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The age of leadership: Meta-analytic findings on the relationship between leader age and perceived leadership style and the moderating role of culture and industry type

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Abstract

Managers' leadership style has a substantial impact on employee and organizational outcomes. In the present study, we consider the role of leaders' chronological age in predicting followers' perceptions of their leadership style. Whereas ample research uncovers relationships between individuals' age and how these individuals are perceived by others, little is known about how leaders' chronological age impacts others' perceptions of their style. Even less is known about how such relationships vary across cultures and industries. We conducted a meta-analysis (164 unique studies; N = 397,456 observations) to explore these relationships, using the Full-Range leadership model. We found that leader age was negatively related to perceptions of transformational and transactional leadership, and positively related to perceptions of passive leadership. Further, some of these effects varied on several cultural dimensions: The negative relationship between leader age and transformational leadership was weaker in collectivistic cultures, while the negative relationship with transactional leadership was stronger in high power distance cultures. Industry type also mattered:

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the relationship between leader age and both transformational and contingent reward leadership styles was amplified in the public sector. Lastly, perceptions of older leaders were more negative when ratings were provided by followers rather than the leaders themselves. Our findings offer both theoretical and practical implications for leading in an increasingly age-diverse workforce, such as better informing the workforce of present age stereotypes and their imminent effect on organizations.

KEYWORDS

culture, full-range leadership, industry type, leader age, meta-analysis

1 | INTRODUCTION

The style leaders employ to manage their followers has substantial impact on employee and organizational outcomes (e.g., Bass et al., 2003; Judge & Piccolo, 2004; Ng & Feldman, 2015). Leadership styles, typically operationalized through followers' perceptions of their leaders, have been linked to outcomes such as employee wellbeing (e.g., Rahimnia & Sharifirad, 2015), work attitudes (e.g., Hancock et al., 2023), and organizational performance (e.g., Berson et al., 2015; Judge & Piccolo, 2004). Given their importance, numerous studies have been, and continue to be, devoted to predicting perceptions of leadership styles (Bono & Judge, 2004; Eagly et al., 2003; Fosse et al., 2023). More specifically, researchers have explored how leaders' attributes, such as their personality traits and values (e.g., Bono & Judge, 2004; Fosse et al., 2023; Oreg & Berson, 2015), and demographic characteristics (Eagly & Karau, 2002; Eagly et al., 2003; Jung & Yammarino, 2001; Kearney, 2008), such as gender, impact leadership perceptions at work.

Age is another demographic variable that may impact leadership perceptions and attitudes at work. Although age has received increased attention in organizational research (e.g., Posthuma & Campion, 2009; North, 2019; Van Dalen et al., 2010), its role in leadership perceptions warrants further attention. Indeed, an *Academy of Management* editorial cites the aging workforce as a high-priority topic (Kulik et al., 2014) due to the broad implications age imposes on organizational recruitment, promotion, and retention practices, as well as on employee motivation, engagement, performance, and satisfaction (for a review, see Beier et al., 2022). Accordingly, many insights have emerged regarding the relationship between employee age and a variety of work-related outcomes (e.g., Ng & Feldman, 2008; Posthuma & Campion, 2009; Van Dalen et al., 2010), including attitudes toward older workers (Hansson et al., 1997; Shore & Goldberg, 2005). Given what we know about such relationships, and about the key role leadership styles play at work, it is important to consider the role of leader age and its contribution to leaders' style, as assessed through the eyes of followers.

Understanding the relationship between age and leadership perceptions is timely also due to changing age trends. As one example, the traditional mandatory retirement age is becoming obsolete, particularly in European nations that have, historically, instituted such a practice (Mulders, 2019). This trend portends leaders staying in leadership roles longer than ever, but the implications of this remain unclear. Increasing age gaps in the workplace and diversity in leader age, ranging from 16 to over 65 (U.S. Bureau of Labor Statistics, 2018), underscore the importance of considering leader age an important factor when investigating organizationally relevant phenomena. Yet, despite its relevance, leader age is often considered a control variable rather than a substantive construct in its own right (North, 2019).

Nevertheless, perhaps because of these trends, scholars have begun to incorporate lifespan and age stereotyping theories into the management domain (e.g., Kanfer & Ackerman, 2004; North, 2019). Considerable evidence suggests

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that stereotypes in general (e.g., those related to gender; Brescoll, 2016) are prevalent in organizations and affect leadership perceptions. Evidence also suggests that age-related stereotypes have infiltrated the workplace (e.g., Posthuma & Campion, 2009), although less is known about their role with respect to how leaders are perceived. It is nonetheless likely that certain age stereotypes carry over to shape leadership perceptions, either by clashing with or reinforcing them.

In the same way that perceptions of agency have a role in explaining perceptions of female leaders (Koenig et al., 2011), agency stereotypes are similarly likely to factor into perceptions of differently-aged leaders. Given that agentic behaviors imply high activity, and that age stereotypes imply older adults lack agency (Cuddy & Fiske, 2002), leaders may come to be seen as more passive with age. We explore this possibility using the Full-Range leadership (FRL) model (Avolio, 1994; Bass et al., 2003). The FRL model is among the most frequently used leadership models for capturing leadership styles, and as such, it provides a rich body of data with which we can test how leader age relates to perceptions of leadership style.

The question is particularly intriguing given the diversity of extant findings on leader age and leadership styles. For example, tangential investigation of the relationship between leader age and charisma-based styles (e.g., transformational leadership) includes positive (e.g., Banks et al., 2017; Barbuto et al., 2007), negative (e.g., Robertson & Barling, 2013; Wang & Howell, 2012), and null findings (e.g., Bernerth et al., 2018; Groves, 2014; Kearney, 2008; Ng & Sears, 2012). A similar diversity of findings exists across other leadership styles such as contingent reward and management-by-exception styles (e.g., Ewen et al., 2013; Riggio et al., 2010; Sosik et al., 2011; Turner et al., 2002).

Given the importance of understanding the role of age in shaping perceptions of leaders, this broad range of findings highlights the need for a more systematic investigation, including the consideration of moderators that could possibly explain the diversity in findings. In line with previous evidence demonstrating the importance of national culture in explaining leadership-related phenomena (e.g., Ewen et al., 2013; Galvin et al., 2010; Wang & Huang, 2009; Zacher et al., 2011b), and the role culture plays in shaping perceptions (Den Hartog et al., 1999; Hunt et al., 1990), we propose that culture may moderate the relationship between leader age and followers' perceptions of leadership styles. Indeed, leadership prototypes vary from culture to culture, and individuals from different cultural backgrounds may perceive leader behaviors differently (Den Hartog et al., 1999; Hanges et al., 2000; Hunt et al., 1990). Moreover, exploring how culture shapes age perceptions is an emerging subfield in its own right (Löckenhoff et al., 2009; North & Fiske, 2015a; Zhang et al., 2016). We therefore consider the moderating role of national culture, focusing on relevant dimensions from the GLOBE cultural framework (House et al., 2004).

We also consider industry type, which often distinguishes between public and private organizations, as another important moderator. Public organizations have more rigid procedures and passive environments (Gordon, 1991; Ring & Perry, 1985), compared to private ones. As we elaborate below, given the slower, more passive internal environment of public organizations, we expect that older leaders within such contexts will also be seen as more rigid and passive, compared to leaders in private organizations, which are traditionally characterized by more dynamic and fast-paced work systems.

Our systematic, large-scale investigation offers, to our knowledge, the most comprehensive existing assessment of the effect of leader age on perceptions of leadership style. We go beyond existing investigations of the relationship between leader demographics and leadership style (e.g., Banks et al., 2017; Bernerth et al., 2018) by incorporating a larger number of studies, specifically on leader age, and considering key theoretically based moderators such as national culture and industry type. Our study helps explain some inconsistencies in existing findings—but equally importantly, uncovers novel, theoretically driven relationships within the domain of age, leadership, and the increasingly aging and multigenerational workforce (Kulik et al., 2014).

1.1 | Age and (passive) leadership styles

Age diversity in the workplace is increasing, impelling research attention on older workers and generational issues (e.g., Beier et al., 2022; Joshi et al., 2010, 2011; Kanfer & Ackerman, 2004; North, 2019). Much of this research

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attention has focused on how older workers are perceived and treated: Large-scale reviews, formative studies, and edited volumes alike offer overviews on the sticky issues of organizational age discrimination, age diversity, and maneuvers toward supporting an aging workforce (Hedge & Borman, 2012; Lahey, 2008; Neumark et al., 2015; Truxillo et al., 2015). On the one hand, managers consistently rate older workers as equally productive as younger ones (Pitt-Catsouphes et al., 2007)—a finding backed by large-scale meta-analytic evidence (Ng & Feldman, 2008). On the other hand, older workers often face discrimination, as evidenced in the increase of age discrimination charges in recent years (U.S. Equal Employment Opportunity Commission, 2017). Thus, the question of how older workers are best utilized remains, at some level, a timely and open question (Kulik et al., 2014).

Nevertheless, understanding how age intersects with *leadership* behaviors has garnered less attention overall. Pragmatically speaking, record-high levels of workforce aging and age diversity characterize the modern workplace (North & Fiske, 2015b). Thus, scholars have argued that far greater attention is needed to gain a fuller picture of the implications of age to what underlies effective leadership styles (Oshagbemi, 2004). However, only a few studies explicitly consider age as a predictor of leadership style, and their findings are at times contradictory. For example, some studies report a negative relationship between leader age and followers' perceptions of idealized influence behaviors (a dimension of transformational leadership; Oshagbemi, 2004) and effectiveness (Zacher et al., 2011a). Correspondingly, leader age positively predicts perceptions of passive leadership (Zacher & Bal, 2012; Zacher et al., 2011a). In contrast, a few studies report a positive relationship between leader age and perceptions of effective leadership styles (e.g., idealized influence behaviors; Banks et al., 2017). Altogether, however, there has been little systematic examination of these relationships and little explanation for the divergence in findings.

In the current paper, we support the overall prediction that, with age, leaders come to be seen as less active and more passive in their leadership style. We identify at least two major mechanisms that might drive this prediction, one deriving from stereotypes (from others) and the other deriving from shifting goals and motivations (from within). The first mechanism has to do with *age stereotypes*: Leader age influences followers' perceptions of the leader via decline-based stereotypes about older individuals (North & Fiske, 2012). Such decline-based attributions include perceptions of lowered competence (Cuddy et al., 2005; Fiske et al., 1999, 2002; Heckhausen et al., 1989; Kite et al., 1991), agency (Kite, 1996; Kite & Wagner, 2002), flexibility/adaptability to change (e.g., Cuddy & Fiske, 2002; Hedge et al., 2006; Weiss & Maurer, 2004), and ability to inspire others (Cumming & Henry, 1961; Eaton et al., 2009)—all of which are negatively associated with active leadership styles.

