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How CEO Intrapersonal Identity Heterogeneity Affects Corporate Social Responsibility?

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Abstract

While micro-CSR literature has made a remarkable process to understand how a singular CEO identity (e.g., demographic or psychological identities, such as tenure or narcissism) affects corporate social responsibility (CSR), we still know very little about how CEO intrapersonal identity heterogeneity impacts CSR despite the fact CEOs hold multiple identities simultaneously. Drawing on social identity theory, we argue that CEOs holding multiple identities simultaneously can not only challenge CEOs' cognitive abilities, but also result in incongruencies in complex decision making. Accordingly, we hypothesize that CEO intrapersonal identity heterogeneity can lead to internal ambiguity thereby negatively affecting firms' CSR performance. Using a novel language-based approach to capture CEO intrapersonal identity heterogeneity on a sample of S&P 1500 firms between 2005 and 2021, we find empirical support for our hypotheses. We also uncover the importance of gender as a critical moderating variable such that female CEOs with high intrapersonal identity

heterogeneity outperform their male counterparts in mitigating the negative association between intrapersonal identity heterogeneity and CSR. Our findings highlight the relevance of the multiplicity of identities within top management for micro-CSR research.

Keywords: Corporate Social Responsibility; Identities; CEO; CEO Gender; Corporate Governance

INTRODUCTION

Scholars exploring micro-level corporate social responsibility (henceforth, CSR) have been increasingly paying attention to how CEO identity—i.e., “the central, distinctive, and more or less enduring aspects of the collectives and roles” perceived by its member”—impact CSR (Ashforth et al., 2008, p. 328; Gond et al., 2017). This research stream has roots in the upper echelons theory where suggests that CEO identities can significantly influence firm strategies such as CSR (Hambrick & Mason, 1984). Although identities can be categorized in multiple ways (Ashforth et al., 2008), two dominant streams of research have emerged within the domain of micro-CSR. The first stream examines the effect of CEO sociological identities (e.g., demographics such as age, gender, and education) on CSR. For example, female CEOs are associated with heightened CSR activities, and CEOs with an MBA degree are found to increase CSR performance (Glass et al., 2016; Huang, 2013). The second stream investigates the impact of CEOs’ psychological identities (e.g., narcissism, hubris, and overconfidence) on CSR. For instance, whereas narcissistic CEOs are found to employ CSR to satisfy their personal needs for stakeholder attention and consequently their firms are found to perform strongly on CSR (Petrenko et al., 2016), hubristic CEOs negatively affect CSR since they

tend to overestimate their own abilities and resources available for CSR (Tang et al., 2018). Other psychological identities such as CEOs' workplace emotions, political ideologies, and entrepreneurial orientations have also been linked to CSR (Gupta et al., 2021; Wang et al., 2022; Zhang et al., 2021). Interestingly, till date CEO identity studies within the realm of micro-CSR have predominantly focused on singular CEOs identities.

Extant identity literature has noted that individuals exhibit multiple identities simultaneously (i.e., intrapersonal identity heterogeneity) that can have important implications for firms (Kang & Bodenhausen, 2015; O'Leary et al., 2011; Ramarajan, 2014). For instance, in the context of employees, a larger number of identities are found to increase the likelihood of identity conflicts (Horton et al., 2014). Identity conflicts not only decrease employees' job performance and psychological well-being (Gibson et al., 2021), but also cause interpersonal conflicts in organizations (Horton & Griffin, 2017). Conversely, studies also show that employees with multiple identities tend to have more diverse social networks and resources (Ramarajan, 2014). In this manner, employee intrapersonal identity heterogeneity can promote knowledge exchange, boost creativity, and foster firm innovation (Kang & Bodenhausen, 2015; Liu et al., 2019). Although the aspect of holding multiple identities simultaneously (or intrapersonal identity heterogeneity) is also applicable to CEOs (Hillman et al., 2008), CEO identities have been singularly explored in the CSR literature. For example, CEO psychological identities, such as CEO extraversion, narcissism, and liberalism, have all been separately linked to CSR performance (Gupta et al., 2021; Tang et al., 2018). However, a CEO could be extraverted, narcissistic, and liberal simultaneously. More importantly, CEOs' psychological identities can intersect with their sociological identities such as gender, ethnicity, and educational background, and collectively influence CEOs' decision-making on firm strategies. This omission, we argue, leads to an incomplete understanding of the performance impact of CEOs on CSR.

Drawing on social identity theory, we hypothesize that CEO intrapersonal identity heterogeneity negatively affects CSR. We argue that CEOs that exhibit multiple intrapersonal identities require additional processing time to navigate across different identities (O’Leary et al., 2011). When confronted with complex and multifaceted decision making such as in case of CSR, CEOs’ multiple identities are likely to not only pose additional challenges to CEOs’ cognitive abilities while making CSR related decisions but also give rise to potential incongruencies in the selection of CSR issues (Hillman et al., 2008; Methot et al., 2016; O’Leary et al., 2011). In this manner, we argue multiple identities this can lead to internal ambiguity among CEOs on one hand, and outward confusion among stakeholders on firms’ CSR policies on the other hand, lowering the overall efficacy of CSR.

Identity scholarship also suggests that gender is relevant for understanding the effects of multiple identities. For instance, male workers tend to select and act on the identity that is situationally most relevant, whereas female workers act more consistently with their identities even in diverse contexts (Reid, 2015). In other words, female workers with multiple identities are more self-consistent, requiring less time to navigate their multiple identities. Extending this line of argumentation, we predict that CEO gender is likely to be relevant for unpacking the effects of intrapersonal identity heterogeneity and CSR. We reason that as opposed to male CEOs, higher self-consistency among female CEOs facing multiple identities alleviates the cognitive stress associated with multiple identities. Accordingly, we posit that female CEOs with higher intrapersonal identity heterogeneity mitigate the negative association between CEO intrapersonal identity heterogeneity and CSR.

To test our hypotheses, we employ a novel linguistic approach to capture *the number of identities* that CEO possess by analyzing the language used by CEOs of S&P 1500 firms during the quarterly earnings calls (Choudhury et al., 2019; Corritore et al., 2020). Focusing on the time period between 2005 and 2021, we apply the two-step system generalized

methods of moments (GMM) estimation technique to our panel dataset to test the impact of CEO intrapersonal identity heterogeneity on CSR. Our results provide empirical support to our theorization that CEO's multiplicity of identities is negatively associated with CSR. We also find that female CEOs with high intrapersonal identity heterogeneity, as opposed to their male counterparts, positively moderate the negative association between CEO intrapersonal identity heterogeneity and CSR.

Our study makes several contributions. First, we contribute to the micro-CSR literature to better understand how CEOs affect CSR. Despite that CEOs can hold multiple identities, previous micro-CSR research has thus far primarily focused on the effect of CEOs' singular identity on CSR. We address this gap by demonstrating that CEOs' intrapersonal identity heterogeneity can negatively affect CSR performance. In doing so, this study also discovers a new CSR antecedent (i.e., CEO intrapersonal identity heterogeneity). Second, while our study is situated in the micro-CSR literature, we also add to the general corporate governance literature that explores the top executives-firm behavior nexus. Similar to the micro-CSR literature, the top executives-firm relationship literature also predominately centers on the role of executives' singular identity. Despite Hambrick (2007)'s call for more attention to explore the effect of the multiplicity of executives' identities, the identity heterogeneity within executives has received strikingly scant attention. By showing the relevance of CEO intrapersonal identity heterogeneity to CSR, we directly respond to Hambrick (2007)'s call on exploring the effect of executives' identity multiplicity on firm-level outcomes. Methodologically, one of the main challenges of measuring CEO identities is to directly obtain data on the socio-psychological identities of CEOs because CEOs are generally reluctant to participate in directly identity measures such as surveys or experiments. By using a novel text mining machine learning approach to extract CEO identities and

provide a new and unobtrusive way for researchers to measure CEO intrapersonal identity heterogeneity on a large scale.

