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Innovation across cultures: Connecting leadership, identification, and creative behavior in organizations

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Abstract

Innovation is considered essential for today's organizations to survive and thrive. Researchers have also stressed the importance of leadership as a driver of followers' innovative work behavior (FIB). Yet, despite a large amount of research, three areas remain

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understudied: (a) The relative importance of different forms of leadership for FIB; (b) the mechanisms through which leadership impacts FIB; and (c) the degree to which relationships between leadership and FIB are generalizable across cultures. To address these lacunae, we propose an integrated model connecting four types of positive leadership behaviors, two types of identification (as mediating variables), and FIB. We tested our model in a global data set comprising responses of $N = 7{,}225$ participants from 23 countries, grouped into nine cultural clusters. Our results indicate that perceived LMX quality was the strongest relative predictor of FIB. Furthermore, the relationships between both perceived LMX quality and identity leadership with FIB were mediated by social identification. The indirect effect of LMX on FIB via social identification was stable across clusters, whereas the indirect effects of the other forms of leadership on FIB via social identification were stronger in countries high versus low on collectivism. Power distance did not influence the relations.

KEYWORDS

cross-cultural leadership, innovative behavior, multilevel modeling, positive leadership, social identification

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INTRODUCTION

Recent decades have seen a rise in competition and globalization worldwide. As a result, organizational leaders need to leverage the competitive advantage that innovation brings if their firms are to thrive in this complex business environment (cf. Urbancová, 2013). By way of example, Google's leadership elevated a garage startup into a multibillion-dollar global corporation by fostering individual innovation in their employees (Steiber & Alänge, 2013). However, as Google expanded overseas, it faced the challenge of finding ways to translate their innovative practices outside the United States. Anecdotal accounts show that at the time, Google employees started evaluating how *googley* their behavior was, as a way of protecting their organizational identity during their expansion abroad (Groysberg et al., 2009). Google's success speaks to the importance of identity-related concerns as a bridge between leaders' behaviors and employee innovation.

The challenges that Google faced in driving global innovation align with recent reviews about the link between leadership and innovation (Hughes et al., 2018; Lee et al., 2020). These reviews indicate that positive (i.e., constructive) leadership behaviors predict follower innovation. Yet Hughes et al. (2018) also observe that prior research in the field suffers from (a) a failure to examine the relative power of different predictors (in particular, different forms of leadership); (b) a lack of knowledge about how different forms of leadership impact innovative behavior, especially when it comes to understanding mediating mechanisms; and (c) a neglect of the broader context like, for instance, national cultural values (Hofstede, 1980; House et al., 2004). To address these lacunae, the present study contributes to the growing body of evidence exploring the role that leadership plays in fostering followers' innovative behavior (FIB). It does so in three meaningful ways.

First, we identify the relative contribution to innovation of three well-established forms of leadership (transformational leadership, authentic leadership, and LMX quality). We also add a fourth form of leadership, identity leadership, as it is theoretically relevant for FIB. More precisely, identity leadership behaviors have previously been found to be linked to innovative behavior (van Dick et al., 2018), but these were omitted from previous studies summarizing the state of the art in leadership and innovation (Hughes et al., 2018; Lee et al., 2020).

Second, we extend recent work (e.g., by Hughes et al., 2018 and Lee et al., 2020) by contrasting the effects of two identity-based mediating mechanisms: (a) personal identification with a leader and (b) social identification (with one's team and organization as combined bases of social identification; cf. van Knippenberg & van Schie, 2000). This extension to Hughes et al.'s (2018) model adds to previous research by connecting extant research on leadership and

innovative behavior with social identity approaches to creativity and innovation in organizations (Haslam et al., 2013).

Third, we explore the moderating role of societal-level factors at the level of cultural clusters and nations. In a first set of analyses, we group 23 countries into nine cultural clusters (based on House et al., 2004) to examine how different forms of leadership directly and indirectly, through identification, relate to FIB. In a second set of analyses, we test whether the indirect relationships between different forms of leadership and FIB as mediated by two identification mechanisms at the individual level (L1) are contingent on in-group collectivism and power distance at the country level (L2). Thus, our goal is to provide insights into ways that the leadership-innovation link might vary across societies that differ in the importance they attribute to cultural values identified by Hofstede (1980) and the GLOBE (House et al., 2004) project.

