentation, so CEOs of large corporations may be in a better position to reach for maximal goals via economies of scale. We encourage scholars to further investigate how the regulatory focus of CEOs impact firm decisions and outcomes in firms of various sizes. Finally, the degree of impact of CEOs' psychological motivations may differ among public and private firms, given the differences in organizational structure and the decision-making freedom of CEOs (Agnihotri & Bhattacharya, 2019; Chen, Ho & Yeh, 2020). Thus, testing the framework in other organizational settings would provide valuable additional insight.

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Table 1. Promotion and Prevention Foci Words

Promotion Words		Prevention Words	
Accomplish	Improve	Accuracy	Loss
Achieve	Increase	Afraid	Obligation
Advancement	Momentum	Careful	Ought
Aspiration	Obtain	Anxious	Pain
Aspire	Optimistic	Avoid	Prevent
Attain	Progress	Conservative	Protect
Desire	Promoting	Defend	Responsible
Earn	Promotion	Duty	Risk
Expand	Speed	Escape	Safety
Gain	Swift	Escaping	Security
Grow	Toward	Evade	Threat
Hope	Velocity	Fail	Vigilance
Hoping	Wish	Fear	
Ideal			

Source: Gamache, McNamara, Mannor & Johnson (2015).

Table 2. Descriptive statistics and pairwise correlations

	Mean	Std. Dev	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Firm Internationalization	1.10	0.69	1.00																		
CEO Promotion	0.91	0.54	0.34	1.00																	
CEO Prevention	0.96	0.67	-0.38	-0.10	1.00																
ROA	7.87	7.19	0.09	0.07	-0.11	1.00															
Firm Size	16.28	1.69	0.43	0.12	-0.14	0.10	1.00														
Firm Age	45.33	39.10	0.08	0.07	-0.03	-0.09	0.11	1.00													
Net Income	12.59	4.13	0.01	0.00	0.01	0.36	0.03	0.09	1.00												
Market Capital	16.65	1.36	0.06	0.05	0.10	0.23	0.05	0.17	0.46	1.00											
Inventories	11.01	5.85	0.08	0.08	-0.02	0.13	0.01	-0.11	0.05	0.11	1.00										
RD Expenses	4.97	6.36	0.26	0.13	-0.03	0.13	0.18	0.06	0.05	0.29	0.32	1.00									
CEO Bonus	1.27	2.82	-0.01	-0.02	0.09	-0.05	0.04	0.04	0.04	0.09	0.01	-0.03	1.00								
CEO Salary	6.87	0.84	0.07	0.01	-0.00	0.03	-0.03	0.09	0.01	0.08	0.03	0.07	0.00	1.00							
Other Compensations	9.14	0.74	0.13	0.05	0.02	0.08	0.02	0.00	0.15	0.42	0.02	0.20	0.11	0.34	1.00						
Rest.Stock Hold	6.75	3.64	0.01	0.02	0.01	-0.00	0.03	-0.09	-0.03	-0.02	0.02	-0.03	0.05	0.09	0.17	1.00					
% Shares Owned	0.47	1.12	0.04	0.08	-0.10	0.01	0.02	-0.01	-0.04	-0.12	-0.04	-0.07	0.03	-0.08	-0.09	-0.08	1.00				
CEO Change	0.41	0.49	0.26	0.21	-0.16	0.06	0.11	0.08	-0.01	0.03	0.06	0.10	0.01	-0.05	-0.07	0.01	-0.16	1.00			
CEO Overconfidence	0.38	0.49	0.49	0.17	-0.32	0.10	0.22	0.04	0.03	0.04	0.06	0.13	-0.01	0.06	0.07	0.03	-0.05	0.43	1.00		
CEO Narcissism	0.01	0.73	0.30	0.01	-0.20	0.02	0.16	0.00	-0.07	-0.14	-0.06	0.01	-0.08	-0.02	-0.05	0.03	0.01	0.10	0.13	1.00	
Career Horizon	7.36	8.27	0.53	0.36	-0.33	0.09	0.39	0.09	0.03	0.08	0.06	0.24	-0.05	0.06	0.11	0.03	0.03	0.18	0.31	0.10	1.00

Notes. Two-tailed Pearson correlation coefficients. Correlation coefficients above 0.04 and below −0.04 are significant at 0.05 level and higher.