The second possible mechanism concerns shifts in people's values and motivations as they age, implying that leaders may gradually shift toward more passive styles. According to Socioemotional Selectivity theory (SST; Carstensen, 1992, 1995; Carstensen et al., 2003), for example, as individuals age, they grow less interested in expanding their horizons, both socially and emotionally (Cubrich & Petruzzelli, 2020). SST postulates changes in emotion regulation which result in predicted shifts from, for example, building relationships for their instrumental value to focusing on the quality of the relationships they build. These SST-based tendencies might inhibit active leadership styles such as transformational and transactional leadership styles for a few reasons. First, the age-based tendency to *shrink* one's interpersonal network and take *fewer* emotional risks contradicts the distinctive behaviors of transformational leaders. Transformational leaders typically expand, rather than condense, their networks (Berson & Halevy, 2014; Bono & Anderson, 2005), and encourage, rather than discourage, risk taking (Bass & Avolio, 1993). Indeed, to be effective, leaders on the activated end of the Full-Range are expected to "touch the internal mindset" of all subordinates, no matter how numerous they might be (Tucker & Russell, 2004; p.106); yet, such behavior contradicts age-related goals of condensing one's network.

SST suggests that as individuals age, their goals tend to shift from long-term toward short-term ones (Carstensen et al., 1999; Carstensen & Hershfield, 2021); a characteristic that again contradicts active leadership styles such as transformational leadership. As transformational leaders aim to inspire followers, a practice that requires long-term time investment (e.g., getting to know what makes followers tick), it is inherent that transformational leaders seek long-term rather than short-term goals and fulfillment, unlike more passive leaders who tend to focus on the short-term (e.g., fixing a crisis now vs. preventing a crisis in the future). Similar logic applies to other active styles such as contingent reward and management-by-exception-active, albeit to a lower extent.

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In a similar vein, another lifespan development theory–Selection, Optimization, and Compensation theory (SOC; Baltes & Baltes, 1990; Freund & Baltes, 1998)–suggests that individuals become more *selective* in managing their attention and goals with age, and thus develop a narrower range of interests. For instance, in the domain of work motivation, with age goals shift toward roles that demand high levels of knowledge or experience (Kanfer & Ackerman, 2004). Furthermore, older individuals tend to more closely align their goals with their already established expertise, rather than invest in expanding it, as apparent in meta-analytic evidence of a negative relationship between age and the activation of growth motives (Kooij et al., 2011). And yet, growth seeking lies at the epicenter of active leadership styles. We thus propose that older leaders may be seen as less active and more passive than younger ones.

1.2 | Full-range leadership styles

To comprehensively test our prediction that leaders come to adopt more passive leadership styles with age, we focus on a main body of literature in the field of leadership –the FRL–which covers a range of leadership styles. Bass (1985) conceptualized an array of styles, ranging from more effective and active ones, such as transformational leadership, through moderately effective styles, such as transactional contingent reward behaviors, to more passive and less effective styles, such as laissez-faire leadership (Bass, 1985; Bass & Avolio, 1993). The inclusion of a range of styles makes the Full-Range model particularly useful when interested in linking age with perceptions of leadership styles, as it allows to clearly track how age impacts leadership effectiveness on a spectrum. Moreover, the large volume of research conducted on these styles provides fertile grounds for conducting a systematic analysis of the overarching patterns of relationships that emerge for these styles with critical variables, such as age.

At the very top of the Full-Range leadership model resides *transformational leadership*. Transformational leaders exhibit charismatic behavior (or idealized influence), and through their visions (inspirational motivation), inspire and motivate their followers. Beyond charisma, transformational leaders also engage in intellectual stimulation, expanding followers' interests and abilities, and in individualized consideration, coaching and mentoring their followers (Bass & Riggio, 2006). Transformational leadership is considered the most active and effective leadership style (e.g., Judge & Piccolo, 2004; Lowe et al., 1996), based on numerous studies linking it and its dimensions with both individual-level (e.g., job satisfaction and organizational commitment) and organizational-level outcomes (e.g., Bass et al., 2003; Waldman et al., 2001).

Beyond transformational leadership, Bass and Avolio (1993) proposed a set of additional styles, which decrease in their levels of activation and effectiveness as they decline in range. Next in line after transformational leadership is *transactional leadership*, which subsumes two components. *Contingent reward* leadership is based on a contractual relationship between leaders and followers, in which leaders set clear objectives that guide followers in associating their efforts with specific rewards (Bass, 1985). Further down in the range is a style labeled *management-by-exceptionactive*, which aims to actively increase followers' vigilance to minimize mistakes (Bass, 1985; Bass & Riggio, 2006). Below these two transactional styles are the least active forms of leadership, which are subsumed in the *passive leadership* category—*management-by-exception-passive* and *laissez-faire* styles. Leaders who engage in management-byexception-passive behaviors fail to intervene until mistakes have already occurred, while laissez-faire leadership is a non-contingent form of leadership, in which leaders avoid making decisions and refrain from asserting their authority at all costs. Laissez-faire is considered the most passive, and least effective, form of leadership (e.g., Bass, 1985; Bass & Avolio, 1994).

Bass and Avolio (1994) indicated that a core feature that distinguishes among the various styles within the Full-Range model is their degree of activation (Bass & Avolio, 1994). They considered the styles higher in the range than management-by-exception-active as active styles and those below it as passive. Specifically, transformational leadership has been described as a highly active style, followed by contingent reward and management-by-exception-active (moderately active), while management-by-exception-passive and laissez-faire have been described as the least active. Extensive research supports such a continuum of activity levels in the five FRL styles: For example, in a study linking

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cortisol levels with leadership styles, Diebig and colleagues (2016) note that the various leadership behaviors "differ in their consideration of leader's activity level and can be ordered on a continuum ranging from totally passive to highly active (Antonakis & House, 2013)" (p. 685). In line with the links that Bass and Avolio (1993) drew between the level of activation of a leadership style and its effectiveness, meta-analytic evidence (Lowe et al., 1996) largely supports the notion that the more active the styles are, the more effective they are considered to be.

Given the established links between the Full-Range leadership styles and leadership effectiveness, numerous studies have been devoted to predicting FRL styles and their antecedents, including some demographic markers (Eagly & Karau, 2002; Eagly et al., 2003; Jung & Yammarino, 2001; Kearney, 2008). Most notably, meta-analyses exploring gender differences in leadership show that, counter to many stereotypes, women are seen as slightly more effective leaders than men (e.g., they are seen as more transformational and transactional and less passive than men; Eagly & Karau, 2002; Eagly et al., 2003). Very little research, however, directly addresses potential differences in how older and younger leaders are perceived. As noted, at some level, the strong relationship between age stereotypes and (negative) agency stereotypes likely influences perceptions of leaders of different ages.

Building on the aforementioned lifespan development theories, we argue that as leaders age, their followers view their leadership style as less active and more passive. Specifically, we argue that leader age negatively predicts perceptions of activated leadership styles (those high in the FRL spectrum), such as transformational and transactional leadership (contingent reward and management-by-exception-active) styles, and it positively predicts the deactivated ones (those toward the bottom of the range), such as passive leadership (management-by-exception-passive and laissez-faire). These predictions stem from the two aforementioned, potential mechanisms: age stereotypes and/or within-individual shifts in behavior over time.

In our search for empirical evidence, we found that most of the research on age and leadership styles has focused on transformational leadership, the most active and effective style. Most studies reported a negative relationship between the two constructs (e.g., Robertson & Barling, 2013; Wang & Howell, 2012). For example, in a study of 139 leader-follower dyads, leader age negatively related to employees' ratings of leaders' environmentally focused transformational leadership (Robertson & Barling, 2013). A study of a Canadian large multi-industry company also found that leader age negatively correlated with group-focused transformational leadership (Wang & Howell, 2012). Similarly, in another study of university professors, professors' age negatively predicted research assistants' perceptions of their transformational leadership tendencies (particularly among professors with weak legacy beliefs; Zacher et al., 2011a).

Albeit less frequently, studies have found that leader age is also associated with other, moderately active leadership styles. Leader age has been negatively linked with both contingent reward and management-by-exception-active, which although lower in the range, are still considered relatively active styles. For example, in two large federal states in Western Germany, teachers perceived older headmasters as engaging in significantly less contingent reward behavior than younger headmasters (Ewen et al., 2013). Similarly, across two studies in the United Kingdom and Canada, mid-level and hospital ward managers' age was negatively associated with subordinates' perceptions of their engagement in management-by-exception-active behaviors (Turner et al., 2002).

Correspondingly, scholars report mostly positive relationships between leader age and passive leadership. For example, across multiple studies, older university professors were rated as significantly more passive-avoidant in their leadership style than their younger counterparts (e.g., Zacher & Bal, 2012; Zacher & Johnson, 2015; Zacher et al., 2011a). Consistent evidence was discovered by Janssen (2004), who found that older hospital CEOs were seen as more passive-avoidant than younger hospital CEOs.

As noted above, however, alongside these studies are studies that did not identify a significant relationship between leader age and these various leadership styles (e.g., Groves, 2014; Kearney, 2008; Ng & Sears, 2012). For example, no significant relationship emerged in a quantitative review that accounted for a variety of control variables, including leader age (Bernerth et al., 2018). In yet a few other studies, a positive relationship emerged, such as in a meta-analysis including four studies on leader age and charismatic leadership (a subdimension of transformational leadership; Banks et al., 2017). Correspondingly, a few studies reported a significant *negative* relationship between

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leader age and *passive* leadership (e.g., unpublished dataset [rudeness]; see Table S1 in the Supplemental Online Material [SOM]). These findings notwithstanding, the majority of findings point to a negative relationship between leader age and active leadership styles and, correspondingly, a positive relationship between leader age and passive styles. Given the theoretical rationale we presented above, using lifespan development theories and evidence from research on age stereotypes at work, and the bulk of the empirical support reviewed above, we hypothesize that:

Hypothesis 1. Leader age is negatively associated with active leadership styles (e.g., transformational leadership), and positively associated with less active leadership styles (e.g., passive leadership).

Hypothesis 2. The more active the style, the more negative is the relationship between leader age and the leadership style.