THEORETICAL BACKGROUND

Social Identity Theory

Identity has been regarded as one of the fundamental constructs underlying the philosophical question “Who I am” (Ashforth et al., 2008). In the context of organizations, identity refers to “the central, distinctive, and more or less enduring aspects of the collectives and roles perceived by its member”(Ashforth et al., 2008, p. 328). For example, an individual’s identity can take on the form of their professional roles (e.g., HR managers or CEOs), sociological background (e.g., gender, place of origin, or qualifications), and psychological traits (e.g., personalities, or leadership styles) (Ramarajan, 2014).

While identities have been important to organizational studies (Ashforth et al., 2008; Ashforth et al., 2016), they are especially relevant when organizations exhibit greater differentiation and heterogeneity such as in case of increased frequency of interactions and collaborations with diverse stakeholders (George et al., 2016). In other words, complex organizational structures and activities provide opportunities to individuals to establish as well as refine their self-categorizations by deriving, assigning, and internalizing meanings to their identities (Leavitt et al., 2012; Ramarajan, 2014). Concomitantly, these identities affect organizations and their performance. For example, scholarship on leadership identities such as ethical and responsible leadership are found to promote ethical organizational culture and reduce turnover intentions (Toor & Ofori, 2009; Waldman & Balven, 2014). In the context of CEOs, studies find that a variety of identities, such as CEO demographics (e.g., gender, age,

and educational background) and their psychological identities (e.g., political ideology, narcissism, and overconfidence), impact organizational outcomes such as firm performance, mergers and acquisition, and innovation (Petrenko et al., 2019; Ren et al., 2021; Zhu et al., 2020).

Here, social identity theory holds particular relevance. Social identity theory is central to understand how individuals' identities guide their behaviors within organizations and, subsequently, impact organizational outcomes (Ashforth et al., 2008). Social identity theory suggests that individuals are motivated to self-categorize themselves into various groups based on a vast array of schemas such as their professional roles (Ashforth & Mael, 1989). Self-categorization then leads to social identification – that is, “the perception of oneness with or belongingness to some human aggregate” – which assists individuals to define their identity and discover themselves through questions such as “Who I am” (Ashforth & Mael, 1989, p. 21). Individuals behave per their social identifications by choosing activities consistent with their identities (Ashforth et al., 2008). For example, employees that identify themselves as environmentally conscientious have been found to show higher level workplace green behaviors (e.g., using less papers or using stairs instead of the elevators) (Kim et al., 2017).

Social identity theory recognizes that individuals can hold multiple identities simultaneously, which we refer to as *intrapersonal identity heterogeneity* (Corritore et al., 2020). For example, a CEO could be female with a doctorate who prioritizes equality in organizations or a conservative Asian-American male who supports shareholder value maximization. Social identity theory also assumes that multiple identities are often interconnected and more than one identity can be co-activated to affect individuals' attitudes and behaviors (Ashforth et al., 2008). By extension, multiple identities may or may not be compatible with each other (Ramarajan, 2014). On the one hand, identities can conflict with

each other. For example, Das et al. (2008) find that accent reduction training is required by Indian off-shored call centers to cater to clients from the US and UK. During this training, employees often feel uncomfortable or abused and suppression of their accents triggers a heightened awareness of their national identity (i.e., Indian). This results in an identity conflict between their work role identity (i.e., employees at a call center) and their national identity (i.e., Indian), which leads to distress and lower work performance (Das et al., 2008). Similarly, Ramarajan, Rothbard, et al. (2017) find that salespersons with conflicting identities often experience insecurities about their multiplicity of identities. This diverts their attention from their tasks on hand and increases the likelihood of frictions in firm-customer relationships. On the other hand, identities can also complement each other (Ramarajan, 2014). For example, since pro-sociality and collectivism both emphasize the welfare of others (i.e., complement each other), individuals who possess both identities are found to show higher levels of pro-social behavior and better job performance (Ramarajan, Berger, et al., 2017). This is because complementary identities frequently provide people with a sense of self-verification. As a result, people tend to concentrate more on the tasks at hand rather than figure out their self-concepts (Ramarajan, Berger, et al., 2017). While scholars have long recognized that individuals can possess multiple identities and its implications on individuals' behaviors and organizations, CEO intrapersonal identity heterogeneity and its impact on organizations has thus far received scant attention (Caprar et al., 2022; Ramarajan, 2014). This leads to an incomplete understanding of how CEOs affect organizational outcomes. Our paper takes attempts to shed light on this phenomenon in the context of CSR.

CEOs and Corporate Social Responsibility

Although there are different understandings of CSR, for the purpose of this paper, we view CSR as “context-specific organizational actions and policies that take into account stakeholders’ expectations and the triple bottom line of economic, social, and environmental performance” (Aguinis, 2011, p. 855; Aguinis & Glavas, 2012). Despite the widespread adoption of CSR practices by firms worldwide (KPMG, 2020), researchers and practitioners have been questioning whether CSR practices can effectively address social and environmental challenges (Wang et al., 2016). Within this inquiry, studies show that CEOs are responsible for 30% of firms’ overall CSR performance (Wernicke et al., 2022). This is because as one of the main decision-makers in organizations, CEOs typically possess the power to allocate resources available to firms’ strategies, including CSR (Magee & Galinsky, 2008). Therefore, it is difficult to implement effective CSR strategies without CEOs’ support on assigning adequate resources to firms’ CSR activities (Muttakin et al., 2018). Recognizing the importance of CEOs to CSR, recent reviews in the field of CSR show that considerable scholarly progress has been made to help understand how CEOs can affect firm level CSR behavior and practices (Jain & Jamali, 2016; Zaman et al., 2022).

The micro-CSR literature that focuses on the role of CEOs in CSR finds its roots in the upper echelons theory, which suggests that top executives’ identities, such as their personalities, demographic characteristics, prior experiences and qualifications, can significantly impact organizational outcomes (Hambrick, 2007; Hambrick & Mason, 1984). Within this research stream, a variety of CEO psychological and sociological identities have also been found to shape CSR. In terms of CEOs’ psychological identities, research shows that liberal CEOs are more inclined to consider various stakeholder demands, they are more likely to endorse CSR activities than their conservative counterparts (Chin et al., 2013). In addition, narcissistic CEOs have been found to improve firms’ CSR performance, as they view CSR as a means to attract stakeholder attention (Petrenko et al., 2016). Furthermore, Park et al.

(2018) find that firms led by hubristic CEOs underperform firms with less-hubristic CEOs because hubristic CEOs tend to overestimate their abilities. With regards to CEOs' sociological identities, when firms are headquartered in CEOs' hometown, CEOs' hometown identity is found to improve firms' CSR performance (Ren et al., 2022). Firms that are led by CEOs with an MBA degree are also found to perform better in CSR, as MBA degree can equip CEOs with better knowledge on the strategic importance of CSR (Huang, 2013).

While providing valuable insights on the performance implication of CEO identities on CSR, these studies have also overlooked that CEOs can subscribe to multiple identities (i.e., the intrapersonal identity heterogeneity of CEO), which is contradictory to the social identity theory. In particular, the social identity theory prescribes that CEOs' multiplicity of identities can not only have implications to CEOs' decision-making process on firm strategies, but also subsequently influence firm-level outcomes such as firm performance (Ashforth et al., 2008). In this vein, we argue that such an omission can cost the current micro-CSR literature to obtain only a partial view of how CEOs affect CSR. Meanwhile, in his seminal review on the upper echelons theory, Hambrick (2007) has already called for more scholarly attention to understand the interactive effect of the multiplicity of executive identities on firm-level outcomes. Yet, executives' intrapersonal identity heterogeneity has not yet fully explored. Hence, motivated by social identity theory and recent research development in the role of CEOs in the micro-CSR literature, this paper seeks to understand how CEO intrapersonal identity heterogeneity affects CSR.

HYPOTHESIS DEVELOPMENT

Intrapersonal Identity Heterogeneity

To reiterate, intrapersonal identity heterogeneity refers to the multiple identities that an individual can hold simultaneously (Corritore et al., 2020). Two opposing views emerge on the effect of individuals' intrapersonal identity heterogeneity on organizations (Caprar et al., 2022; O'Leary et al., 2011). The first viewpoint contends that intrapersonal identity heterogeneity is advantageous for organizations (O'Leary et al., 2011; Ramarajan, 2014). This viewpoint considers multiple identities as a toolkit that individuals can leverage when taking on more challenging roles or tackling complex organizational tasks. O'Leary et al. (2011), for instance, argue that employees' multiple identities can help boost team productivity by providing individuals and teams with resources to work more collaboratively and thus more efficiently.