THEORETICAL FRAMEWORK

The present study is grounded in three pillars of research that support the proposed leadership–identity–innovation relationship. More precisely, we build on (a) work connecting leadership and innovation (Hughes et al., 2018; Lee et al., 2020), (b) (social) identity theories (Stets & Burke, 2014; Stryker & Burke, 2000; Tajfel & Turner, 1979) to explain the mediating role of identification, and (c) work on national and cultural values (Hofstede, 1980; House et al., 2004) to explain differences in the leadership–identification–innovative behavior link.

Unique effects of positive leadership on followers' innovative behaviors

Innovative work behavior encompasses the generation, promotion, and realization of novel and useful new ideas (e.g., Janssen, 2000). There is a positive relationship between constructive/positive forms of leadership (Monzani & van Dick, 2020) and innovative behavior. We say this based on Hughes et al.'s (2018) literature review that confirms positive relationships between several forms of leadership, for instance transformational leadership, authentic leadership as well as LMX quality, and innovative behavior. Similarly, the meta-analysis by Lee et al. (2020), which summarizes empirical studies linking positive leadership and innovation, concluded that the corrected correlations between positive leadership and follower innovation were positive and small to moderate in size. We expect such positive relationships between transformational leadership, authentic leadership, LMX quality, and identity leadership with FIB.

Transformational leadership is important to foster innovation (e.g., Jung et al., 2003). Transformational leaders stimulate their followers intellectually and thereby set the expectation for creativity (e.g., Gong et al., 2009). Feelings of insecurity or fear to actually challenge the status quo can be met through the empathy, consideration, and support transformational leaders show towards their followers (individualized consideration). Moreover, transformational leaders are perceived as charismatic role models (e.g., Jung et al., 2003) that followers are likely to learn from. Through these mechanisms, transformational leaders are able to enhance their followers' abilities to develop and realize new ideas. Thus, we predict the following:

H1a. Transformational leadership has a unique and positive effect on FIB beyond authentic leadership, identity leadership, and perceived LMX quality.

Authentic leaders listen to others before coming to conclusions and are willing to admit their mistakes (Walumbwa et al., 2008). Doing so, leaders can create a psychologically safe climate (Liu et al., 2015) that encourages followers to offer ideas, provide feedback, and admit their mistakes without fear of negative consequences (Edmondson & Lei, 2014). An active exchange of ideas (e.g., Paulus & Yang, 2000), as well as constructively dealing with mistakes and learning from them, can be seen as essential for innovation (van Woerkom, 2012). We predict the following:

H1b. Authentic leadership has a unique and positive effect on FIB beyond transformational leadership, identity leadership, and perceived LMX quality.

Leaders with high quality LMX relationships provide the "stability, support, and encouragement they [employees] need to venture from the norm and experiment in doing things differently" (Tierney, 2015, p. 177). They do so by establishing trust, respect, loyalty, and professionalism. This provides followers with increased decision latitude and autonomy (autonomy, Hackman & Lawler, 1971; Pan et al., 2012). By giving autonomy, discretionary time, and the latitude to reflect on new ideas (Tierney, 2015), followers will likely feel that it is safe to explore their creativity to try out new and different ways of doing their job tasks (e.g., de Spiegelaere et al., 2014). Thus, we propose that high LMX quality provides tangible and intangible resources that can facilitate innovation, which, in turn, followers would reciprocate (e.g., Settoon et al., 1996) by improving processes and routines or even finding new and better ways to do things:

H1c. Perceived LMX quality has a unique and positive effect on FIB beyond transformational leadership, authentic leadership, and identity leadership.

A core assumption of the identity leadership model is that leadership does not occur in a social vacuum but, rather, leadership happens within a particular *group* and within a specific social context (Haslam et al., 2020). On this basis, social identity scholars argue that a leader's influence over a group (e.g., their team) derives from their capacity to (a) embody and (b) represent a group's shared sense of identity and to (c) advance their shared interests, as well as (d) to embed identity in material structures. Doing so not only makes the group effective but also increases its attractiveness to existing and prospective group members. A distinctive attribute of identity leaders (with regard to FIB) is that they act in ways that represent the group's shared understanding of what makes the group positive and distinctive (in line with the basic tenets of social identity theory; Tajfel & Turner, 1979). If leaders increase the attractiveness of belonging to a group, it is likely that its members will display citizenship behaviors to ensure the viability of the group (e.g., van Dick et al., 2018). Indeed, innovative behaviors can be understood as a subset of collectively oriented extra-role behaviors.