1.3 | The moderating role of national culture

Despite the overall pattern of findings with respect to age and leadership style, there is still a significant amount of heterogeneity in findings. As noted above, in several studies the relationship between leader age and leadership styles was not significant, and in a few, the relationship was opposite to the primary trend (i.e., leader age was positively associated with active leadership styles). Given the role of national culture in shaping perceptions of both age (e.g., Ackerman & Chopik, 2021; North & Fiske, 2015a) and leadership (e.g., House et al., 1997), and the substantial variance in the countries in which the topic has been studied, we consider the role of cultural values as a moderator of the hypothesized leader age-leadership style relationship.

Culture is a "commonly experienced language, ideological belief systems (including religion and political belief systems), ethnic heritage, and history" (House & Javidan, 2004, p. 15), formatively shaping individuals' beliefs, attitudes, perceptions, and interpretations of situations and behaviors (Kashima, 2008; Kashima et al., 2007). Among its various effects, culture significantly shapes the formation and maintenance of age-related stereotypes and attitudes (North & Fiske, 2015a), as well as how individuals encode their superiors' leadership behavior and effectiveness (House et al., 1997).

Culture also explains how individuals display and perceive leadership styles (House et al., 2014; Javidan & Carl, 2005; Smith & Peterson, 1988; Triandis, 1994). Results from the Global Leadership and Organizational Behavior Effectiveness (GLOBE) project, sampling approximately 17,000 middle managers across 62 cultural societies, suggest that cultures differ in their preferred leadership styles. For example, face-saving leadership is considered neutral in Southern Asian cultures, but negative in Nordic ones (House et al., 2004). Similarly, sturdy, non-monotonous speech is associated with perception of charisma in Latin American cultures, whereas individuals in Asian cultures tend to prefer a more monotonous tone (Den Hartog & Verburg, 1997). In all, culture seems to shape perceptions and potential applications of leadership styles.

Culture's key role in both age and leadership perceptions suggests that the manner in which leader age is reflected in perceptions of leadership style may very well differ across cultures. To develop specific predictions about cultural differences in the relationships between leader age and leadership style, we employ the GLOBE framework of cultural dimensions (House et al., 2004). GLOBE builds on Hofstede's (1980, 1991) cultural framework and aims to expand it and improve its psychometric properties. The GLOBE framework utilizes more fine-grained conceptualizations and operationalizations and aims to provide a more direct assessment of cultures as they are perceived by their members. Specifically, the GLOBE framework distinguishes between cultural practices (i.e., how members of a given culture perceive their present culture) and cultural values (i.e., what members of a culture would like their culture to be like). To more directly capture culture as it is perceived, our focus in this study is on cultural practices. We focus on three cultural dimensions which appear to be the most relevant for age, leadership, and the relationship between the two: institutional collectivism (vs. individualism), power distance, and uncertainty avoidance.

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As in Hofstede's seminal work (1980, 1991), collectivism is one of GLOBE's key cultural dimensions. In the GLOBE framework, however, collectivism is divided into two separate facets: in-group collectivism and institutional collectivism (House & Javidan, 2004). The latter refers to "the degree to which organizational and societal institutional practices encourage and reward collective distribution of resources and collective action" (House et al., 2004, p. 63), and is particularly relevant to our interests given its direct organizational relevance.

Emphasizing collectivism as a critical value underlying the age-leadership relationship also complements previous research on collectivism and age. Although not focused on organizational outcomes per se, prior work has explored the role of societal collectivism on perceptions of older adults, with evidence for collectivism fostering both respect (Ackerman & Chopik, 2021) and resentment (North & Fiske, 2015a). Nevertheless, more specific to the workplace context, increased norms to respect one's elders may attenuate the abovementioned prediction that older leaders will be seen as lacking active leadership qualities. Because collectivistic cultures tend to foster filial-piety-based loyalty toward respecting elders (North, 2022; Vauclair et al., 2017), members of these societies may give their older leaders greater benefit of the doubt. In other words, a collectivistic context, as compared to an individualistic context, may render subordinates more forgiving of a perceived lack of active qualities, such as those exhibited by transformational leaders.

Relatedly, transformational leadership perceptions are more prevalent in collectivistic, rather than individualistic, cultures (e.g., Jung et al., 1995; Walumbwa & Lawler, 2003). An emphasis on the collective corresponds with transformational leaders' efforts to inspire followers to think about collective interests (e.g., the interests of the team or the entire organization), above and beyond their own (Jung & Avolio, 1999; Jung et al., 1995). As such, in collectivistic cultures, older leaders may not suffer age-related penalties to the same degree that they would in individualistic cultures. Instead, they may be perceived as sufficiently active leaders, given leaders' natural instinct to inspire followers to think about the collective within such cultures. Thus, we hypothesize that:

Hypothesis 3a. Institutional collectivism moderates the relationship between leader age and active leadership styles, such that the relationship is less negative the more collectivistic the culture.

Power distance is another potentially relevant cultural dimension that has been incorporated in research of age perception and leadership. Power distance represents the degree to which members of an organization or society expect and accept that power is distributed unequally (House et al., 2004). In low power distance cultures, individuals tend to experience little emotional distance among each other, regardless of members' status and power within the community, and as a result, they can freely express their opinions and ideas. In contrast, individuals in cultures with high power distance are generally dissuaded from voicing their opinions, especially when these opinions contrast with those of higher status members.

Existing findings on the relationship between power distance and perceptions of age have been inconclusive, but there are nevertheless conceptual reasons to expect that power distance would moderate the age-leadership perception relationship. High power distance dictates obedience and obligatory deference to seniority—both counteractive to more active leadership styles, such as transformational leadership, and their emphasis on empowering subordinates' individualized consideration and voice (Liu & Liao, 2013). Supporting this, indirectly, prior research links power distance values with negative attitudes towards older adults (Cox & Barron, 2012). We thus tentatively propose that older leaders will be perceived as less active in high power distance cultures than in low power distance cultures.

Hypothesis 3b. Power distance moderates the relationship between leader age and active leadership styles, such that the relationship is more negative the higher the society's power distance.

Uncertainty avoidance refers to the degree to which "members of an organization or society strive to avoid uncertainty by relying on established social norms, rituals, and bureaucratic practices" (House et al., 2004, p. 63). Cultures low in uncertainty avoidance are more willing to tolerate uncertainty and are more open to changes and new ideas.

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In contrast, members of cultures high in uncertainty avoidance are more likely to hold a negative orientation toward novelty and change. For example, evidence points at a positive association between uncertainty avoidance and negative stereotypes of aging (e.g., Löckenhoff et al., 2009). Similarly, members of high uncertainty cultures are more likely to exhibit biases against and experience colder feelings toward older adults, possibly because older individuals remind them of the difficulties in planning for and predicting the future (Ackerman & Chopik, 2021). Applying these insights to the context of leadership perceptions, one may predict that the negative effect we hypothesize for leader age on active leadership styles will be particularly pronounced in high uncertainty societies:

Hypothesis 3c. Uncertainty avoidance moderates the relationship between leader age and active leadership styles, such that the relationship is more negative the higher the society's uncertainty avoidance.

1.4 | The moderating role of industry type

Although less so than culture, extant research has accounted for organizational differences, including industry type, in studies that link leadership with organizational outcomes. More specifically, previous meta-analytic evidence (Lowe et al., 1996) identified industry type (comparing public to private organizations) as one of two key moderators of the effects of FRL styles on various outcomes. Public organizations have procedures and cultures that reflect their less dynamic, slow, and often more passive environments in which they operate (Gordon, 1991; Ring & Perry, 1985). Nevertheless, public administration scholars have long argued that in the absence of material rewards, employees at public organizations are more motivated by leaders who boost their identification with the mission of the organization, compared to their counterparts at private organizations (Wright et al., 2012). Indeed, active leaders, such as transformational leaders, who rely on an inspiring vision, are likely to matter more (for performance outcomes) in public than in private organizations (Lowe et al., 1996).

In line with the above evidence, we argue that public organizations, characterized by a highly tenured workforce (Ring & Perry, 1985), emphasize stability and traditional norms (Burns & Stalker, 1961; Lowe et al., 1996). In such organizations, younger leaders may be seen as more active and open to change in how they emphasize identification with the organization's mission. Similarly, given the slower, more passive internal environment of public organizations, as compared with that of private organizations, we expect highly tenured or older leaders to be more readily associated with being loyal to the current culture (Heres & Lasthuizen, 2012), and hence to be characterized as having a more passive leadership style.

In summary,

Hypothesis 4. Industry type moderates the negative (positive) relationships between leader age and active (passive) leadership styles, such that they will be more negative (positive) in public organizations.

2 | STUDY OVERVIEW

We conducted a meta-analysis to systematically investigate the overarching effect of leader age on follower perceptions of a variety of leadership styles, using the FRL model. Although we found few studies that directly and explicitly assess the relationship between leader age and leadership styles, we complemented these with studies in which leader age was measured (and reported) as a control variable. In our search, we focused specifically on empirical studies that reported follower-rated¹ leadership. Follower ratings of leaders' style are generally more reliable than leaders' self-reports, as follower ratings tend to focus on observable leader behaviors and are typically corroborated through the use of multiple followers (i.e., given that leaders are usually rated by two or more followers² and final ratings are aggregated on the leader level; Riggio & Cole, 1992). As such, follower ratings are considered a more valid measure of leader behavior than self-reports (Ashford, 1993; Hanser & Muchinsky, 1978; Podsakoff & Organ, 1986). ¹⁰ WILEY PERSONNEL PSYCHOLOGY

Nonetheless, follower reports may suffer from biases (e.g., Fischer et al., 2020), while leader self-reports may offer a beneficial and unique perspective of leaders' own behavior. We therefore included studies with both follower- and leader-rated leadership styles ($N_{follower-rated} = 126$ unique studies including 302,128 observations; $N_{leader-rated} = 54$ unique studies including 95,328 observations). In our main analyses, we focused on studies with follower-reported leadership (main sample). We later included studies with both follower- and leader-reported leadership styles to perform exploratory analyses, assessing the moderating role of rater identity (i.e., self- vs. follower-rated leadership).