Contrarily, the second view considers individuals' intrapersonal identity heterogeneity as a liability for organizations (Caprar et al., 2022). This view argues that high intrapersonal identity heterogeneity introduces identity complexity that could potentially increase the likelihood of identity conflict (Caprar et al., 2022). As a result, individuals who juggle multiple and conflicting identities typically need greater mental bandwidth and longer processing time to navigate diverse identities (Caprar et al., 2022; Kang & Bodenhausen, 2015; Methot et al., 2016). The additional processing time limits individuals' capacity to coordinate tasks, hence reduces productivity (O'Leary et al., 2011; Valentine & Edmondson, 2015). Accordingly, research finds that account managers that have different role identities across various teams (e.g., liaisons in customer support teams, and managers communicate customer insights to internal audiences) are found to exhibit lower job performance due to the difficulties of balancing different role identities (Liu et al., 2019; Methot et al., 2016; Tempelaar & Rosenkranz, 2019). Moreover, studies also show that reduced individual productivity can inhibit knowledge sharing activities across teams because individuals have less slack time to communicate within and across teams (Caprar et al., 2022; Hall, 2005).

To summarize, research suggests that task complexity can shed light on how intrapersonal identity heterogeneity affects organizational outcomes. Theoretically, complex tasks differ from simple tasks in three ways (Campbell, 1988; Horwitz & Horwitz, 2007). First, complex tasks generally involve more information cues and distinctive actions (“component complexity”; Campbell, 1988). To design a new product, for example, product managers need to gather various information related to market research, financing, product design, and manufacturing. By contrast, simple tasks such as sorting mails involve a smaller set of actions and information cues. Second, distinctive actions in complex tasks are connected sequentially and interdependently, whereas actions in simple tasks are independent of each other (“coordinative complexity”; Campbell, 1988). For instance, a successful product design typically requires coordination across different departments such as marketing, finance, manufacturing, whereas sorting mails require relatively independent steps such as receiving or distributing the mails. Third, the information cues, actions, and relationships across actions change over time in complex tasks, which require task takers to possess a wide range of knowledge and skills to manage (“dynamic complexity”, Campbell, 1988). As an example, new product launches often are susceptible to changes over time such as manufacturing availability and logistics, while mail categorization remains relatively unchanged over time. Together, high task complexity strains employees’ ability to flesh out pertinent information cues, configure actions in response to various information cues, and integrate temporal aspects embedded in complex tasks (Campbell, 1988). When engaging with task complexity, the performance of individuals with high intrapersonal identity heterogeneity is likely to be negatively affected. This is because of the duality of cognitive and time constraints emerging from both intrapersonal identity heterogeneity and task complexity (O’Leary et al., 2011; Wegge et al., 2008). For instance, Porck et al. (2019) find that task complexity, as opposed to task simplicity, diminishes the positive effect of

employees' intrapersonal identity heterogeneity on team and task performance because task complexity depletes employees' attention on team projects. We extend this argumentation to the case of CEOs.

CEO Intrapersonal Identity Heterogeneity and CSR

CSR is complex and multifaceted, as firms need to engage with a multitude of stakeholders (such as employees, suppliers, customers, government, and local communities) to devise and implement effective CSR strategies (Aguinis & Glavas, 2012; Wang et al., 2020). The broad range of stakeholders not only increases the number of information cues in CSR activities, but also calls for distinctive actions undertaken for each CSR strategy to meet the varying, and sometimes conflicting, demands of stakeholders (Aguinis & Glavas, 2012). For example, CSR activities for internal stakeholders, for instance, could entail ethics training, employee volunteerism, or employee wellness-focused initiatives (Jain & Xie, 2022; Mirvis, 2012). On the other hand, CSR activities that target external stakeholders may comprise sustainable supply chain management, or environmental initiatives for climate change or philanthropic donations to local communities (Campbell, 2007). Adding to the task complexity of CSR is the effect of institutional change over time on CSR practices. For instance, institutional changes such as changes in government regulations on CSR disclosures or COVID-19 have been found to significantly alter firms' CSR practices (Galbreath, 2017; He & Harris, 2020). Hence, accounting for institutional change is essential to a complete understanding of effective CSR management (Campbell, 2007; Jain, 2017; Jamali et al., 2020). Indeed, Rangan et al. (2015) find in their survey of 142 managers that the task complexity and the lack of coordination across CSR activities are the primary reasons that restrict CSR to reach its full potential. Taken together, CSR strategies are complex and thus call for substantial cognitive

inputs from decision-makers, especially CEOs, due to the higher number of information cues embedded in, the distinctive actions required, and the need to account for institutional changes on CSR (Wang et al., 2016). This calls for substantial cognitive inputs from decision-makers, especially CEOs (Wang et al., 2016).

Given the high task complexity of CSR, drawing on social identity theory we argue that there are at least two reasons why CEOs with high intrapersonal identity heterogeneity would negatively affect firms' CSR performance. First, depending on the situational relevance, different identities may be activated to guide individual behaviors (Tajfel & Turner, 2004). For example, research demonstrates that when the board of directors' friend identity with CEOs are activated, board members are less likely to monitor management teams because they become more empathic with CEOs and therefore are more hesitant to criticize CEOs' decisions (Hillman et al., 2008; Westphal, 1999). In contrast, when directors' relationship ties with shareholders are invoked, directors are more likely to monitor firms to show their fiduciary duties to shareholders (Hillman et al., 2008). In the case of complex activities, such as CSR, CEOs not only need to consider various, often conflicting, demands from multiple stakeholders but also have to deal with heterogeneity of their own identities. As a result, CEOs often need to frequently activate different and possibly conflicting identities to address various CSR issues. To illustrate, philanthropic CEOs may activate their philanthropist identity to allocate firm budget to activities such as providing in-kind support to nonprofits to help these organizations achieve their goals, or establishing a corporate giving program that helps improve environmental sustainability in local communities. Meanwhile, philanthropic CEOs would also invoke their business leader identity to work with board of directors that prioritize shareholder values over philanthropic activities. More importantly, research shows that juggling different identities poses a threat to individuals' self-concept and gives rise to their feeling of inauthenticity at work, which further depletes

individuals' cognitive ability (Caza et al., 2018; LeBoeuf et al., 2010). For instance, Tempelaar and Rosenkranz (2019) show that managers consistently alternating among their identities are more likely to suffer from energy drain and mental distress, thus impairing their cognitive abilities when making decisions. As such, we argue that CEOs that frequently alternate across multiple identities often experience psychological strain such as emotional distress and burnout. Additionally, the task complexity of CSR strategies can take a toll on CEO's ability to make effective and timely strategic decisions on CSR and thereby reduce CSR performance.

At the same time, the inconsistent decisions of CEOs on CSR issues can also confuse stakeholders, which leads stakeholders to perceive CEOs as incongruent and less reliable, thereby discounting firms' CSR performance. At the outset, CSR scholars have already established that leaders' consistency matters to ensure effective CSR practices (De Roeck et al., 2016; Jain, 2017). For example, CEOs that display congruent behaviors are more likely to encourage organizational citizenship behaviors (Walumbwa et al., 2008) (Angus-Leppan et al., 2010). Relatedly, Ketola (2006) shows that employees are less likely to participate in CSR activities and that CSR practices are less effective when there is distrust of CEOs due to behavioral incongruity in CSR activities. In addition to employees, external stakeholders also react negatively to CEOs' incongruity with CSR. For instance, extant literature finds that investors, consumers, and the general public all view firms' CSR strategies to be less credible when CEOs communicate inconsistently about their CSR issues (Khan & Sulaiman, 2021; Wang & Huang, 2018).