In organizations, constructive citizenship behaviors (in our case FIBs) can flow vertically or horizontally across a firm's hierarchy (Detert et al., 2013), so that group members may be motivated to promote their creative ideas among themselves (laterally; Haslam et al., 2013). Lateral innovation behaviors can be driven by a self-directed desire among group members to improve their standing within the group or by an altruistic desire to improve the functioning of the

group as a whole—through a process Haslam and Reicher (2017) refer to as *engaged followership*. This leads us to hypothesize the following:

> **H1d.** Identity leadership has a unique and positive effect on FIB beyond transformational leadership, authentic leadership, and perceived LMX quality.

While these four forms of positive leadership have all shown to be positively related to FIB in previous research, another interesting question is whether one form of positive leadership might be more potent than others. Previous work has not provided a clear answer to this. For example, while Lee et al.'s (2020) study observed that among authentic leadership and LMX quality, authentic leadership had a stronger relative weight (Tonidandel & LeBreton, 2015) in predicting individual creativity (in comparison to the full-range leadership model), they were not able to determine the relative weight for both concerning innovation due to a lack of relevant data. Hughes et al.'s (2018) review observed that authentic leadership had stronger average correlations with innovative behaviors than LMX quality or transformational leadership (though note that their conclusions were based on just three studies assessing authentic leadership). In an earlier meta-analysis, Hammond et al. (2011) found that LMX quality was correlated more strongly with FIB than transformational leadership. However, like Lee et al.'s (2020) meta-analysis, all of these analyses omitted to consider the importance of identity leadership for innovation. Thus, by conducting a relative weight analysis, we can answer calls to explore the role of multiple different leadership forms for FIB. More specifically, in light of the foregoing logic, we formulate the following research question:

> **RQ1.** Which form of positive leadership is most relevant to FIB?

Social and personal identification as mechanisms of the leadership-innovation link

An individual's social identity is described as knowing to belong to a social group together with an emotional significance that is connected to this group membership (Tajfel, 1972). In organizational contexts, people can belong to many groups (e.g., teams, departments, units, and the organization as a whole), and as a result, they can develop multiple social identities simultaneously. Social identification then reflects the extent to which these different identities are internalized into their sense of self so that the group becomes self-defining and hence a basis for cognition and behavior.

Previous research suggests that people typically have two main foci or targets of social identification in organizations—their team or workgroup and their organization (e.g., van Knippenberg & van Schie, 2000). From a sociological perspective, Stets and Burke (2014), referring to earlier work from Mead and Stryker, describe that social behavior (i.e., innovation at work in our study) usually derives from two levels of social structure. The first level includes the closer "networks in which people and their identities were embedded, for example, people in their families, classrooms, and work groups" (p. 58). The second level refers to "the larger bounding social structure of organizations and institutions" (p. 58). This analysis aligns with psychological perspectives that suggest that individuals can simultaneously identify with both their teams and their organizations.

While social identification is related to social groups, the target of personal identification is another individual (e.g., identification with the leader; Zhu et al., 2013). This is typically someone who occupies a valued role within a group. Individuals who identify with another person incorporate this person's traits or behavioral patterns into their own self-concept (Kark & Shamir, 2002). On the basis of Hughes et al.'s (2018) review, we argue that when exploring FIB in organizational contexts, the most relevant target for personal identification is generally the leader.

Identifying with a unit larger than themselves—whether a group or a person representing the interests and values of a collective—may foster FIB. This is because, when people identify with a larger unit and this unit is salient, they tend to think and act in ways that are commensurate with the group's norms, values, and interests, making them show creative behaviors as long as they see those behaviors advancing collctive interests (Haslam et al., 2013). Individuals who identify strongly with a larger collective (e.g., an organization or a team), or with someone representing the interests of that collective (i.e., a leader), should be particularly motivated to search and identify new ideas that benefit the unit (group or person) as a whole, as a way to sustain their membership of a valued group, or a positive relation with a significant referent at work (leader). Thus, we hypothesize the following:

H2a. Social identification has a positive unique effect on FIB.

H2b. Personal identification with the leader has a positive unique effect on FIB.

Research shows that there are links between social and personal identification (e.g., Marstand et al., 2021) and that both are important for innovative behavior (e.g., Zhang & Wang, 2021; Zhu et al., 2013). Yet both forms of identification may still differ in the strength of their effects on FIB. Innovation is fundamentally a collective process, and for any innovation to be useful, it must advance (and be seen by others as advancing) the functioning or outcomes of collectives (Haslam et al., 2013). On this basis, we argue that innovations that advance organizational interests will be more likely to derive from a broader concern for the collective than from a relationship with one's leader. Accordingly, we hypothesize the following:

H2c. The unique effect of social identification on FIB is more important than the unique effect of personal identification with the leader on FIB.