3 | METHOD

3.1 Study search and selection strategy

We used two approaches in our search for studies. First, we used the term "*leader age*" along with each of the leadership styles from the FRL model in quotation marks (e.g., "*transformational leadership*," "*transactional leadership*," etc.), specifying seven independent searches (one for each of the seven leadership styles) on Google Scholar. This search strategy generated 1,860 articles in total. The first author reviewed each generated result and assessed it for relevance to our study. We supplemented this strategy with five sets of broader searches in which we focused on the first 100 search result pages in each, due to large volume of generated results (over 2 million articles) and the fact that the search algorithm brought up the most relevant articles earlier in the list of results. This additional search strategy encompassed several steps: First, we removed the quotes around the term "leader age" and around the various leadership styles (to allow for various relevant combinations such as "age of the leader"). This constituted a set of seven searches (one for each of the seven leadership styles as above). Second, to capture relevant empirical articles, we generated four additional sets of seven searches, each time adding one of the following terms—"*measure*," *"method*," *"leader-follower dyad*," or "*MLQ*" to the search terms *leader age* and the various FRL styles. In total, these additional searches resulted in 35,000 reviewed results (five sets of seven searches, 100 result pages in each, 10 articles per page) that the first author evaluated together with a team of 12 research assistants.

In both search strategies, the search was not restricted to any particular outlet, publication date, or type of manuscript (e.g., published article or dissertation). Article relevance was determined based on the information provided in the methods and results sections of each reviewed article. We selected all articles in which both key constructs (i.e., leader age and a given leadership style from the FRL model) were measured and in which the required statistics (e.g., correlations) were provided. The articles that met our search criteria included both studies in which leadership style was rated by others (i.e., follower-rated leadership) or by leaders themselves (i.e., leader-rated leadership).

Across both search strategies, 673 articles fit our initial search criteria. From this initial pool of articles, we removed 102 non-empirical papers, 50 articles in which one (or more) of the required constructs was not measured, 29 articles written in a foreign language, two articles that reported combined leadership styles (e.g., transformational leadership together with contingent reward), and 33 retracted or unavailable articles (see Figure 1). Of the remaining 457 articles, 343 did not report the needed correlations, although the authors reported measuring each construct of interest (namely, leader age and a given FRL style). We contacted the authors of these papers and 43 of them provided the required information. In addition, we sent out requests for unpublished data on several relevant listservs. We did not receive any responses, but we were able to include seven unpublished datasets collected by members of our own research team (marked as "unpublished" in Table S1 in the SOM).

Our final sample consisted of 126 unique articles reporting follower-rated leadership styles (including 420 effect sizes in total) and 54 unique articles reporting self-rated leadership styles (including 164 effect sizes in total). Sixteen articles included effect sizes based on both follower- and leader-rated leadership styles (resulting in a total of 164 unique articles with 397,456 total observations). From the follower-rated sample, 11 articles (Antonakis et al., 2011; Brands et al., 2015; Chua et al., 2022; Curtis, 2018; Gilbert & Kelloway, 2018; Khan & Khan, 2022; Robertson, 2018; Schuh et al., 2012; Sosik et al., 2011; Wang & Hackett, 2016; see also unpublished dataset ["CEO"] in Table S1 in the

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SOM) included more than a single study or used more than a single measure of the same leadership style, and accordingly reported multiple correlations between leader age and a given leadership style. We treated each effect size separately. In all, we collected 120 effect sizes for omnibus transformational leadership, 35 effect sizes for omnibus transactional leadership (37 for contingent reward and 24 for management-by-exception-active), and 25 effect sizes for omnibus passive leadership (21 for management-by-exception-passive and 26 for laissez-faire). For the exploratory analysis testing the moderating effect of rater type (including both studies that report follower- and leader-rated leadership), our final sample included a total of 172 effect sizes for transformational leadership, 58 effect sizes for

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transactional leadership (50 for contingent reward and 36 for management-by-exception-active), and 36 effect sizes for passive leadership (32 for management-by-exception-passive and 39 for laissez-faire).

3.2 | Data extracted from each study

We extracted zero-order correlations between leader age and ratings of leadership styles, means and standard deviations of leader age, reliability of the scale used to measure each leadership style, and sample sizes. When the required information was not available, we sent out queries to authors. Authors who responded provided either the missing statistic of interest or the raw data necessary to calculate the statistic. When information about scale reliability was not available in print (and not provided by the authors), we used the average reliability of the scales already included in our sample.

3.2.1 | Quantitative measure of leader age

Across articles, leader age was reported as a continuous variable, indicating the chronological age of leaders (self-reported with the exception of one study). Several papers from our sample reported leader age in a range format (e.g., "30-40 years old"). We re-formatted this range by using the midpoint of the scale (e.g., "35" in lieu of "30–40 years old").

3.2.2 | Leadership styles

We focused on studies reporting leadership styles, pertaining to the FRL model (Bass & Avolio, 1993): transformational leadership and its dimensions (individualized consideration, intellectual stimulation, idealized influence [and its subcomponents], and inspirational motivation), transactional leadership (contingent reward and management-byexception-active), and passive leadership (laissez-faire and management-by-exception-passive).

3.2.3 | Quantitative measures of leadership styles

Most of the studies in our sample relied on the Multifactor Leadership Questionnaire in its full form (MLQ; Bass & Avolio, 2004), short form (MLQ-5X; Bass & Avolio, 2000) or its individual subscales. Several studies used alternative scales equivalent to those of the MLQ, such as the Transformational Leadership Inventory (TLI: Podsakoff et al., 1990), Global Transformational Leadership scale (Carless et al., 2000), Safety Transformational Leadership (Barling et al., 2002), or an alternative leadership measurements such as Transformational Teaching Questionnaire (Beauchamp et al., 2010), Reward/Punishment Omission Scale (Hinkin & Schriesheim, 2008) or Contingent Reward Behavior Scale (Podsakoff et al., 1984).

In the sample of transformational leadership studies, we came across articles that focused on a specific type or component of transformational leadership. For instance, one study investigated environmental transformational leadership (Robertson, 2018), and several other studies focused on only one component of transformational leadership—charisma (Brands et al., 2015; Brown, 2002; Curtis, 2018; de Vries, 2012; Eldor, 2021; Sosik et al., 2011, 2020; Spott, 2015; Zacher & Johnson, 2015). These studies relied on subscales of the MLQ, TLI, or a specific charismatic leadership scale (e.g., Charismatic Leadership in Organizations Questionnaire; CLIO—De Hoogh et al., 2004). A few studies also focused on a specific aspect or type of charismatic leadership, such as perceived charisma (Den Hartog & Boon, 2018) and "personalized and socialized" charisma (Wang & Hackett, 2016). We coded all of these papers as studies of transformational leadership.

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3.2.4 | Quantitative measure of culture

For each study we identified the country in which data were collected and assigned a score based on three GLOBE cultural dimensions—institutional collectivism, power distance, and uncertainty avoidance (House et al., 2004). We used the GLOBE *societal practices* score, which represents how GLOBE survey respondents perceive their country, as opposed to the *societal values* score, which represents how respondents *would want* their country to be. Despite critiques of exploring culture in a multi-dimensional fashion (Earley, 2006), this approach remains one of the most common and effective ways of investigating culture (e.g., Fischer & Mansell, 2009; Fischer & Smith, 2003; Gelfand et al., 2013; Kirkman et al., 2006; North & Fiske, 2015a; Walumbwa & Lawler, 2003).

Institutional Collectivism societal practices were measured with four items (1 = individualism; 7 = collectivism), Power Distance societal practices were measured with five items (1 = low power distance, 7 = high power distance), and Uncertainty Avoidance societal practices were measured with four items (1 = low uncertainty avoidance, 7 = high uncertainty avoidance). A list of all items included in these scales is available at: https://globeproject.com/data/GLOBE-Dimensions-Definitions-and-Scale-Items.pdf.

3.2.5 | Quantitative measure of industry type

We coded whether participants in each article (where applicable) worked in the private or public sector. For instance, if the authors collected data from participants working in the public sector (e.g., municipality, police office, school/university, or a non-profit organization), we coded the sample as "public" (coded 1). Studies, in which participants were sampled from the private sector, were coded as "private" (coded 0).

3.2.6 | Quantitative measure of rater identity

As noted above, our review included both studies that reported follower- and leader-rated leadership styles. Given that followers might perceive leaders differently than leaders perceive themselves, we explored the possibility that these differences could moderate the relationships between leader age and leadership styles. We therefore added a set of tests to investigate the moderating effect of rater identity (follower vs. leader).

3.2.7 | Publication year

The papers identified through our search were published between 1996 and 2023. With one exception (one paper published in 1996), papers published before the year 2000 did not include the statistics necessary for our analysis in print. When we contacted relevant authors, they reported no longer having access to these data, and as such, we were unable to include additional papers published prior to the year 2000.

All aforementioned measures encoded from each article were checked by the first author and two research assistants for consistency and reliability. Based on these three independent sources, we calculated Light's kappa for categorical variables (i.e., the country in which the sample was collected and industry type) and interclass correlation coefficients for continuous variables (i.e., effect sizes and sample sizes). Light's kappa for the categorical variables was .82 for industry type and .47 for country. Interclass correlation coefficients for the continuous variables were .94 (F(134, 270) = 45.3, p < .001) for effect sizes and .76 (F(147, 285) = 10.5, p < .001) for sample sizes. Disagreements were resolved by the first author, who reviewed the discrepancies and confirmed the correct input after re-reading the article.

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3.3 | Analyses

3.3.1 | Main effect analyses

We followed Hunter and Schmidt's (2004) psychometric meta-analytic approach to weight each effect size by its corresponding sample size. Consistent with recommendations for best practices (Geyskens et al., 2009), we specified a random-effects model, which allows variability in correlations on both the study and the population level, and offers more generalizable results, compared to fixed-effects models (Hunter & Schmidt, 2000; Schmidt & Hunter, 2015; Schmidt et al., 2009).

We reported the total number of effect sizes (*k*), total sample size (*N*), observed raw (standard-weighted mean) correlations (*r*), standard deviation of raw correlations (*SD*_r), standard deviation of raw correlations after removing predicted sampling-error and artifact variance (*SD*_{res}), mean artifact-corrected correlations (ρ), and the associated standard deviation estimate of the adjusted correlations (*SD* ρ). We also reported the lower and the upper bound of the 95% confidence intervals (CI) and the lower and the upper bound of the 80% credibility intervals (CV).