To summarize, we argue that CEO intrapersonal identity heterogeneity poses psychological strain on CEOs' cognitive ability to effectively and timely make strategic decisions, a strain that is exacerbated by the task complexity of CSR. Moreover, CEO

intrapersonal identity heterogeneity can create ambiguity to both internal and external stakeholders on CSR issues, thereby reducing overall CSR performance.

Accordingly, we posit:

H1: CEOs with high intrapersonal identity heterogeneity are likely to be negatively associated with firm level CSR performance.

CEO Gender, Intrapersonal Identity Heterogeneity, and CSR

Compared to other identities such as personalities, CEO gender identity is highly visible and has been a common topic of discussion in organizations (Clair et al., 2005; Warren et al., 2019). The high visibility is manifested in the gender bias, stereotypes, and glass ceiling that women in leadership positions have encountered. For example, Scott and Brown (2006) indicate that employees are less likely to perceive CEOs' agentic leadership attributes (e.g., assertiveness or independence) – attributes that are considered to be more common among male leaders – when the CEO is female. Similarly, Glass and Cook (2016) find that because CEOs' gender identity is more visible than their leader identity, female CEOs actively seek to take on risky projects and assignments to prove their leader identity. These evidence suggest that female CEOs' gender identity is influential in organizations, and is more likely to be firstly perceived by stakeholders than any other identities she may possess, despite that she may hold many identities on top of the gender identity (Johnson et al., 2008). Therefore, it is important to explore the particularly consider CEO gender identity in the context of CEO intrapersonal identity heterogeneity.

With regard to CSR, research suggests that firms with female CEOs tend to show stronger CSR performance. This argument is rooted in the gender difference perspective which suggests that “women and men are encouraged and rewarded for different types of

behaviors through out the life course” (Cook & Glass, 2016, p. 824). Females, in particular, are taught to prioritize interpersonal relationships whilst males are encouraged to be more individualistic (Gilligan, 1982). In this vein, females CEO are more likely to attend to demands from various stakeholders and pay more heed to issues like diversity and equality than male CEOs (Cook & Glass, 2018).

Gender difference perspectives can shed light on how male and female CEOs approach their multiple identities differently. Studies show that male workers with multiple identities are more likely to adopt the persona that is most appropriate for the circumstances, but female workers with multiple identities are less context-dependent (Reid, 2015). In this sense, intrapersonal identity heterogeneity is less energy-draining for female workers because they are more consistent with their identities in various situations, whilst male workers need to constantly assess and react to various situations with the most suitable identity. For CEOs, we also contend that intrapersonal identity heterogeneity is less energy-draining for female CEOs than male CEOs, thus allowing female CEOs to have a greater cognitive capacity to devise and implement more effective CSR strategies. Furthermore, we argue that the female CEOs’ greater identity consistency on CSR issues could reduce confusion to stakeholders and therefore enhance CSR effectiveness. Taking together, given that firms with female CEOs outperform those with male CEOs and that high intrapersonal identity heterogeneity affects female CEOs less negatively than male CEOs, we hypothesize:

METHODOLOGY

Dependent Variable

The main dependent variable of this study is firms' CSR performance. Extant literature primarily deploys Kinder, Lydenberg, and Domini (KLD) database to quantify firms' CSR performance (Mattingly & Berman, 2006; Perrault & Quinn, 2018). Notably, scholars generally aggregate the strength and concern scores in the KLD database to create a net score for firms' CSR performance (Perrault & Quinn, 2018). However, prior studies indicate that such aggregations are problematic because the number of strengths and concerns of firms' CSR activities can co-exist, such that the aggregated scores do not accurately reflect firms' CSR performance (Perrault & Quinn, 2018; Strike et al., 2006). Therefore, we employ Thompson Reuters' ASSET4 ESG Scores (ASSET4) to measure firms' CSR performance, an index that measures firms' CSR performance on a scale of 0-100 rather than aggregations of strengths and concerns. Following previous studies, we measure firms' CSR performance by using an equally weighted average of environmental and social performance scores from ASSET4 (Ioannou & Serafeim, 2015; Luo et al., 2015; Qian et al., 2019). We exclude the governance performance from the ESG scores in ASSET 4 to reduce the potential impact of firms' corporate governance factors on the selection of CEOs (Qian et al., 2019)

Independent Variable

Extant studies note that a major challenge in measuring CEOs' psychological identities is to collect direct psychometric data on CEOs using experiments or surveys (Gupta et al., 2021; Hambrick, 2007). To circumvent this challenge, we employ a language-based approach to unobtrusively measure CEO intrapersonal identity heterogeneity. This novel language-based approach assumes that individuals' identities are embedded in the language they use to communicate. This assumption has been widely analyzed and found to hold good in sociolinguistic research (Bucholtz & Hall, 2005; Tabouret-Keller, 2017). For example, Giles

and Johnson (1987) show that individuals that strongly identify with their ethnicity tend to use more ethnic language in their communications to differentiate themselves from others. Similarly, identities such as gender, nationality, and cultural origins have also been found to affect individuals' communication styles (Giri, 2006; Liu, 2016; Merchant, 2012). We contend that by using a language-based approach, it is plausible to unobtrusively capture the number of CEO identities and effectively manage the limitations associated with the availability of psychometric data for upper echelons. Meanwhile, management and accounting scholars have started to employ this approach to measure CEO identities; for instance, in case of CEO verbal communication style to gauge short-termism versus long-termism in decision making (Shi et al., 2019); CEO extraversion (Green et al., 2019; Malhotra et al., 2021) as well as CEO conscientiousness and neuroticism (Harrison et al., 2020). Accordingly, we employ the language-based approach to capture CEO intrapersonal identity heterogeneity.

We follow a two-step approach to operationalize CEO intrapersonal identity heterogeneity. First, we aggregated the language used by CEOs during earnings call transcripts. To do so, we web-scraped earnings conference call transcripts of S&P 1500 companies from the Seeking Alpha website between 2005 and 2021. This has resulted in 78,932 earnings call transcripts. We then obtained CEO information of S&P 1500 firms from BoardEx and manually matched it to conference call participant lists retrieved from Seeking Alpha to discern which portion of the texts in transcripts belongs to which CEO. We focus specifically on the Q&A session of the earnings conference calls because the Q&A section entails unscripted conversations between CEOs and analysts. This enables us to capture CEO identities more accurately. After aggregating all relevant text for each CEO and excluding those CEOs who have spoken less than 1000 words during conference calls, the initial sample includes 2923 CEOs with an average of 30,577 words spoken during conference calls.

Second, following Choudhury et al. (2019) and Corritore et al. (2020), the intrapersonal identity heterogeneity of CEOs is measured using *topic model*, a machine learning approach in text mining. Topic model is based on the Latent Dirichlet Allocation (LDA) algorithm where “it treats each document as a probabilistic mixture of topics and every topic is a mixture of words” (Blei et al., 2003; Silge & Robinson, 2017, p. 90). For example, assuming a text document consists of three topics (A, B, and C), topic model can inform us that within this document 50% of the content is related to Topic A, 30% belongs to Topic B, and the remaining 20% is associated with Topic C. Further, a topic is comprised of a group of words that have the highest probability to be used together in a collection of text documents (Silge & Robinson, 2017). To illustrate, keywords such as “gender”, “diversity”, “female”, and “inclusive” can be grouped under the topic “gender equality”. These features of topic model allow us to obtain *the number of topics* and *topic probability distributions* for each CEO based on their spoken language contained in the quarterly earnings call transcript. This then allows us to derive the extent to which CEOs draw a diverse set of topics, which serves as our basis for measuring CEO intrapersonal identity heterogeneity.