How leadership relates to identification processes

One effective way in which leaders influence followers' behaviors is by shaping their self-concept (Shamir et al., 1993). Instead of pushing followers into norm compliance, leaders pull followers by motivating them to align their values and goals with those of their leaders and then to pursue them by surpassing expectations (*engaged followership*, e.g., Haslam & Reicher, 2017). Relatedly, leadership scholars have argued that such pull effects occur because leaders trigger social and personal identification processes in their followers (Avolio et al., 2004). Along similar lines, although Hughes et al.'s (2018) framework is silent on the role of social identification, it identifies personal identification with the leader as an important mechanism that connects leadership and FIB.

Previous research has argued and shown that transformational leadership behaviors can engender social and personal identification in followers (Kark et al., 2003; Kark & Shamir, 2002; Liu et al., 2010; Wang & Howell, 2012; Wu et al., 2010). Transformational leaders share inspiring visions of the future (envisioning, Bass, 1988; Carless et al., 2000) and use their charisma to encourage followers to connect their individual self-concepts to the mission of the group (Shamir et al., 1993), so that the leaders' group goals become those followers' personal goals. Moreover, transformational leaders are perceived as role models (e.g., Kirkbride, 2006), so that followers of transformational leaders might be willing to recognize that they (a) share certain values with their leaders or (b) desire to change their values and beliefs to be more similar to those of the leader (cf. Pratt, 1998). When followers connect their self-concepts with a certain group or leader, this entity becomes self-defining, resulting in social or personal identification with the leader, respectively. On this basis, we hypothesize the following:

H3. The indirect effect of transformational leadership on FIB is mediated by (a) social identification and (b) personal identification with the leader.

Avolio et al. (2004) argue that personal identification with the leader and social identification are processes that connect authentic leadership behaviors and follower outcomes. More specifically, authentic leadership builds social identification because "by reflecting on their own selves and others (...) leaders are better able to grasp the moral implications of a given situation and keep their followers engaged over time for the benefit of the collective" (Avolio et al., 2004, p. 807). With regard to innovation, prior studies show that organizational and team identification mediate the effect of authentic leadership on FIB-related outcomes (e.g., knowledge-sharing, see Edú-Valsania et al., 2016; Niu et al., 2018). Moreover, Avolio et al. (2004) argue that personal identification with a leader is a powerful means by which authentic leaders influence their followers. More precisely, through their exemplary role modeling, authentic leaders become the foci of identification for their followers, in ways that motivate followers to identify shared values with their leaders. In this way, innovation becomes a means by which followers can consolidate this growth-enhancing relation with their leaders (Niu et al., 2018). On the basis of this logic, it follows the following:

H4. The indirect effect of authentic leadership on FIB is mediated by (a) social identification and (b) personal identification with the leader.

It has been argued that the quality of the LMX relationship makes salient aspects of the self on an interpersonal level such that a high-quality LMX relationship with their leader primes employees' relational self and strengthens personal identification via self-enhancement and affective feedback (Lord et al., 1999). Moreover, Sluss and Ashforth's (2007) relational identification model suggests that as a by-product of perceiving that they have a high-quality relation with significant others (leaders), individuals are likely to start self-defining themselves on the basis of relationship and hence take action to protect the internalized leader–follower relationship. Indeed, in line with this claim, research suggests that one way in which followers can protect the quality of their LMX exchanges is by displaying engagement beyond their actual tasks (Huang et al., 2014), such as innovative behavior (Hughes et al., 2018).

The relational identification resulting from perceived LMX quality might also spill over into social identification (Sluss & Ashforth, 2007). Furthermore, Sluss et al. (2012) argued that this spillover is more likely if leaders have acquired prototypical status within the groups they lead

(i.e., if they are seen to exemplify the meaning of the group; Steffens et al., 2014). Relatedly, Tse et al. (2012) suggested that if employees build positive relationships with their leaders, this will have positive implications for their collective selves. On this basis, we hypothesize the following:

> **H5.** The indirect effect of perceived LMX quality on FIB is mediated by (a) social identification and (b) personal identification with the leader.

In the case of identity leadership, we argue that typical behaviors of identity leaders, such as embodying the group's shared characteristics, and acting to advance its interests (Haslam et al., 2020), should trigger followers' identification with the group (their team and organization), because it is easier to identify with a group once it is understood to have a positive, distinctive, and shared social identity (Steffens et al., 2014). Similarly, it should be easier to identify with leaders that take action to create and shape such a shared identity. Supporting these claims, a meta-analysis (Steffens et al., 2021; $k = 128$) has revealed a reliable relationship between leaders' group prototypicality and followers' identification with that leader ($r = .21$). This leads us to hypothesize the following:

> **H6.** The indirect effect of identity leadership on FIB is mediated by (a) social identification and (b) personal identification with the leader.