To test for the existence of small study bias, we specified a series of tests such as a fail-safe *N* (only for significant main effects), Begg and Mazumdar's rank correlation test, trim-and-fill method, and Egger's test (Coburn & Vevea, 2015; Duval & Tweedie, 2000; Egger et al., 1997; Kepes et al., 2014, 2012; Sterne & Egger, 2001). Following best practices, we used a fixed-effects model to perform the trim-and-fill procedure, as iterating from a random-effect model can incorrectly adjust asymmetry and give more weight to studies with less precision (Kepes et al., 2014; Moreno et al., 2009; Terrin et al., 2003). In addition, in the trim-and-fill procedure, we used a L₀ estimator, given that it performs better with smaller *k* samples than other estimators (Duval & Tweedie, 2000). To assess publication bias, we used weight-function model analysis (also known as selection models; Hedges, 1992; Kepes et al., 2012; Vevea & Hedges, 1995; Vevea & Woods, 2005; Vevea et al., 1993). The weight-function model, however, has been used in studies with a particularly large number of samples (at least 100; Vevea & Woods, 2005), and as such, its results may be biased when performed on a smaller number of samples. Altogether, we interpreted the presence of small study and publication bias with caution, considering all tests together, rather than focusing on results from any single analysis.

3.3.2 | Moderation analyses

To test the moderating role of culture via institutional collectivism, power distance, and uncertainty avoidance, industry type, and rater identity, we specified separate meta-regressions to test the relationship between the given moderator and the effect sizes of interest (the correlations between leader age and leadership style).

4 | RESULTS

We conducted the analyses using *psychmeta* (Dahlke & Wiernik, 2019) and *metafor* (Viechtbauer, 2010; for metaregressions) statistical packages in R, version 4.3.1. All data, syntax, and the SOM can be found on the Open Science Framework (OSF): https://osf.io/8ecrm/?view_only=8a76f9a45efb492da7b03d1c06433d2c. The SOM includes a table reflecting all articles included in the main analyses (Table S1), as well as relevant forest plots (Figures S1a–S4b), and a full reference list of all articles included in the main and exploratory analyses (Appendix).

4.1 Leader age and leadership style perceptions

A summary of the main effects can be found in Table 1.

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TABLE 1 Summary of main effects.

Leadership style	k	Ν	r	$SD_{\rm r}$	SD_{res}	ρ	SDρ	95% CI	80% CV	% Var
Transformational Leadership	120	227,456	03	.05	.05	03	.05	[04,02]	[10, .03]	18.86%
Idealized Influence	22	5,391	14	.26	.25	15	.29	[29,02]	[54, .23]	5.93%
Idealized Attributes	15	3,986	11	.09	.07	13	.08	[19,07]	[23,02]	45.30%
Idealized Behaviors	13	3,907	04	.13	.12	04	.14	[14, .06]	[23, .15]	18.70%
Inspirational Motivation	22	7,685	14	.21	.20	15	.22	[26,05]	[44, .14]	6.32%
Intellectual Stimulation	33	9,119	12	.19	.18	13	.20	[21,05]	[39, .13]	9.92%
Individual Consideration	27	8,138	14	.22	.22	16	.25	[27,05]	[49, .17]	6.56%
Transactional Leadership	35	6,963	04	.10	.06	05	.08	[09,008]	[15, .05]	55.15%
Contingent Reward	37	7,359	05	.10	.07	06	.08	[10,02]	[16, .04]	50.56%
Management-by-exception-active (MBEA)	24	5,392	02	.10	.07	03	.08	[08, .02]	[14, .08]	48.61%
Passive Leadership	25	5,410	.09	.12	.09	.10	.10	[.05, .15]	[03, .23]	33.90%
Management-by-exception-passive (MBEP)	21	5,379	.09	.09	.06	.12	.08	[.06, .17]	[.01, .22]	51.91%
Laissez-faire	26	5,943	.10	.18	.17	.11	.20	[.03, .20]	[15,.38]	13.03%

Note: k = number of independent samples; N = total sample size; r = raw correlations; SD_r = standard deviation of raw correlations; SD_{res} = standard deviation of raw correlations after removing predicted sampling-error and artifact variance; ρ = population estimate corrected for sampling error; $SD\rho$ = standard deviation estimate of the adjusted correlations; CV = credibility interval of ρ ; CI = confidence interval of ρ ; Var = percentage of total variance accounted for by study artifacts.

4.1.1 | Transformational leadership

We assessed the weighted correlations across studies (k = 120; N = 227,456; see Figure S1a in the SOM for a forest plot)³ and found that the relationship between leader age and transformational leadership was negative and significant (r = -.03, $SD_r = .05$, $SD_{res} = .05$, $\rho = -.03$, SDp = .05, 95% CI = [-.04, -.02], 80% CV = [-.10, .03], p < .05). This model explained 19% of the total variance, suggesting the presence of moderators (although SD_{res} was not too large). The Begg and Mazumdar's rank correlation test and Egger's regression test of plot asymmetry indicated no small study bias (p = .60 and p = .10, respectively). Similarly, a fail-safe N estimation of 1,062 suggested that a very large number of missing studies (well above Rosenberg's [2005] suggested critical value of 5N + 10) is needed to push the opposing overall effect size to a barely significant value. The trim-and-fill method indicated some asymmetry, yielding some missing studies on the left-hand side of the funnel plot. This suggested that studies with both small samples and small effect sizes may be missing from our sample. However, the plot did not depict any missing null studies (right-hand side of the funnel plot), underscoring the validity of our findings. Lastly, the weight-function model method indicated no publication bias (p = .94). Taken together, these tests alleviated concerns about small study and publication bias.

For completeness, we explored each dimension of transformational leadership separately (see SOM for relevant analyses).

4.1.2 | Transactional leadership

As noted above, transactional leadership subsumes contingent reward and management-by-exception-active styles. We first analyzed the relationship between leader age and this overarching category, before examining its subdimensions. The relationship between leader age and transactional leadership was negative and significant (k = 35; N = 6,963; r = -.04, $SD_r = .10$, $SD_{res} = .06$, $\rho = -.05$, SDp = .08, 95% CI = [-.09, -.008], 80% CV = [-.15, .05], p < .05; 55% of the total variance explained; see Figure S2a in the SOM). The Begg and Mazumdar's rank correlation test, Egger's regression test of plot asymmetry, and weight-function model method indicated no small study or publication

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bias (p = .71, p = .42, and p = .13, respectively). The trim-and-fill method also indicated approximate symmetry, depicting only a few missing studies with small samples and small effect sizes. However, a fail-safe N estimation of 44 (below Rosenberg's [2005] suggested critical value) suggested that some bias might be present. Taken together, these tests largely alleviated concerns about small study and publication bias.

Next, we tested each of the components of transactional leadership separately: contingent reward and management-by-exception-active.

Contingent Reward. The relationship between leader age and contingent reward was negative and significant (k = 37; N = 7,359; r = -.05, $SD_r = .10$, $SD_{res} = .07$, $\rho = -.06$, SDp = .08, 95% CI = [-.10, -.02], 80% CV = [-.16, .04], p < .05; see Figure S2b in the SOM). This model explained 51% of the total variance. The Begg and Mazumdar's rank correlation test, Egger's regression test of plot asymmetry, and weight-function model method indicated no small study or publication bias (p = .54, p = .58, and p = .61, respectively). The trim-and-fill method indicated a few missing studies (left-hand side), but overall it depicted approximate symmetry. However, a fail-safe N estimation of 129, which was below Rosenberg's (2005) suggested critical value, suggested some bias. Taken altogether, concerns about small study and publication bias did not seem to be substantial.

Management-by-exception-active. The relationship between leader age and management-by-exception-active was not significant (k = 24; N = 5,392; r = -.02, 95% CI = [-.08, .02], p > .05). The trim-and-fill method indicated very few missing studies with small effect sizes but no missing null studies. The weight-function model method and Begg and Mazumdar's rank correlation test indicated no publication and small study bias (p = .31 and p = .07, respectively). However, Egger's regression test of plot asymmetry suggested some small study bias (p = .02). Altogether, concerns about small study and publication bias were largely alleviated.

4.1.3 | Passive leadership

The passive leadership style includes management-by-exception-passive and laissez-faire leadership dimensions. As such, we first explored the relationship between leader age and omnibus passive leadership. We found a positive and significant relationship between leader age and passive leadership (k = 25; N = 5,410; r = .09, $SD_r = .12$, $SD_{res} = .09$, $\rho = .10$, SDp = .10, 95% CI = [.05, .15], 80% CV = [-.03, .23], p < .05; see Figure S3 in the SOM). This model explained 34% of the total variance. The Begg and Mazumdar's rank correlation test, Egger's regression test of plot asymmetry, and weight-function model method indicated no small study or publication bias (p = .34, p = .61, and p = .69, respectively). Additionally, a fail-safe N estimation of 309 (above Rosenberg's [2005] suggested critical value) further alleviated bias concerns. Lastly, the trim-and-fill method revealed full symmetry. Altogether, all tests alleviated small study and publication bias concerns.

Beyond the overarching category of passive leadership, we also examined each of its components separately: management-by-exception-passive and laissez-faire.

Management-by-exception-passive. The relationship between leader age and management-by-exception-passive was positive and significant (k = 21; N = 5,379; r = .09, $SD_r = .09$, $SD_{res} = .06$, $\rho = .12$, SDp = .08, 95% CI = [.06, .17], 80% CV = [.01, .22], p < .05; see Figure S4a in the SOM). This model explained 52% of the total heterogeneity. The Begg and Mazumdar's rank correlation test, Egger's regression test of plot asymmetry, and weight-function model method indicated no presence of small study and publication bias (p = .88, p = .62, and p = .14, respectively). Additionally, a fail-safe N estimation of 240 (above Rosenberg's [2005] suggested critical value) further confirmed a lack of bias. However, the trim-and-fill method (indicating some missing null studies) suggested the presence of some bias.

Laissez-faire. The relationship between leader age and laissez-faire leadership was positive and significant (k = 26; N = 5,943; r = .10, $SD_r = .18$, $SD_{res} = .17$, $\rho = .11$, SDp = .20, 95% CI = [.03, .20], 80% CV = [-.15, .38], p < .05; 13% of the total variance explained; see Figure S4b in the SOM). The Begg and Mazumdar's rank correlation test, Egger's regression test of plot asymmetry, and weight-function model method indicated presence of small study bias and publication

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bias (p < .0001, p < .0001, and p = .02, respectively). Additionally, the trim-and-fill method depicted missing studies on the right-hand side of the plot, outside of the funnel, thus suggesting the presence of bias. Unlike these tests, however, a fail-safe N estimation of 372 (well above Rosenberg's [2005] suggested critical value) suggested that there was likely no bias in the sample.