Specifically, we derive CEO intrapersonal identity heterogeneity based on whether CEOs draw from a diverse set of topics in their communications with stakeholders. We argue that CEOs exhibit high intrapersonal identity heterogeneity when they can focus on a broad range of topics in their communications, whereas CEOs who focus on a limited range of topics are characterized as exhibiting low intrapersonal identity heterogeneity (Corritore et al., 2020). This argument has its origin in the social psychology literature where studies assert that each identity comprises a unique set of meanings or experiences (Kang & Bodenhausen, 2015). For example, CEOs who have previously worked as a chief financial officer possess more in-depth knowledge on corporate finance strategies, whereas CEOs who have prior experience of researcher in pharmaceutical firms would have a more nuanced understanding

of medical experiments. This would comprise a CEO's singular professional identity. An individual's higher number of identities will accordingly equip them with more nuanced understanding of different meanings associated with their diverse identities. These are likely to be manifested in their communications with others (Kang & Bodenhausen, 2015). For example, Benet-Martínez et al. (2006) find that bi-cultural individuals can provide more information and engage in longer conversations with others on topics from both of their cultural identities, while mono-cultural individuals typically choose to communicate on cultural topics that are more aligned with their singular cultural identity. Applied to CEOs, we progress that CEOs with a higher intrapersonal identity heterogeneity will be able to communicate on a wide variety of topics in their communications reflective of their multiple identities. For example, CEOs that show strong identification with environmentalists and who have worked as chief marketing officer can elaborate more on firms' environmental strategies and branding practices respectively than those who do not possess such identities. Taken together, we argue that by discerning whether CEOs are capable of engaging with a diverse array of topics during their earnings calls can approximate CEOs' intrapersonal identity heterogeneity.

The operationalization of LDA topic models requires researchers to specify the number of topics. Traditionally, researchers have used measurements such as semantic coherence scores or held-out likelihood ratio to determine the ideal number of distinctive topics (Choudhury et al., 2019). However, to capture CEO intrapersonal identity heterogeneity, we are concerned with the number of topics and their distributions for each CEO, not the topics themselves and the keywords therein (Corritore et al., 2020). In other words, we do not search for the ideal number of distinctive topics. Moreover, prior research also suggests that a higher number of topics is desirable to more accurately capture CEO intrapersonal identity heterogeneity because "above some threshold, new topics only nibble

away at existing rather than fundamentally alter the topic distribution” (Corritore et al., 2020, p. 373; Wallach et al., 2009). Accordingly, 100 topics, a relatively large number of topics, were chosen as our input to the LDA model. We also conducted additional analysis for 50, 150, and 200 topics and reached similar results compared to the 100-topic specification. We also carried out a comparison between 50-topic and 100-topic specification, which shows that a higher number of topics is more desirable for capturing CEO intrapersonal identity heterogeneity (See Appendix 1 for more details)

To validate the face validity of our 100-topic LDA model, we examined the most highly weighted keywords and assigned topic names for each model. In Table 1, we show examples of topic names and their corresponding keywords for 5 most frequently discussed topics and 5 randomly selected topics in our 100-topic LDA model. These keywords and topic names suggest that our LDA approach captures a wider range of topics that CEOs discuss, which supports our usage of LDA models and earnings call transcripts to gauge CEO intrapersonal identity heterogeneity. Please also see a detailed breakdown and the face validity of our 100-topic model in Appendix 1.

Insert Table 1 about here

After obtaining probability distributions of topics for each CEO, we measured CEO intrapersonal identity heterogeneity based on whether they focused on a wide or a narrow range of topics, following the practice of Choudhury et al. (2019) and Corritore et al. (2020). We particularly follow Choudhury et al. (2019) and select the Shannon entropy measure, a common and popular concentration measure, to measure CEO intrapersonal identity heterogeneity. The Shannon entropy is calculated as:

$$-\sum (p_i * \log_2 p_i)$$

Here, p_i represents the probability distribution p of topic i . A high value of Shannon entropy indicates that a CEO focuses on a wider range of topics – i.e., high CEO intrapersonal identity heterogeneity. A low value of Shannon entropy shows that a CEO only centers on a narrower set of topics – i.e., low CEO intrapersonal identity heterogeneity.

Moderating Variable

The gender information for CEOs in our sample was retrieved from BoardEx where 1 indicates female CEO and 0 indicates male CEO.

Control Variables

We control for CEO behavioral factors that could affect the dependent variable of this study, i.e., CSR. At the outset, CEO power has been shown to influence CSR engagement (Jain & Jamali, 2016). Hence, we control for CEO power, which includes CEO duality (1 indicates the CEO is the board chairman, and 0 indicates otherwise) and CEO tenure. Prior literature also finds that younger CEOs tend to be more CSR-minded (Oh et al., 2016). We account for this effect by controlling CEO age. Finally, recent research observes that CEOs are inclined to implement CSR when their compensation is linked to firms' CSR performance (Radu & Smaili, 2021). Accordingly, we include a dummy variable to control for whether CEO compensation is linked to CSR (1 if CEO compensation is linked to CSR performance and 0 if otherwise).

We also control for several board-level factors. First, we control board size (the number of directors on the board) as larger boards represent more stakeholders' interests and,

hence, can lead to higher CSR performance (Kock et al., 2012). We also control for board independence (the proportion of independent directors on the board), since more independent boards are more likely to detect and monitor self-serving activities that undermine firms' long-term strategies such as CSR (Harjoto & Jo, 2011). It is also argued that the presence of a CSR committee can also help increase CSR performance (Radu & Smaili, 2021). Therefore, we control for whether firms have a CSR committee (1 indicates the presence of a CSR committee, and 0 indicates otherwise). Finally, research shows that a higher board gender diversity improves CSR performance because female directors are more driven towards CSR. To account for this effect, we control for board gender diversity, measured by the proportion of female directors on the board (Cook & Glass, 2018).

Several firm-level factors are also considered as part of our control variables. We control for firm size (measured as the natural logarithm of a firm's total asset) as larger firms face more scrutiny and pressure to engage in CSR (Udayasankar, 2008). To account for the effect of firm performance on CSR, we include return on assets (ROA) as a control (Harjoto & Jo, 2011). Prior studies also show that firms' slack resources can affect CSR (Xu et al., 2015). Therefore, we control both absorbed slack (inventory/total assets) and unabsorbed slack (cash holding/total assets) (Tang et al., 2018). To account for the effect of financial risk on CSR performance, we control for leverage (measured by total debt divided by the sum of total debt and the book value of equity) (Wang et al., 2022). We control for firm age (the number of years since incorporation) to account for the impact of firm age on CSR (Gupta et al., 2021). Our model also includes the previous year's CSR performance to control for its effect on the current year's CSR performance (Petrenko et al., 2016). Finally, we use SIC two-digit code and year dummies to minimize the unobserved effect at the industry level and across time, respectively.

Data and Sample Collection

Our starting sample is CEOs from S&P 1500 firms from 2005 to 2021 inclusive. We obtained our CEO and board data from ExecuComp and BoardEx databases. Firms' CSR performance scores were extracted from Thompson Reuters' ESG database (ASSET4). Firms' financial information was extracted from Compustat. After merging all the data, our final sample consists of 3750 firm-year observations from 2005 to 2021 for 397 unique firms and 677 CEOs.

Endogeneity and Estimation Strategy

We acknowledge that endogeneity concerns, such as omitted variables or reverse causality, are particularly prominent in CSR-related studies (Aouadi & Marsat, 2018; Jain & Zaman, 2020). In terms of omitted factors, a CEO with multiple identities, for instance, can hire CSR managers with a similar set of identities to lessen the possibility of interpersonal identity conflict, potentially improving CSR performance. The absence of interpersonal identity congruency between CEO and CSR managers (and/or other unobserved effects) could bias our analysis. Concerning the reverse causality, firms may select CEOs with a larger number of identities to improve stakeholder oriented performance.

To minimize the impact of endogeneity on our results, we use a two-step system generalized methods of moments (GMM) model to test our hypothesis. The two-step system GMM model is commonly used in organizational studies to effectively capture the dynamic cross-sectional and longitudinal relationships in a panel dataset while limiting endogeneity bias (Girod & Whittington, 2017; Jain & Zaman, 2020; Oehmichen et al., 2017). Lagged variables in our model (e.g., lagged CSR performance) also make our dataset ideal for dynamic panel estimation techniques like two-step system GMM. To further reduce the

impact of endogeneity on our model, we included an endogeneity control in our model (Chatterjee & Hambrick, 2011; Petrenko et al., 2016; Wang et al., 2022). In line with prior CEO-CSR studies, we first regressed CEO intrapersonal identity heterogeneity with various antecedents to determine CEOs' entry conditions. Specifically, we included firm-level antecedents (firm performance, firms' CSR performance, firm age) and CEO-level antecedents (duality, age, tenure, gender) (Petrenko et al., 2016; Wang et al., 2022). We then generated a predicted CEO intrapersonal identity heterogeneity score and used it as our endogeneity control.