By exploring these hypotheses simultaneously rather than in isolation (cf. Fischer et al., 2017), the present research is able to address a key limitation of previous research that has explored the relationship between leadership and innovative behavior—namely, that while these different forms of leadership have discriminant validity (van Dick et al., 2018), they are substantially correlated. As a result, their effects cannot be expected to be fully independent. It therefore remains to be seen whether all our hypotheses hold up when all four leadership constructs are modeled concurrently. An overview of the proposed models can be found in Figure 1.

Cultural values as moderators of the leadership–identification–innovation link

The study of leadership and culture has a long history. Despite early claims about the universality of leadership processes, there is now substantive evidence of cross-cultural variation in leadership effectiveness (for reviews, see Gelfand et al., 2017; Hanges et al., 2016). This is particularly clear in the GLOBE studies (House et al., 2004) where participants in 62 different societies (that were subsequently arranged into 10 culture clusters) rated various attributes of leaders in terms of their contribution to leader effectiveness. As a result of this procedure, some leadership behaviors were identified as effective in all 10 cultural clusters (e.g., being charismatic and participative), while others were not (e.g., being autonomous).

Accordingly, there are reasons to expect cultural differences in the effects of leadership on innovation because national culture seems likely to affect not only followers' expectations of leaders but also the effect that different leadership behaviors will have on them (Hanges et al., 2016). Indeed, it is widely accepted that leaders will be especially effective to the extent that their behavior resonates with cultural norms (House et al., 2013). More particularly, as our