In sum, Hypothesis 1 was largely supported. To test Hypothesis 2, according to which the more active the leadership style the more negative the relationship between leader age and the leadership style would be, we conducted a meta-regression specifying type of leadership style as a moderator. We assigned values with decreasing levels of activation to this variable, such that transformational leadership was coded 5, contingent reward was coded 4, management-by-exception-active was coded 3, management-by-exception-passive was coded 2, and laissez-faire was coded 1. Results revealed a significant moderating effect of type of leadership style (k = 228; N = 251,533; F(1,226) = 18.34, p < .0001). More specifically, the more active the leadership style, the more negative the relationship between leader age and leadership style was, b = -.04, t = -4.28, 95% CI = [-.06, -.02], p < .0001, thus supporting Hypothesis 2.⁴

4.2 | The moderating role of culture

A summary of all analyses exploring cultural dimensions as key moderators can be found in Table 2.

4.2.1 | Transformational leadership

Results from a meta-regression revealed that institutional collectivism significantly moderated the relationship between leader age and transformational leadership, b = .12, t = 2.75, 95% CI = [.03, .20], p = .007 (see Figure 2a), such that, as hypothesized, the negative effect was weaker in more collectivistic cultures. Power distance and uncertainty avoidance did not yield significant moderating effects (p = .54 and p = .93, respectively).

4.2.2 | Transactional leadership

The moderating effect of institutional collectivism was not significant (p = .14). However, there was a significant moderating effect of power distance (b = -.13, t = -2.55, 95% CI = [-.24, -.03], p = .02; see Figure 3a). As hypothesized, the negative effect of leader age on perceptions of transactional leadership was stronger among societies with high power distance. The moderating effect of uncertainty avoidance was not significant (p = .60).

Contingent reward. The moderating effects of institutional collectivism (p = .14), power distance (p = .33), and uncertainty avoidance (p = .38) were not significant.

Management-by-exception-active. Meta-regression results did not reveal a significant moderating effect of institutional collectivism (p = .21), power distance (p = .07), and uncertainty avoidance (p = .70).

We hypothesized that culture moderates the relationship between leader age and active leadership styles. We nevertheless explored the moderating role of culture for less active leadership styles, including passive leadership and its subdimensions. These additional analyses can be found in the SOM.

4.3 | The moderating role of industry type

A summary of all analyses exploring the moderating role of industry type is reported in Table 3.

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Moderation analyses with culture constructs.

TABLE 2

		Institutio	nal collectivisr	E			Pow	er distance				Uncertai	inty avoidance		
Outcome	Variable	q	S.E.	t	d	Variable	q	S.E.	t	d	Variable	q	S.E.	t	d
Transformational	Intercept	53	.19	-2.84	.005	Intercept	.12	.22	.52	09.	Intercept	03	.14	22	.83
leadership	Moderator	.12	.04	2.75	.007	Moderator	03	.05	61	.54	Moderator	.003	.03	.08	.93
	ĸ		116			×		116			k		116		
	r2		.02			r2		.02			τ^2		.02		
	R^2		23.97%			\mathbb{R}^2		17.24%			\mathbb{R}^2		9.63%		
	QM	F(1,11	14) = 7.55, p = .	.007		QM	F(1,1	14) = .37, <i>p</i> =	.54		QM	F(1,1	(14) = .007, p = .014	.93	
	QE	$Q_E(df = 1)$	14) = 517.43, p	<.0001		QE	$Q_E(df = 1)$	14) = 552.99, µ	o < .0001		QE	$Q_E(df = 1)$	14) = 593.15, p	<.0001	
Transactional	Intercept	46	.28	-1.62	.11	Intercept	.61	.25	2.41	.02	Intercept	16	.23	69	.50
leadership	Moderator	.10	.07	1.50	.14	Moderator	13	.05	-2.55	.02	Moderator	.03	.05	.53	.60
	ĸ		35			×		35			×		35		
	r ²		.004			72		.002			τ^2		.004		
	R ²		7.33%			R ²		45.94%			\mathbb{R}^2		1.85%		
	QM	F(1,3	33) = 2.25, <i>p</i> = .	.14		QM	F(1,3	33) = 6.52, <i>p</i> =	.02		QM	F(1,	,33) = .28, <i>p</i> = .6	0	
	QE	$Q_E(df =$	33) = 59.67, p	=.003		QE	Q _E (df =	33) = 49.40, 1	o = .03		QE	$Q_E(df =$	33) = 61.13, <i>p</i> =	=.002	
														(Con	tinues)

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		Institutio	nal collectivis	E			Pow	er distance				Uncerta	inty avoidance		
Outcome	Variable	q	S.E.	t	d	Variable	q	S.E.	t	d	Variable	q	S.E.	t	d
Contingent reward	Intercept	37	.22	-1.72	60:	Intercept	.26	.31	.83	.41	Intercept	60.	.16	09.	.55
	Moderator	.08	.05	1.52	.14	Moderator	06	90.	98	.33	Moderator	03	.04	89	.38
	×		37			×		37			k		37		
	t2		.004			47		.004			τ^2		.005		
	\mathbb{R}^2		10.51%			\mathbb{R}^2		10.29%			\mathbb{R}^2		.01%		
	QM	F(1,;	35) = 2.31, p =	.14		QM	F(1,	,35) = .96, <i>p</i> = .	33		QM	F(1	L,35) = .80, <i>p</i> =	.38	
	QE	$Q_E(df = 3)$	35) = 67.73, p	=.0007		QE	$Q_E(df = :$	35) = 67.80, p :	=.0007		QE	$Q_E(df =$:35) = 71.33, p	=.0003	
MBEA	Intercept	45	.34	-1.32	.20	Intercept	.67	.35	1.89	.07	Intercept	.08	.24	.35	.73
	Moderator	.10	.08	1.29	.21	Moderator	14	.07	-1.92	.07	Moderator	02	.05	39	.70
	×		24			×		24			×		24		
	r ²		.004			₇ 2		.003			τ^2		.004		
	\mathbb{R}^2		13.72%			\mathbb{R}^2		39.00%			\mathbb{R}^2		2.44%		
	QM	F(1,;	22) = 1.67, p =	.21		QM	F(1,2	22) = 3.70, <i>p</i> =	.07		QM	F()	(1,22) = .16, p =	.70	
	QE	$Q_E(df =$	22) = 44.24, p	=.003		QE	Q _E (df =	= 22) = 38.31, µ	i=.02		QE	Q _E (df =	= 22) = 46.88, μ	=.002	
Vote: Unstandardized coe	efficients (b) are re	ported. k = n	umber of inde	pendent sampl	es; S.E. =	standard error;	r ² = estimate	d amount of re	sidual hetero	geneity; I	$x^2 = amount of to$	otal heteroge	neity accounte	d for by all m	oderators

included in the model; $Q_M =$ omnibus test of all moderators included in the model; $Q_E =$ significance test for residual heterogeneity.

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(Continued)

TABLE 2

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Transformational leadership: The moderating effect of institutional collectivism (a), industry FIGURE 2 (a-c) type (b), and rater identity (c).



FIGURE 3 (a, b) Transactional leadership: The moderating effect of power distance (a) and rater identity (b).

4.3.1 | Transformational leadership

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Meta-regression results revealed a significant moderating effect of industry type, F(1, 83) = 11.79, p = .0009. Compared to the private sector, the relationship between leader age and transformational leadership was significantly amplified within the public sector, b = -.12, t = -3.43, p = .0009 (see Figure 2b). This suggests that older leaders were

		Inc	dustry type				Rat	er identity		
Outcome	Variable	q	S.E.	t	d		q	S.E.	t	d
Transformational Leadership	Intercept	.002	.02	.09	.93	Intercept	.08	.02	3.94	.0001
	public	12	.04	-3.43	6000.	follower-rated	11	.02	-4.46	<.0001
	×		85			×		172		
	τ^2		.002			τ^2		.002		
	\mathbb{R}^2		31.78%			\mathbb{R}^2		60.82%		
	Q _M	F(1,83)	= 11.79, p = .0	000		Q _M	F(1,17	0) = 19.89, <i>p</i> <	.0001	
	QE	$Q_E(df=8)$	3) = 440.29, <i>p</i>	<.0001		$Q_{\rm E}$	$Q_E(df = 1$	70) = 820.91,	p < .0001	
Transactional Leadership	Intercept	04	.04	-1.17	.25	Intercept	.04	.02	1.46	.15
	public	003	.05	05	.96	follower-rated	07	.03	-2.30	.02
	×		26			×		58		
	τ^2		.005			τ^2		.005		
	\mathbb{R}^2		4.75%			\mathbb{R}^2		21.94%		
	QM	F(1,2	(4) = .003, <i>p</i> =	.96		Q _M	F(1,	56) = 5.31, <i>p</i> =	:.02	
	QE	$Q_E(df = :$	24) = 45.27, p	=.005		QE	$Q_E(df = 5$	56) = 102.13, <i>p</i>) = .0002	
Contingent Reward	Intercept	0003	.03	009	66.	Intercept	.11	.03	3.48	.001
	public	10	.04	-2.30	.03	follower-rated	15	.04	-4.25	<.0001
	×		28			×		50		
	τ^2		.004			τ^2		.005		
	\mathbb{R}^2		46.29%			\mathbb{R}^2		49.81%		
	Q _M	F(1,2	(6) = 5.31, p = 1	.03		Q _M	F(1,48	3) = 18.05, <i>p</i> <	.0001	
	QE	$Q_E(df =)$	26) = 48.17, <i>p</i>	=.005		QE	$Q_E(df = $	48) = 91.67, <i>p</i>	=.0001	
										Continues)

Moderation analyses with industry type and rater identity. TABLE 3

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		Indu	stry type				Rate	r identitv		
Outcome	Variable	p	S.E.	t	d		q	S.E.	t	d
MBEA	Intercept	.02	.05	.38	.71	Intercept	002	.04	04	.97
	public	04	.07	65	.53	follower-rated	008	.04	19	.85
	×		19			k		36		
	τ^2		.007			τ^2		.004		
	R^{2}		13.23%			R ²		1.68%		
	Q _M	F(1,1	(7) = .42, p = .53	~		Q _M	F(1	.,34) = .03, <i>p</i> = .6	35	
	QE	$Q_E(df = 1)$	7) = 42.74, <i>p</i> = .	0005		QE	$Q_E(df =$	= 34) = 63.66, <i>p</i> =	= .002	
Passive Leadership	Intercept	.04	.05	.77	.45	Intercept	09	.05	-1.84	.07
	public	.07	.06	1.17	.26	follower-rated	.17	.06	3.15	.003
	×		18			k		36		
	τ^2		.003			τ^2		.009		
	\mathbb{R}^{2}		30.92%			R^{2}		45.82%		
	Q _M	F(1,10	6) = 1.38, <i>p</i> = .2	6		Q _M	F(1,3	34) = 9.90, <i>p</i> = .C	03	
	QE	$Q_E(df = 3$	16) = 28.29, <i>p</i> =	= .03		QE	$Q_E(df =$	34) = 98.89, <i>p</i> <	.0001	
									0)	continues)