Table 3. GLS regression (n = 2332)

DV. = Extent of Firm Internationalization		**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Constant		0.731 (0.000)	0.753 (0.000)	0.784 (0.000)	0.764 (0.000)	0.768 (0.000)
Control Variables	ROA	0.001 (0.323)	0.001 (0.292)	0.001 (0.361)	0.001 (0.293)	0.001 (0.379)
	Firm Size	0.010*** (0.001)	0.010** (0.001)	0.010** (0.001)	0.010** (0.002)	0.010** (0.001)
	Firm Age	0.001* (0.042)	0.001* (0.021)	0.001* (0.023)	0.001* (0.021)	0.001* (0.024)
	Net Income	-0.000 (0.659)	-0.000 (0.610)	-0.000 (0.711)	-0.000 (0.651)	-0.000 (0.649)
	Market Capital	-0.012 (0.084)	-0.012 (0.071)	-0.013 (0.065)	-0.013 (0.055)	-0.012 (0.082)
	Inventories	0.001 (0.670)	0.001 (0.641)	0.001 (0.648)	0.001 (0.680)	0.001 (0.626)
	RD Expenses	0.024*** (0.000)	0.024*** (0.000)	0.024*** (0.000)	0.024*** (0.000)	0.024*** (0.000)
	CEO Bonus	0.001 (0.731)	0.001 (0.623)	0.001 (0.600)	0.001 (0.580)	0.001 (0.607)
	CEO Salary	-0.010 (0.082)	-0.007 (0.251)	-0.006 (0.266)	-0.006 (0.274)	-0.007 (0.235)
	Other Compensations	0.019** (0.001)	0.017** (0.002)	0.016** (0.004)	0.018** (0.002)	0.018** (0.002)
	Restricted Stock Holdings	-0.001 (0.326)	-0.001 (0365)	-0.001 (0.429)	-0.001 (0.354)	-0.001 (0.350)
	% of Total Shares Owned	0.022*** (0.000)	0.020*** (0.000)	0.020*** (0.000)	0.020*** (0.000)	0.019*** (0.000)
	CEO Change	0.207*** (0.000)	0.199*** (0.000)	0.197*** (0.000)	0.198*** (0.000)	0.201*** (0.000)
	CEO Overconfidence	0.029** (0.003)	0.028 (0.004)	-0.026 (0.126)	0.028** (0.003)	0.028** (0.003)
	CEO Narcissism	0.014** (0.001)	0.012** (0.004)	0.011** (0.007)	0.020* (0.029)	0.012** (0.004)
	Career Horizon	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	-0.001 (0.233)
	Year dummies	Included	Included	Included	Included	Included
Independent Variables	CEO Promotion		0.034*** (0.000)	0.019* (0.030)	0.035*** (0.000)	0.018* (0.039)
	CEO Prevention		-0.042*** (0.000)	-0.055*** (0.000)	-0.043*** (0.000)	-0.051*** (0.000)
Interaction Variables	CEO Promotion X Overconfidence			0.033** (0.007)		
	CEO Prevention X Overconfidence			0.030** (0.005)		
	CEO Promotion X Narcissism				0.005 (0.503)	
	CEO Prevention X Narcissism				-0.014* 0.019)	
	CEO Promotion X Career Horizon					0.002** (0.006)
	CEO Prevention X Career Horizon					0.001* (0.079)
R^2		0.22	0.26	0.26	0.26	0.26

P-value in parentheses: *p < .05. **p < .01. ***p < .001; All one-tailed tests