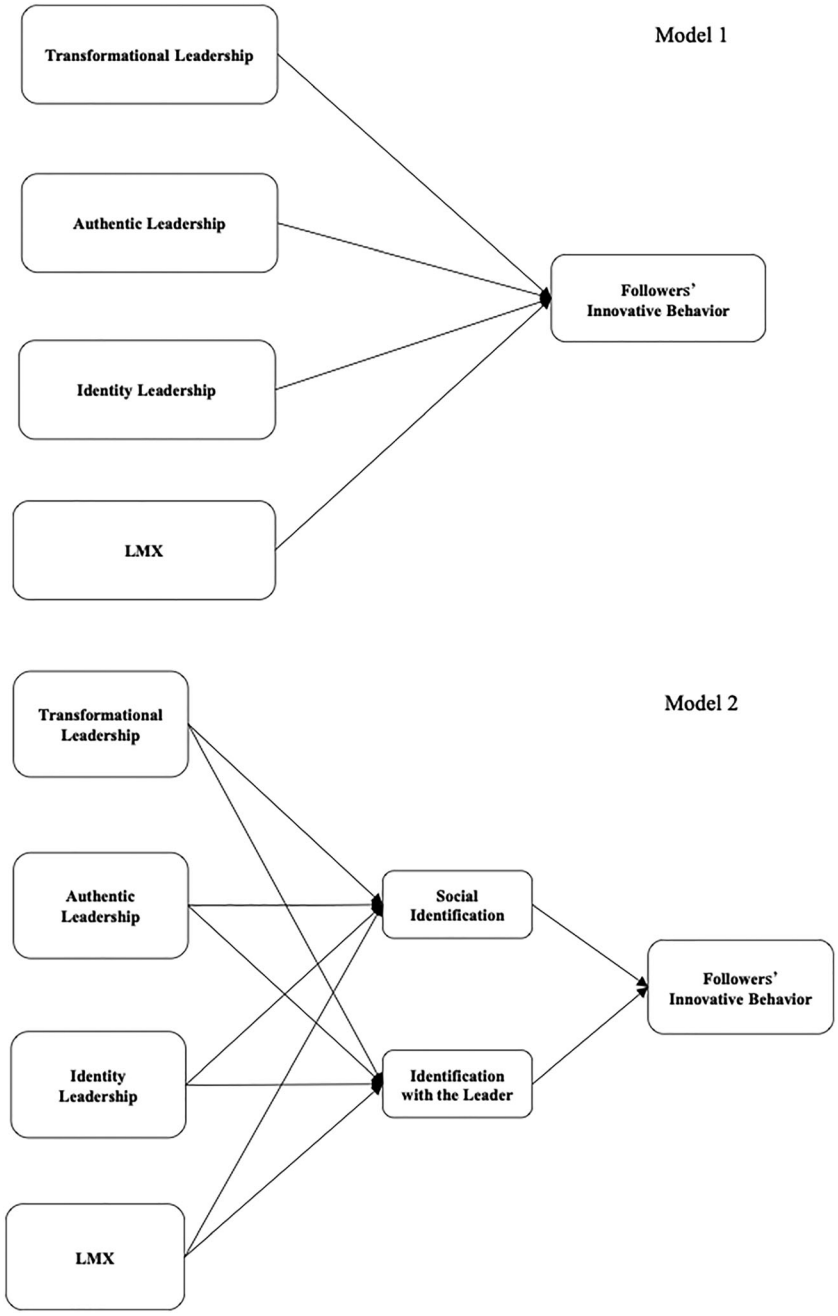

FIGURE 1 Overview of models

main inputs (leadership) and processes (identification) focus on the interplay between hierarchical or informal influence structures and enhancing social relationships at work, we can derive moderation hypotheses related to the cultural dimensions of in-group collectivism and power distance.

Collectivism as cultural moderator

As we have described above, social identification is important for innovation in organizations. Nevertheless, some cultures place more value on the collective and on social identification than others. This is captured by measures of in-group collectivism that reflect "the degree to which individuals express (...) pride, loyalty, and cohesiveness in their organizations or families" (GLOBE, 2020, societal culture section). As a result, the role of social identification in organizational processes might be expected to be particularly important in collectivistic contexts. Accordingly, we might expect the association between social identification and innovation to be stronger in cultures that have higher in-group collectivism. More formally, we hypothesize the following:

> **H7a.** The effect of social identification on FIB is positively moderated by in-group collectivism.

In the above sections, we made a case that all four of the forms of leadership that we explored in the present study are likely to elicit social identification in followers. However, we argue that in contexts that attach greater significance to social collectives, these behaviors should be particularly important for social identification because the lack of such behaviors would violate cultural behavioral norms. In such societies, elevating social identification should therefore be particularly important for leadership. Combining these arguments, we hypothesize that the indirect effects of social identification will be more pronounced in contexts of higher in-group collectivism:

> **H7b.** The effect of positive forms of leadership on social identification is positively moderated by in-group collectivism.

> **H7c.** The indirect effect of positive forms of leadership on FIB as mediated by social identification is positively moderated by in-group collectivism.

Power distance as a cultural moderator

Power distance is "the extent to which the community accepts and endorses authority, power differences, and status privileges" (GLOBE, 2020, societal culture section) and is another important cultural dimension of both leadership (Kirkman et al., 2009) and innovation (Lee et al., 2020). In contexts with strong power distance orientations, followers should expect leaders to enact their leadership role more strongly and therefore be more receptive to their leadership when they do. We also argue that positive leadership behaviors will lead to stronger personal identification with the leader in contexts where followers are more receptive to direct leader influence (i.e., in contexts that endorse cultural power distance). Furthermore, we expect that in societies where there is high power distance, hierarchical structures would enhance personal identification with the leader. This should also feed into the innovation process because, in the context of strong personal identification with the leader, followers should also be more motivated to express innovative ideas. This leads us to a final set of three hypotheses:

H8a. The effect of personal identification with the leader on FIB is positively moderated by power distance.

H8b. The effect of positive leadership forms on FIB is positively moderated by power distance.

H8c. The indirect effect of positive leadership forms on FIB as meditated by personal identification with the leader is positively moderated by power distance.

METHOD

Sample

As a basis for the analyses, we drew partly on the existing first-wave data set from the Global Identity Leadership Development (GILD) project.[1] Participants were recruited using convenience sampling (e.g., snowball techniques). The questionnaires were completed via an online survey platform. The total sample included respondents from Australia, Belgium, Chile, China, Finland, France, Germany, Greece, Hungary, India, Israel, Italy, Japan, Nepal, the Netherlands, Norway, South Africa, Turkey, and North America (consisting of Canadian and US participants).

We excluded Israel from our analyses, because identification with the leader was not measured in that country and it is an essential identification target in our model. Similarly, we excluded countries with less than 100 participants (Balkan countries, Nepal). We extended van Dick et al.'s (2018) data set with new data from six additional countries: Brazil, Egypt, Iran, Portugal, Spain, and the UK. This left us with data from 23 different countries. Further, we incorporated the scores for culture clusters for each country based on available data from the GLOBE project (GLOBE, 2020). Table 1 provides an overview of culture cluster membership, sample size, and demographic data. Our final dataset, scripts, and outputs are available online (at https://bit.ly/3u4JthV).