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TABLE 3 (Continued)

		Indu	istry type				Rat	ter identity		
Outcome	Variable	q	S.E.	t	d		q	S.E.	t	d
MBEP	Intercept	.08	.05	1.71	.11	Intercept	08	.04	-2.24	.03
	public	.002	90.	.04	.97	follower-rated	.17	.04	3.93	<.0005
	×		16			×		32		
	τ^2		900.			τ^2		.004		
	\mathbb{R}^2		%90.			\mathbb{R}^{2}		59.19%		
	Q _M	F(1,1	4) = .001, p = .9	7		Q _M	F(1,30	(0) = 15.41, p = .	0005	
	QE	$Q_E(df = 1)$	14) = 36.04, <i>p</i> =	.001		QE	Q _E (df =	= 30) = 58.38, <i>p</i>	=.001	
Laissez-faire Leadership	Intercept	02	.19	11	.92	Intercept	05	.10	46	.65
	public	.26	.23	1.10	.29	follower-rated	.18	.12	1.42	.16
	ĸ		19			×		39		
	τ^2		.18			τ^2		.10		
	\mathbb{R}^2		7.61%			\mathbb{R}^2		6.38%		
	Q _M	F(1,1	7) = 1.20, <i>p</i> = .2	6		Q _M	F(1,	(37) = 2.01, p =	.16	
	QE	$Q_E(df = 1)$	7) = 693.31, <i>p</i> <	.0001		Q_E	$Q_E(df = t)$	37) = 816.47, <i>p</i>	<.0001	
<i>Note</i> : Unstandardized coefficien heterogeneity accounted for by a	its (b) are reporte all moderators inc	d. k = number luded in the m	of independen odel; Q _M = omn	t samples; <i>S.I</i> bus test of al	E. = standar Il moderator	d error; τ^2 = estimated s included in the model;	amount of re Q _E = significa	sidual heterogence	eneity; R ² = am	ount of total eity.

(Continued)

TABLE 3

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perceived as significantly less transformational in public organizations, compared to leaders who worked in private ones.

4.3.2 | Transactional leadership

Industry type did not moderate the relationship between leader age and transactional leadership, F(1, 24) = .003, p = .96. Next, we explored the moderating effect of industry type for each of the transactional leadership dimensions.

Contingent reward. Industry type moderated the relationship between leader age and contingent reward (*F* [1, 26] = 5.31, *p* = .03). Compared to the private sector, the relationship was significantly more negative within the public sector (*b* = -.10, *t* = -2.30, *p* = .03; see Figure 4a).

Management-by-exception-active. Industry type did not moderate the relationship between leader age and management-by-exception-active, F(1, 17) = .42, p = .53.

4.3.3 | Passive leadership

The moderating effect of industry type was not significant neither for omnibus passive leadership, F(1, 16) = 1.38, p = .26, nor for its dimensions (management-by-exception-passive: F(1, 14) = .001, p = .97; laissez-faire: F(1, 17) = 1.20, p = .29).

4.4 Exploratory moderator analyses: Rater identity

Table 3 contains a summary of all analyses exploring rater identity as a potential moderator.

4.4.1 | Transformational leadership

We specified a meta-regression exploring whether the source of leadership rating (i.e., leader self-reports vs. follower reports) moderates the relationship between leader age and transformational leadership (k = 172; N = 306,719). Results revealed a significant moderating effect of rater identity (F [1, 170] = 19.89, p < .0001; 61% of the total variance explained), such that the relationship between leader age and transformational leadership was significantly more negative when leadership style was reported by followers (b = -.11, t = -4.46, 95% CI = [-.15, -.06], p < .0001; Figure 2c).

4.4.2 | Transactional leadership

The moderating effect of rater identity was significant, F(1, 56) = 5.31, p = .02 (k = 58; N = 9,841). The relationship between leader age and transactional leadership was stronger for follower-rated leadership (b = -.07, t = -2.30, 95% CI = [-.13, -.009], p = .02; Figure 3b).

Contingent reward. Results revealed a significant moderating effect of rater identity, F(1, 48) = 18.05, p < .0001 (k = 50; N = 9,392). The relationship between leader age and contingent reward was stronger for follower-rated leadership (b = -.15, t = -4.25, 95% CI = [-.23, -.08], p < .0001; Figure 4b).

Management-by-exception-active. The moderating effect of rater identity was not significant (F [1, 34] = .03, p = .85 [k = 36; N = 7,001]).

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FIGURE 4 (a, b) Contingent reward: The moderating effect of industry type (a) and rater identity (b).

4.4.3 | Passive leadership

There was a significant moderating effect of rater identity, F(1, 34) = 9.90, p = .003 (k = 36; N = 7,308; 46% of the total variance explained), such that the relationship between leader age and passive leadership was significantly more positive when leadership style was rated by followers (b = .17, t = 3.15, 95% CI = [.06, .29], p = .003; Figure 5a).

Management-by-exception-passive. We found a significant moderating effect of rater identity, such that the relationship between leader age and management-by-exception-passive was stronger when followers provided ratings of their leaders (F [1, 30] = 15.41, p = .0005; k = 32; N = 6,917; b = .17, t = 3.93, 95% CI = [.08, .25], p < .0005; Figure 5b).

Laissez-faire. Rater identity did not moderate the relationship between leader age and laissez-faire (F [1, 37] = 2.01, p = .16 [k = 39; N = 7,934]).

5 DISCUSSION

We investigated the relationship between leader age and a range of leadership styles, following the FRL model. We hypothesized that followers would perceive older leaders as less active and more passive, compared to younger leaders. Consistent with our approach and some (but not all) prior findings (e.g., Robertson & Barling, 2013; Wang & Howell, 2012), we found that followers perceived older leaders as less likely to engage in active leadership styles, such as transformational and transactional leadership (as well as its contingent reward dimension), and more likely to engage in passive styles, such as passive leadership and its dimensions—management-by-exception-passive and laissez-faire. As expected, the effects were most pronounced for the most and least activated styles.

Furthermore, we found a few cases in which the relationship between leader age and leadership styles significantly varied across cultures. Specifically, in line with our hypotheses (Hypotheses 3a and 3b), we found evidence that the





FIGURE 5 (a, b) (a) Passive leadership: The moderating effect of rater identity. (b) Management-by-exceptionpassive: The moderating effect of rater identity.

relationship between leader age and activated styles was less negative in collectivistic cultures (for transformational leadership) and more negative in high power distance cultures (for transactional leadership). Institutional collectivism, however, did not moderate the effects of age on transactional leadership and its subdimensions, as expected. This may be due to these styles' more straightforward nature involving clear reward and punishment systems, which may have a more consistent effect across cultural differences. Similarly, power distance did not moderate the relationship between leader age and omnibus transformational leadership, nor the relationship between leader age and the subdimensions of transactional leadership—contingent reward and management-by-exception-active.

The lack of moderating effect of uncertainty avoidance for most leadership dimensions may have to do with debates around the definition and operationalization of uncertainty avoidance across the Hofstede and GLOBE theories. Despite the similarity in conceptualization, Hofstede's (2001) uncertainty avoidance index and GLOBE's "practices" index are negatively correlated with each other, and some have suggested that this is due to a different focus in how the dimension is defined in each theory (Venaik & Brewer, 2010). Hofstede's index seems to focus on the degree of stress that society members experience in high uncertainty avoidance cultures, whereas GLOBE's index focuses on rule orientation practices. The significant findings that we obtained for this dimension (see SOM) thus reflect the moderating role of cultural rule-orientation. Overall, however, the pattern of effects for uncertainty avoidance is relatively sporadic, and thus we propose treating the obtained results with caution.

Our findings also revealed that industry type may impact how followers perceive their older leaders. In line with our prediction, we found that the negative effects of age on active leadership (transformational and contingent reward) were stronger in the public sector. Older leaders in public organizations may be associated with a less dynamic and inspiring culture, and hence risk to be seen as less active, compared to their counterparts in private organizations. We did not find differences across the public and private sectors for passive leadership and its subdimensions: followers perceived older leaders as more passive than younger leaders, regardless of whether they worked in the public or the private sector.

Finally, we discovered that the relationship between leader age and leadership styles tended to be stronger when leadership ratings were provided by followers, rather than through leaders' self-reports. This likely has to do with the higher validity of follower-provided leadership ratings, compared to that of self-reports.

5.1 | Theoretical implications

As noted above, despite recent scholarly attention to age stereotypes, comparably little research addresses the effects of leader age on perceptions of leadership style. Using the FRL model, our findings help organize available empirical evidence linking leader age and perceived leadership style (e.g., Banks et al., 2017; Bernerth et al., 2018). The findings that older leaders are seen as less active and effective is consistent with stereotypes of older adults more broadly, portraying them as relatively weak and incompetent (Cuddy et al., 2005), and with views of leadership that emphasize the role of dominance (e.g., Koenig et al., 2011).

In addition, our findings contribute to a growing body of work elucidating how age stereotypes shape attributions of leaders—who, by definition, are higher in power than employees who do not occupy managerial roles. Prior work shows that gender stereotypes strongly influence leadership perceptions; for instance, the "think manager, think male" phenomenon spans countries around the world (Schein et al., 1996). The current findings offer some support for an analogous, "think (dynamic) leader, think young" hypothesis, but future research might further explore the interplay between age stereotypes, leadership style, and mechanisms thereof to better understand the "why" behind these perceptions. Moreover, the degree to which our effects represent age-related differences in leaders' actual behaviors, versus differences in followers' *perceptions* of their leaders' behaviors, remains to be uncovered.

Our findings also implicate culture as a moderator that helps explain how age shapes leadership perceptions. Based on research on the role of culture for understanding age stereotypes (Posthuma & Guerrero, 2013), and research on perceptions of leadership effectiveness and behavior (House et al., 1997, 2004, 2014), we offer novel predictions about how different cultural factors might strengthen or attenuate the effect of age on perceived leadership style. Assuming that at least part of the main effects we obtained are driven by age-related stereotypes, the moderating effects we found suggest that such stereotypes may be particularly pronounced in cultures that are high in individualism (i.e., low in institutional collectivism), power distance, and uncertainty avoidance. As such, culture somewhat helps explain some of the differences found across extant studies on age and leadership. Future research can address additional contextual factors that may further explain the heterogeneity in findings, including the consideration of specific organizational cultures and norms.