RESULTS

 Insert Table 2, Table 3, and Figure 1 about here

Table 1 shows the descriptive statistics and correlation matrix of all variables in our study. Consistent with prior literature, we anticipate and observe a high correlation between CEO characteristics (in our case, CEO intrapersonal identity heterogeneity) and firm-level controls (Kang et al., 2021; Petrenko et al., 2019). This could give rise to potential multicollinearity issues that could inflate our results. Our calculations of the variance inflation factors (VIF) for all variables, with the exception of the lagged CSR performance ($VIF = 2.4$), are all less than 1.5 and well below the criterion of 10 (Wooldridge, 2015). This suggests that multicollinearity is not a concern in our study.

Table 2 reports the two-step system GMM results for hypotheses 1 and 2. Model 1 is the base model that only includes control variables. We test our hypotheses 1 and 2 through Model 2 and Model 3, respectively. In Model 2, we add CEO intrapersonal identity heterogeneity to the base model to test hypothesis 1. In line with our hypothesis 1, we find that CEO intrapersonal identity heterogeneity is negatively associated with firms' CSR

performance ($\beta = -5.979$, $p < 0.05$). This estimate indicates that one-unit-increase in the measure of the identity multiplicity of CEOs can reduce firms' CSR performance by -5.979. Hypothesis 2 predicts that female CEOs can mitigate the negative association between intrapersonal identity heterogeneity and CSR performance. To test hypothesis 2, we introduced the interaction term of CEO intrapersonal identity heterogeneity and CEO gender in model 3. Consistent with past research, our interaction term of CEO intrapersonal identity heterogeneity and CEO gender is centered to mean to limit the impact of multicollinearity on our findings (Girod & Whittington, 2017; Shipilov et al., 2017). The results of model 3 indicate that the interaction term of CEO intrapersonal identity heterogeneity and CEO gender is positively associated with firms' CSR performance ($\beta = 26.832$, $p < 0.05$). This indicates that for every one-unit increase in CEO intrapersonal identity heterogeneity, female CEOs are expected to increase firms' CSR performance by 26.832 than male CEOs. We also plot this interact effect in Figure 1, which suggests that under the condition of high intrapersonal identity heterogeneity, female CEOs perform better in terms of firms' CSR performance than male CEOs. In other words, we find empirical support for our hypothesis 2 that female CEOs with higher intrapersonal identity heterogeneity can better contribute to firms' CSR performance than their male counterparts.

In terms of our model fitness, the first-order Arellano-Bond test, or AR(1), – which measures autocorrelation in the error terms in GMM models - of all three models in Table 2 indicates that all three models' error terms are serially correlated in the first order. This serial correlation is not statistically significant in the second order, which is evidenced in the lack of significance of the second-order Arellano-Bond test - i.e., AR (2) - across all three models in Table 2. This suggests that the inclusion of lagged instruments in our two-step system GMM estimation is valid to reduce possible endogeneity biases in our results (Milanov & Shepherd,

2013). This validity of our lagged instruments is further confirmed by the non-significant Hansen J test ($p = 0.713, 0.236, 0.756$ for model 1, 2, and 3, respectively).

Additional Analysis

Insert Table 3 about here

Because of the value-laden nature of CSR, previous literature suggests to disaggregate CSR construct in empirical studies to obtain a detailed view of CEOs' impact on firms' environmental performance and social performance, respectively (Jain & Jamali, 2016). To do so, we further partitioned our CSR into corporate social performance and environmental performance. Table 3 shows the results of our additional analysis. Model 1 and Model 2 test the effect of CEO intrapersonal identity heterogeneity on corporate social performance and corporate environmental performance, respectively. As expected, firms with CEOs that have higher intrapersonal identity heterogeneity are more likely to have a lower corporate social performance ($\beta = -6.277, p < 0.05$) and a lower corporate environmental performance ($\beta = -9.028, p < 0.05$). Model 3 and Model 4 capture the moderating effect of CEO gender in the relationship between CEO intrapersonal identity heterogeneity and CSR. Similar to our hypothesis 2, we find that female CEOs with higher intrapersonal identity heterogeneity outperform male CEOs on both corporate social performance ($\beta = 27.051, p < 0.05$) and corporate environmental performance ($\beta = 24.777, p < 0.05$). Overall, our empirical and additional analysis both provides empirical support to our hypotheses.

Robustness Checks

We perform two robustness checks to confirm our findings. First, we calculated CEO intrapersonal identity heterogeneity using the Herfindahl index, another common measure for concentration, following Corritore et al. (2020). The Herfindahl index here measures the probability distribution of topics that CEOs cover; a higher (lower) an inversed Herfindahl index indicates that CEOs focus on a broad (narrow) set of topics and have high (low) intrapersonal identity heterogeneity (See Corritore et al, 2020 for more details). The hypothesized relationships remain consistent using this alternative measure. Second, in addition to the 100-topic LDA model, we used 50, 150, and 200 as our inputs for the number of topics in our LDA model. These four different LDA specifications have yielded similar results as our reported results.

DISCUSSION AND CONCLUSION

While the CEO-CSR literature has made considerable progress in understanding how a single identity CEO (e.g., narcissism) can affect CSR, we still know very little about how CEOs' intrapersonal identity heterogeneity affects CSR (Tempelaar & Rosenkranz, 2019).

This raises concerns because prior studies have acknowledged the existence and importance of multiple identities of CEO to organizational outcomes such as firm performance or innovation (Mathias & Williams, 2017; Ramarajan, 2014). As such, our study aims to fill this gap by exploring how CEOs' number of identities affects CSR. Drawing from social identity theory, we theorize and show that a higher identity multiplicity of CEOs the lower the firms' CSR performance. This is consistent with previous literature where employees' higher number of identities is found to negatively impact their overall performance in complex organizational activities (O'Leary et al., 2011). We also explore the moderating role of CEO gender based on the gender socialization theory. We propose and show that female CEOs

with high intrapersonal identity heterogeneity outperform male CEOs on firms' CSR performance. Our findings remain consistent when we further disaggregate our CSR construct into corporate social performance and corporate environmental performance.

Our paper makes several theoretical contributions. First, our intrapersonal identity heterogeneity view of CEOs contributes to the CSR literature that focuses on the CEO-CSR nexus. Previous studies have found ample evidence that CEO identities, such as their sociological background (e.g., gender, qualifications, and political orientation) and personalities (e.g., overconfidence, narcissism, and hubris), can significantly affect firms' CSR performance (Jain & Jamali, 2016; Tang et al., 2018). Yet, this line of research has primarily focused on the effect of a *singular* identity on CSR performance. This disregards the multiplicity of identities that CEOs can hold simultaneously. More importantly, although limited, management scholars have been increasingly recognizing the impact of individuals' intrapersonal identity heterogeneity on organizations (Ramarajan, 2014). For example, managers who frequently switch between their multiple identities are found to more likely experience psychological strains. This can inhibit timely and effective strategic decision making (Tempelaar & Rosenkranz, 2019). Despite the relevance of individuals' intrapersonal identity heterogeneity to organizations, the CSR literature has yet to examine the relationship between CEO intrapersonal identity heterogeneity and CSR. Our paper provides robust empirical evidence demonstrating the relevance of CEOs' multiple identities for CSR thereby moving away from an overemphasis on the effect of CEOs' singular identities on CSR. Simultaneously, we also uncover a new, important antecedent of CSR to better understand how CEOs can affect their firms' CSR performance.

While our primary focus is on the literature at the nexus of CEO-CSR, we construe that our findings also help understand how internal stakeholders influence firms' CSR performance. Similar to CEOs, other internal stakeholders (e.g., CFOs, middle-level managers, or lower-

level employees) hold multiple identities as well. In this vein, internal stakeholders' intrapersonal identity heterogeneity is likely to influence CSR practices and should be explored. By showing the relevance of CEO intrapersonal identity heterogeneity to CSR, our study paves the way for CSR scholars to uncover and explore how identity heterogeneity of multiple sets of internal stakeholders can significantly impact CSR.