Our final sample included data from 7,225 participants (53.5% female). In this, 42 work sectors were heterogeneously represented. The three sectors that were most frequently represented were (a) banking, insurance, and financial services (16.2%); (b) education, training, and science (10.8%); and (c) health and social affairs (7.9%). However, 10.6% of participants did not specify their work sector, and 2.8% of the sample answers were lost due to recording errors. From our total sample, 63.5% of our participants did not have leadership experience, but 33.8% of the sample declared having some leadership responsibility.

Measures

We used the original English items of all constructs for Australia, North America, and the UK and translated the items for the remaining countries by applying the translation, back-translation technique (Brislin, 1970). Reliability scores were calculated using the merged data set with all countries. The values specific to each cultural cluster are presented in Table 3.

We measured transformational leadership with the Global Transformational Leadership Scale (Carless et al., 2000) to avoid an overlap with our authentic leadership measure. This

TABLE 1 Descriptive data by country and culture cluster

Country/ cluster	Sample *N*	Age 26–45 (%)	% Female	In-group collectivism	Power distance
Anglo cultures	1,204	64.7	55.8	–	–
Australia	311	60.6	45.3	4.17	4.74
North America	302	66.6	48.0	4.26[a]	4.85[a]
South Africa	291	69.8	70.3	4.50	5.16
UK	300	62.2	60.7	4.08	5.15
Middle East	1,547	84.0	33.4	–	–
Egypt	1,294	85.4	28.1	5.64	4.92
Turkey	253	76.7	60.5	5.88	5.57
Confucian Asia	690	66.1	51.3	–	–
China	353	66.9	50.7	5.80	5.04
Japan	337	65.3	51.9	4.63	5.11
Eastern Europe	595	60.4	74.7	–	–
Greece	271	61.9	65.6	5.27	5.40
Hungary	324	59.1	82.4	5.25	5.56
Germanic Europe	818	50.9	59.4	–	–
Belgium	155	52.1	55.0	4.21[b]	4.95[b]
Germany	460	54.3	64.8	4.02[c]	5.25[c]
Netherlands	203	42.0	50.0	3.70	4.11
Latin America	391	60.6	59.6	–	–
Brazil	105	67.6	55.2	5.18	5.33
Chile	286	58.0	61.2	5.52[b]	5.33[b]
Latin Europe	1,017	58.1	64.1	–	–
France	286	51.9	72.0	4.37	5.28
Italy	169	44.4	62.1	4.94	5.43
Portugal	206	72.2	63.4	5.51	5.44
Spain	356	61.5	59.0	5.45	5.52
Nordic Europe	636	50.0	66.4	–	–
Finland	307	50.3	90.2	4.07	4.89
Norway	329	49.7	43.9	3.75[b]	4.54[b]
Southern Asia	327	67.9	27.1	–	–
India	196	72.4	27.6	5.92	5.47
Iran	131	60.7	26.4	6.03	5.43
Total sample	7,225	64.8	53.5	–	–

Note: Values for age and gender refer to valid percent.
[a]Average of scores from the United States of America and Canada.
[b]Missing values replaced by average scores of cultural clusters (based on GLOBE).
[c]Values from West Germany.

TABLE 2 Summary of hypotheses and main findings for combined and clustered data sets

	Details	Direction		Hypothesis Supported?		Observations
		Predicted	Found	Combined	Clustered	
Main unique effects						
H1	a. TL has a unique effect on FIB, beyond the other three forms of leadership	+	−	No	No	Predicted effect was significant, but negative in sign
	b. AL has a unique effect on FIB, beyond the other three forms of leadership	+	+	Yes	Partial	Supported in four culture clusters
	c. LMX quality has a unique effect on FIB, beyond the other three forms of leadership	+	+	Yes	Partial	Unique effect consistent across seven culture clusters
	d. IL has a unique effect on FIB, beyond the other three forms of leadership	+	+	Yes	Partial	Supported in Middle, East, Southern Asia, and Eastern Europe
H2	a. SID has a unique effect on FIB, beyond PIL and the four forms of leadership	+	+	Yes	Yes	Consistent across culture clusters
	b. PIL has a unique effect on FIB, beyond SID and the four forms of leadership	+	−	No	No	The unique effect of PIL on FIB was negative in sign across culture clusters
	c. SID has a stronger relative weight than PIL on FIB	+	+	Yes	Yes	SID was more relevant for FIB compared to PIL and all forms of leadership
Indirect unique effects						
H3	a. The indirect effect of TL on FIB is mediated by SID	+	ns	No	No	No significance in clusters, only in Germanic Europe (negative in sign)
	b. The indirect effect of TL on FIB is mediated by PIL	+	ns	No	No	No significant effects
H4	a. The indirect effect of AL on FIB is mediated by SID	+	ns	No	No	No significant effects