The current meta-analysis also sheds light on the role industry type plays in shaping perceptions of older leaders. In the context of public versus private sectors, research (e.g., Lowe et al., 1996) suggests that highly active leadership has a stronger impact on outcomes in public organizations, compared to private ones. However, given that the current meta-analysis shows that older leaders are perceived as less active in public organizations (regardless of their actual behavior), it is not unreasonable to believe that older leaders might not be able to extract some of the benefits associated with employing active leadership styles. Further systematic investigation is needed to explore the mechanisms and potential interventions to understand these relationships in greater depth. Given that the effects of industry type may be complex, involving multiple factors, future studies can attempt to empirically identify and test different conditions captured in public/private organizations to further explain the effect of leader age on follower perceptions across sectors.

5.2 | Practical contributions

Our work also offers practical insights for managers and organizations. Given that past research suggests that performance, effort, and conscientiousness do not plummet with age, but rather remain consistent or even slightly increase overtime (Donnellan & Lucas, 2008; Helson et al., 2002; North & Fiske, 2015b; Soto et al., 2011), organizations can emphasize the positive characteristics associated with aging (e.g., increased conscientiousness), thus attempting to combat some of the stereotypes and discriminatory attributions associated with age. Furthermore, leadership development research places high importance on the role of self-awareness and its impact on leaders (e.g., Eurich, 2018). For instance, some evidence of the role of awareness among leaders comes from research on gender and leadership: female leaders often purposefully emphasize democratic and participatory leadership patterns to reduce prejudice and gain acceptance (Eagly & Karau, 2002). As such, future research may examine the role of leader self-awareness in mitigating the detrimental effects of age on subsequent follower perceptions.

Additionally, organizations can holistically attempt to better inform their workforce on current age trends. Currently, most organizations have diversity missions and training materials that emphasize the importance of accepting different types of diversity, and yet age is rarely mentioned as an inclusion criterion (Callaham, 2019). Nevertheless, organizational diversity, equity, and inclusion efforts are slowly working toward integrating age inclusion in their practices (Gordon, 2018). Once such endeavors grow more common, understanding the impact of age perceptions on leadership dynamics will be imperative to maximizing the productivity of unprecedented age diversity at work.

Stereotypes on age and leadership present practical implications for personnel decisions. Such stereotypes may influence who gets selected, recruited, developed, and eventually promoted into leadership roles. For example, the current findings suggest that the age-active leadership relationship (e.g., transformational, contingent reward leadership) is particularly strong in public sector jobs; this suggests that private sector contexts might "age better" for workers who aspire to pursue managerial roles. Nevertheless, this remains an empirical question for future research, and a potentially critical one, given workforce age trends.

Finally, when considering the practical implications of our findings, we should acknowledge the relatively small effect sizes we obtained. Although leader age plays a role in explaining followers' perceptions of their leader's style, its role is relatively modest. Alternatively, comparing leaders of substantially different ages and generations might generate larger effects. Moreover, the moderating role of culture and industry type demonstrates that age tends to be more meaningful in individualistic and low power distance cultures, and in public (vs. private) organizations. This suggests that boundary conditions are necessary to unpack the complexity of this relationship.

5.3 | Limitations and future directions

First, apart from general limitations associated with meta-analyses (e.g., the inclusion of studies with heterogenous methods; the inclusion of studies with lower levels of internal, external, construct, or statistical validity; Bobko & Stone-Romero, 1998; Greco et al., 2013; Stone & Rosopa, 2017), our meta-analysis did not include sufficient data to investigate the effects of other important age-relevant characteristics that might affect leadership style perceptions, such as leaders' particular generation or experience (North, 2019). Such additional age-relevant characteristics could serve as alternative explanations to our findings. We find that scholars rarely collect and report data on such factors; this may be particularly problematic in an era featuring new levels of complexity in comprehending an age diverse, multigenerational workforce (Truxillo et al., 2015). As such, future research should explore more thoroughly the effects of age-relevant constructs in order to gain a holistic overview of the factors leading to increasingly negative perceptions of one's leadership abilities with age.

Second, although we identify key relationships between leader age and leadership perceptions, the data we relied on did not allow us to determine the causal mechanisms underlying these relationships. As such, we cannot infer from our findings whether leaders actually become less active as they age, or whether this is merely how their followers perceive them, or both. We also cannot determine if it is age per se that brings about changes in perceptions of leadership styles or whether other factors that covary with age may be responsible for the effects. Future studies could at least partially address these issues by studying factors that mediate the effects of age. These could include both aspects or direct implications of leaders' actual behaviors, which change with age, and idiosyncratic factors in followers' perceptions, which may be influenced by age stereotypes. As noted above, other factors that could explain the effects of leader age on leadership styles are leaders' generation, experience, or tenure in the organization, all of which are tightly linked with age. Moreover, these factors may moderate the effects of chronological age on leaders' behaviors and on perceptions of such behaviors.

Third, although the results generally support our theoretical approach, there are some inconsistencies that require further inquiry. With respect to the main effects of age on leadership perceptions, findings based on contingent reward and omnibus measures of transactional leadership were inconsistent with findings based on management-by-exception-active. Indeed, the correlation between the dimensions of transactional leadership tends to be negative, and some of the MLQ validation studies do not support the aggregation of both dimensions (e.g., Avolio et al., 1999). Conceptually, part of the problem is that although both dimensions are active, management-by-exception-active, which consists of the use of warnings and sanctions, is also negative and punitive in nature, in contrast to contingent reward and the other active styles in the Full-Range model. As such, when focusing on the level of activation captured by the various Full-Range dimensions, we propose to focus solely on the separate components of transactional leadership, contingent reward and management-by-exception-active, rather than its omnibus form.

Fourth, we should acknowledge that some of our tests are based on a relatively small number of studies. Specifically, whereas we relied on 120 studies when testing the main effect of leader age on transformational leadership, our tests for the other leadership styles were based on fewer studies (between 21 and 37 studies). Similarly, the investigation of the moderating effects of the three cultural dimensions for transformational leadership was based on 116 studies, but for the other active leadership styles, the number of studies was significantly lower (between 24 and 37). This pattern applies to the moderation analyses with industry type and rater identity as well (see reported *k*-s in Table 3). Although such sample sizes are quite common in meta-analyses (see some recent examples in Cho et al. (2023) and Yuan et al. (2023)), larger sample sizes would provide us with greater confidence about the robustness of the effects we found, and more importantly, about the effects that we did not obtain.

Finally, we found that culture plays an important moderating role, but certain questions remain unanswered. The current meta-regressions suggested that individuals in cultures with high institutional collectivism perceived older leaders as more transformational than did individuals in individualistic cultures. In contrast, we found that those who belong to societies with high power distance perceived older leaders as less transformational (on one dimension, see SOM) and less transactional than did those in low power distance societies. This suggests that culture has strong implications for how individuals encode age stereotypes and how such stereotypes affect key organizational perceptions, such as managerial effectiveness. Future work should, however, further consider the moderating effect of other cultural contexts such as particular organizational cultures and norms and their effects on maintaining age and age-related stereotypes at work. For instance, organizational cultures vary the extent to which sociability (friendliness between employees in organizations) and solidarity (ability of employees to pursue shared goals efficiently for the greater good of the organization) are applied (Goffee & Jones, 1998). Whether cultures with high sociability and high solidarity mitigate the effects of leader age on perceived effectiveness of said leaders, compared to cultures that are low (or mismatched) on both dimensions, is an empirical question that warrants future investigation.

6 CONCLUSION

Growing workforce aging and age diversity increases the need to understand the impact of age as a key organizational variable in its own right. We theorized that as leaders age, they are seen as less active and more passive by their followers, and we found support for this argument. Despite previous work that suggests older employees are equally effective in their performance as their younger counterparts, the current findings suggest that leader age is associated with negative perceptions of leadership abilities and effectiveness. Nevertheless, these relationships are highly dependent on several factors, suggesting that context fundamentally shapes the relationship between leader age

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and leadership style perceptions. Overall, these findings present several future research directions, as organizational scholars increasingly seek to understand a multi-generational, age diverse workforce.

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CONFLICT OF INTEREST STATEMENT

The authors of this manuscript have no conflict of interest to report.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in OSF: The Age of Leadership Meta-Analysis at https://osf.io/8ecrm/?view_only=8a76f9a45efb492da7b03d1c06433d2c.

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ENDNOTES

- ¹ In addition to followers' ratings, our sample included two studies with leadership ratings from supervisors, one study with ratings from independent third-party coders, and one study with ratings from multiple sources (peers, supervisors, and subordinates). For convenience, however, we refer to all studies including ratings by others, and not by leaders themselves, as "follower-rated" studies.
- ²We did not exclude studies with a single follower rating per leader, but did examine separately whether our results change if we only consider studies that reported leadership ratings from more than a single follower. The results yielded very similar findings, all pointing to the same direction of effects, as the results presented in the manuscript.
- ³We re-ran the main analyses, excluding articles that used only the "charisma" dimension of transformational leadership. The results were similar to those obtained when including these data (k = 108; N = 224,584; r = -.03, $SD_r = .05$, $SD_{res} = .05$, $\rho = -.03$, SDp = .05, 95% CI = [-.05, -.02], 80% CV = [-.10, .03]; 17.52% of the variance explained).
- ⁴ We coded the various leadership styles from 1 to 5 to reflect the level of activation that characterizes each style. Although, to our knowledge, this is not a common empirical coding scheme, there is strong theoretical basis for categorizing styles in this manner, building on the fundamental argument of the FRL theory (Bass & Avolio, 1993). This coding scheme also corresponds with other research that addresses the various styles' level of activation (e.g., Antonakis & House, 2013; Diebig et al., 2016; Lowe et al., 1996). For completeness, however, when testing Hypothesis 2, we took a different approach using a binary coding scheme, whereby we coded transformational leadership and contingent reward as 1 and management-by-exception-active, management-by-exception-passive, and laissez-faire as 0. We re-ran the moderation analysis with this binary coding and found consistent results as those with the 5-point moderator scale: Type of leadership style significantly moderated the relationship between leader age and followers' perceptions (k = 228; N = 251,533; F(1, 226) = 14.69, p = .0002), such that the relationship between leader age and leadership style was more negative for active styles, b = -.11, t = -3.83, 95% CI = [-.16, -.05], p = .0002), thus generating further support for Hypothesis 2.

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