Second, we add to the corporate governance literature that employs the upper echelon theory to understand how CEO identities affect firm strategies. According to the upper echelons theory, firm strategies are reflections of executives' (e.g., CEOs) characteristics (Hambrick & Mason, 1984). Following the upper echelons theory, this stream of research focuses on how CEO identities (e.g., political orientation, functional experiences, or gender) affects firm-level outcomes such as mergers and acquisitions or firm performance (Petrenko et al., 2019; Zhu et al., 2020). Hambrick (2007) notes in his seminar review that there is a paucity of research to explore how the multiplicity of identities of executives shapes firm-level outcomes, and therefore has called for more attention to identity heterogeneity within top executives. Yet, our knowledge of how CEO intrapersonal identity heterogeneity on firm strategies has remained limited till date. Our study directly addresses this theoretical gap by empirically showing that CEO intrapersonal identity heterogeneity matters to firm-level outcomes such as CSR.

Third, our findings on the moderating role of CEO gender on the relationship between CEO intrapersonal identity heterogeneity and CSR performance also contribute to the literature on gender and leadership. Studies within this stream have been particularly interested in how gender differences explain the CEO-induced variations of firm behaviors (De Hoogh et al., 2015; Grijalva et al., 2015; Ingersoll et al., 2019). For example, Ingersoll et al. (2019) find that while narcissistic CEOs generally engage in more risk-taking behaviors, narcissistic female CEOs are found to cause less threat to firms when engaging in risk-taking

behaviors, as compared to narcissistic male CEOs. This is because female CEOs tend to experience more stringent scrutiny from stakeholders and thus are more likely to initiate self-monitoring activities that reflect on their narcissistic personality, which then limits narcissism female CEOs' ability to enact risky strategies (Ingersoll et al., 2019). This research stream, however, focuses on how female CEOs handle a singular identity, which again ignores that CEOs can have multiple identities. By showing that female CEO are better capable of dealing with multiple identities than male CEOs in terms of firms' CSR performance, we contribute to the literature on gender and leadership by providing a new and nuanced perspective how CEOs' gender differences in handling multiple identities explain the variations of firms' CSR performance.

Methodologically, one of the main challenges in the literature is related to measuring CEO identities. This is because CEOs are generally reluctant to participate in surveys or experiments for scholars to obtain data on CEO identities. To address this issue, past research has measured various CEO identities using content analysis on CEO written or verbal communication or videometrics in which researchers derive CEO identities based on video clips of CEOs (Choudhury et al., 2019; Petrenko et al., 2016). However, these methods are constrained by manual or software coding and are usually conducted on a small scale. In this paper, we leverage topic models, a machine learning technique, to derive the number of CEO identities from their language spoken during quarterly earnings conference calls. In doing so, we contribute to the current literature by offering a new method to gauge the number of CEO identities at a large scale and in an unobtrusive way that otherwise would not be possible using traditional methods.

Managerial Implications

Our findings also have implications for corporate practices. At the outset, our results show that CEOs' higher number of identities can inhibit effective management of CSR strategies. Therefore, for the board of directors that aim to improve their firms' CSR performance, they should pay special attention to CEOs' number of identities and its potential negative impact on CSR. Second, for CEOs, understanding and managing of their identity multiplicity can be critical to for them if they wish to boost the firms' CSR performance, Third, we find that female CEOs are more capable of handling their multiple identities to enhance firms' CSR performance than male CEOs. This underscores the need for cultivating a more diverse leadership, one in which both female and male leaders can bring diverse perspectives and unique strengths to the table in order to better develop and implement complex corporate strategies such as CSR.

Limitations and Future Research

We also acknowledge the limitations of our study. First, since our linguistic approach to capture CEO intrapersonal identity heterogeneity is based on CEOs' language usage during earnings call, this measure is only limited to topics that are addressed and touched upon during a conference call. In other words, our measure does not capture all the identities that CEOs have and should be viewed as an approximation of CEO intrapersonal identity heterogeneity. Second, while we focus on CEOs' intrapersonal identity heterogeneity, we conceptualize identity heterogeneity as the number of identities. This does not take into account the relationship ties within CEO identities. Plenty of studies have noted that identity conflicts - the tensions that a person experiences when facing a clash of multiple identities - can obstruct employees' ability to follow organizational procedures and compromise their interpersonal relationships with colleagues (Horton & Griffin, 2017). Extant literature also suggests that multiple identities can complement each other to create a positive synergy to

employees. For instance, Ramarajan, Rothbard, et al. (2017) find that a higher degree of identity complementarity in salespersons improves their sales performance. While we note the nuances (e.g., identity conflicts) in identity heterogeneity, our attempt to capture CEO intrapersonal identity heterogeneity was limited by the difficulty of obtaining CEO psychometric data and current methodological constraint to discern identity conflict/complementary identities from text data (Chatterjee & Hambrick, 2011). Nevertheless, we believe our attempt to explore multiple identities can stimulate future research to take intrapersonal identity heterogeneity into account in the CEO-CSR nexus and more broadly in organizational studies.

Our paper also points to several future research avenues. First, while CEO is influential for CSR, effective CSR practices cannot be achieved without the help of key internal stakeholders in organizations (e.g., CSR manager, compliance officers). Hence, future research can explore how the intrapersonal identity heterogeneity of key internal stakeholders can affect CSR. Second, we encourage future research to adopt a multiple identity view of internal stakeholders to explore their relationship with other organizational strategies such as innovation. Third, as with most research on CEO identities, it is challenging to obtain psychometric data of CEO directly via surveys or experiments. If possible, we encourage future research to use more direct measures (e.g., experiments, interviews) in combination with an indirect method to validate our measure as well as add more nuances in identity heterogeneity (e.g., identity conflict).

In conclusion, we show that a higher number of identities can negatively influence firm's CSR performance. We also find that female CEOs can better cope with their identity multiplicity when dealing with complex CSR strategies than their male counterparts. We hope that our study can spark future studies to pay more heed to the multiple identities of

CEOs and other internal stakeholders (e.g., senior executives, CSR managers, or lower-level employees) to understand the implication of their intrapersonal identity heterogeneity in organizations.

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Table 1 Examples of the Most Frequently Discussed and Random Topics Selected from 100-Topic LDA model

Topic Number	Topic Name	Highest-weighted Keywords
<i>Most Frequently Discussed Topics</i>		
2	financial performance	quarter business growth million first expect second sales last revenue
86	market demand	customers demand market price cost business supply capacity products volume
96	product sales	store business brand sales product inventory brands customer retail customers
50	corporate finance	loan quarter bank growth million portfolio credit mortgage deposit commercial
47	investments	capital cash assets look billion portfolio million debt asset investment
<i>Randomly Selected Topics</i>		
8	covid supply chain disruption	supply demand chain covid pandemic inflation environment challenges remarks recovery
11	energy and utilities	gas rate energy customers plan power case commission earnings capital
62	global markets	europe u.s china america world international global countries asia brazil
67	marketing strategies	content advertising media tv digital sports shows video audience television
97	human resource management	accounts retention force employees training payroll tax hiring account recruiting

Table 2 Descriptive Statistics and Pearson Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) CSR	1.000																
(2) CEO Intrapersonal Identity heterogeneity	-0.014	1.000															
(3) CEO Gender	0.074*	-0.012	1.000														
(4) CEO Age	-0.190*	-0.043*	-0.132*	1.000													
(5) CEO Tenure	-0.198*	-0.015	-0.101*	0.410*	1.000												
(6) CEO Duality	0.025	-0.032	-0.081*	0.203*	0.172*	1.000											
(7) CEO CSR Bonus	0.312*	0.073*	0.015	-0.163*	-0.108*	0.001	1.000										
(8) Board Size	0.337*	0.025	-0.003	-0.029	-0.129*	0.059*	0.121*	1.000									
(9) Board Gender Diversity	0.399*	0.026	0.233*	-0.258*	-0.184*	-0.032	0.172*	0.150*	1.000								
(10) CSR Committee	0.632*	0.011	0.018	-0.109*	-0.171*	-0.011	0.291*	0.263*	0.268*	1.000							
(11) Board Independence	0.278*	0.046*	0.072*	-0.227*	-0.155*	-0.040*	0.186*	0.108*	0.220*	0.199*	1.000						
(12) Firm Size	0.598*	-0.005	-0.002	-0.004	-0.118*	0.106*	0.229*	0.386*	0.192*	0.422*	0.194*	1.000					
(13) Firm Performance	0.015	-0.038*	-0.019	0.094*	0.055*	0.121*	-0.048*	-0.001	-0.005	-0.024	-0.037*	-0.082*	1.000				
(14) Financial Risk	-0.003	0.015	-0.008	-0.017	-0.015	-0.007	0.009	0.007	-0.009	0.002	0.012	-0.008	-0.002	1.000			
(15) Unabsorbed Slack	0.032	0.047*	0.013	0.055*	0.064*	0.061*	-0.068*	0.053*	0.177*	-0.008	-0.118*	-0.100*	0.059*	0.043*	1.000		
(16) Absorbed Slack	-0.156*	0.019	-0.057*	0.045*	0.056*	-0.058*	-0.097*	-0.154*	-0.132*	-0.110*	-0.052*	-0.207*	0.006	-0.029	0.031	1.000	
(17) Firm Age	0.214*	0.014	-0.016	0.006	-0.042*	0.134*	0.101*	0.240*	0.121*	0.120*	0.139*	0.165*	0.108*	-0.012	0.122*	-0.060*	1.000
Mean	48.489	4.493	0.038	64.666	11.198	0.741	0.745	10.626	0.197	0.581	0.830	23.017	8.249	1.145	0.184	1.256	49.217
SD	24.369	0.516	0.192	7.812	7.717	0.438	0.436	2.545	10.476	0.493	10.117	1.290	8.708	6.316	0.126	0.772	35.019

*shows significance at p<0.05

Table 3 CSR, CEO Intrapersonal Identity Heterogeneity and CEO Gender

Variables	Model 1 CSR	Model 2 CSR	Model 3 CSR
Constant	-139.158 (97.797)	-162.248 (147.589)	-209.595 (153.632)
Controls			
CEO Gender	0.394 (2.860)	0.740 (2.947)	5.583* (3.385)
CEO Age	-0.212* (0.119)	-0.021 (0.284)	-0.046 (0.254)
CEO Tenure	-0.086 (0.221)	-0.142 (0.557)	-0.225 (0.246)
CEO Duality	-2.347 (2.364)	-2.575 (2.343)	-2.215 (8.880)
CEO CSR Bonus	2.409** (1.174)	3.922 (5.092)	3.205 (4.497)
Board Size	0.024 (0.061)	0.033 (0.542)	0.633 (0.508)
Board Gender Diversity	0.176* (0.099)	0.041 (0.040)	0.055 (0.045)
CSR Committee	9.716*** (2.019)	17.565*** (5.980)	3.798*** (1.279)
Board Independence	0.025 (0.035)	0.036 (0.035)	0.040 (0.042)
Firm Size	4.665 (4.339)	9.018* (4.714)	8.055 (5.179)
Firm Performance	0.205 (0.244)	0.098 (0.220)	0.172 (0.150)
Financial Risk	-0.319 (0.209)	-0.286 (0.249)	-0.011 (0.212)
Unabsorbed Slack	42.888 (62.033)	30.042 (48.901)	89.376 (94.927)
Absorbed Slack	-0.969 (2.495)	-0.056 (0.431)	-0.377 (0.641)
Firm Age	-0.194 (0.242)	-1.171 (1.607)	-0.722 (1.986)
CSR Performance $t-1$	0.800*** (0.079)	0.458** (0.191)	0.877*** (0.106)
Endogeneity Control	-9.915** (4.594)	-15.654** (6.553)	-10.112 (6.695)
Time Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Explanatory Variables			
CEO Intrapersonal Identity Heterogeneity		-5.979** (2.864)	-0.920 (2.033)
CEO Intrapersonal Identity Heterogeneity* CEO Gender			26.832** (13.396)
Model Fit			
Arellano-Bond Test for AR (1) (p-value)	0.000	0.001	0.000
Arellano-Bond Test for AR (2) (p-value)	0.127	0.877	0.147
Hansen J test (p-value)	0.713	0.236	0.756
Number of Instruments	79	80	71
Model Fit Wald Chi ²	10876.07	942.16	1968.91
p> Chi ²	0.000	0.000	0.00
Observations	3,069	3,069	3,069
Number of Firms	370	370	370

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 4 Additional Analysis

Variables	Model 1 Social Performance	Model 2 Environmental Performance	Model 3 Social Performance	Model 4 Environmental Performance
Constant	-203.388** (94.796)	-169.138 (133.566)	-319.029** (144.144)	-30.702 (140.233)
Controls				
CEO Gender	6.480 (12.514)	0.858 (3.096)	0.680 (4.819)	7.402** (3.312)
CEO Age	-0.001 (0.203)	-0.032 (0.368)	-0.057 (0.233)	-0.045 (0.158)
CEO Tenure	-0.163 (0.234)	-0.587 (0.857)	-0.065 (0.256)	-0.210 (0.287)
CEO Duality	-1.518 (2.414)	-5.079* (2.728)	-0.735 (2.882)	-0.149 (2.697)
CEO CSR Bonus	6.889* (3.763)	0.778 (0.912)	1.247 (0.968)	6.338 (4.344)
Board Size	0.419 (0.433)	1.084 (0.720)	0.714 (0.520)	0.103 (0.453)
Board Gender Diversity	0.096 (0.104)	0.073 (0.047)	0.223 (0.292)	0.092* (0.054)
CSR Committee	12.432*** (4.680)	29.501*** (5.399)	1.513 (2.199)	0.194 (2.142)
Board Independence	0.479 (0.308)	0.045 (0.040)	0.364 (0.383)	0.043 (0.048)
Firm Size	4.605 (3.832)	6.853 (4.234)	12.486*** (4.625)	0.947 (5.243)
Firm Performance	0.161 (0.119)	0.086 (0.218)	0.171 (0.130)	0.068 (0.113)
Financial Risk	-0.413* (0.217)	-0.036 (0.144)	-0.229 (0.193)	-0.084 (0.185)
Unabsorbed Slack	81.499 (50.733)	1.605 (68.399)	63.832 (81.340)	-2.666 (82.633)
Absorbed Slack	-3.909 (2.928)	-0.035 (0.501)	-0.112 (0.761)	-0.223 (0.606)
Firm Age	0.630 (0.557)	0.391 (1.411)	-0.831 (0.643)	-0.602 (0.930)
Social Performance _{t-1}	0.415*** (0.115)		0.862*** (0.097)	
Environmental Performance _{t-1}		0.353*** (0.087)		0.859*** (0.096)
Endogeneity Control	-12.204* (6.870)	-17.359* (9.706)	-11.031*** (4.088)	-9.744 (6.648)
Time Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Explanatory Variables				
CEO Intrapersonal Identity Heterogeneity	-6.277** (3.049)	-9.028** (4.580)	-3.720 (4.284)	-1.626 (1.753)
CEO Intrapersonal Identity Heterogeneity* CEO Gender			27.051** (13.614)	24.777** (12.502)
Model Fit				
Arellano-Bond Test for AR (1) (p-value)	0.000	0.000	0.000	0.000
Arellano-Bond Test for AR (2) (p-value)	0.636	0.363	0.350	0.223
Hansen J test (p-value)	0.422	0.239	0.298	0.439
Number of Instruments	77	70	78	78
Model Fit Wald Chi ²	1193.55	803.77	1520.01	1520.10
p> Chi ²	0.000	0.000	0.00	0.000
Observations	3,069	3,069	3,069	3,069
Number of Firms	370	370	370	370

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Figure 1 The Interaction Effect of CEO Intrapersonal Identity Heterogeneity and CEO Gender on CSR