(Continues)

TABLE 2 (Continued)

	Details	Direction		Hypothesis Supported?		Observations
		Predicted	Found	Combined	Clustered	
	b. The indirect effect of AL on FIB is mediated by PIL	+	−	No	No	No positive effect, significantly negative in four clusters
H5	a. The indirect effect of LMX quality on FIB is mediated by SID	+	+	Yes	Yes	Indirect effect consistent across culture clusters
	b. The indirect effect of LMX quality on FIB is mediated by PIL	+	−	No	No	Effect detected but negative in sign across all culture clusters
H6	a. The indirect effect of IL on FIB is mediated by SID	+	+	Yes	Partial	Effect found in six culture clusters
	b. The indirect effect of IL on FIB is mediated by PIL	+	−	No	No	Negative effect in seven culture clusters
Conditional (indirect) effects (multilevel moderated mediation)						
H7	a. The main effect of SID on FIB is moderated by IGC	+	+	N/A	Partial	Only for models including TL and AL as antecedents of SID
	b. The main effect of positive leadership on SID is moderated by IGC	+	ns	N/A	Partial	Interaction effect was marginally significant for IL
	c. The indirect effect of positive leadership on FIB as mediated by SID is moderated by IGC	+	+	N/A	Partial	The indirect effect was significant for all forms of leadership but LMX
H8	a. The main effect of PIL on FIB is moderated by PD	+	ns	N/A	No	PD did not function as a moderator
	b. The main effect of positive leadership on PIL is moderated by PD	+	ns	N/A	No	PD did not function as a moderator
	c. The indirect effect of positive leadership on FIB as mediated by PIL is moderated by PD	+	ns	N/A	No	PD did not function as a moderator

Abbreviations: AL, authentic leadership; IGC, in-group collectivism; IL, identity leadership; ns, nonsignificant effect; PD, power distance; PIL, personal identification with the leader; SID, social identification; TL, transformational leadership.

measure includes seven items (e.g., "My immediate supervisor communicates a clear and positive vision of the future") to which participants responded on 7-point Likert scales (where 1 = *to a very low degree*, 7 = *to a very high degree*; α = .96).

Authentic leadership was measured using eight items of the Authentic Leadership Questionnaire reported by Walumbwa et al. (2008) (e.g., "My immediate supervisor says exactly what he or she means). Responses were made on 7-point Likert scales (where 1 = *to a very small extent*, 7 = *to a very large extent*; α = .94).

We used the Identity Leadership Inventory developed by Steffens et al. (2014) to measure identity leadership behaviors. This instrument encompasses 15 items measuring four dimensions: *identity prototypicality* (e.g., "This leader embodies what the group stands for"; α = .94), *identity advancement* (e.g., "This leader acts as a champion for the group"; α = .95), *identity entrepreneurship* (e.g., "This leader makes people feel as if they are part of the same group"; α = .96), and *identity impresarioship* (e.g., "This leader devises activities that bring the group together"; α = .94). Responses were made on 7-point Likert scales (where 1 = *completely disagree*, 7 = *completely agree*).

Perceived LMX quality was assessed with the LMX-7 scale (Graen & Uhl-Bien, 1995; e.g., "How well does your leader understand your job problems and needs?"). Participants responded to each of the seven items on a 7-point Likert scale matching the respective question (where 1 = *not a bit*, *7 = a great deal*; α = .94).

Following work by Postmes et al. (2013), we measured organizational, team, and personal identification with the leader with a single item ("I identify with my organization," "I identify with my team," and "I identify with my leader," respectively). Responses were made on 7-point Likert scales (where 1 = *do not agree at all*, 7 = *fully agree*).[2]

As personal and social identifications describe different identification mechanisms in our models, we specified a latent construct that we termed *social identification*, capturing identification targets that represent social groups (teams and organizations), and reserved the label *personal identification* for identification with the leader. Despite comparable correlations between all three constructs (personal identification with the leader and organizational identification $r = .62$, $p < .01$, personal identification with the leader and team identification $r = .59$, $p < .01$, and team identification and organizational identification $r = .61$, $p < .01$), we decided to combine organizational and team identification because a series of chi-square difference tests indicated that the fit of the model loading organizational and team identification into a latent construct (social identity) was significantly better than the fit of (a) a model treating every identification target as a separate unit ($\Delta\chi^2_{[2]} = 1{,}597.81$, $p < .001$), or the fit of a model (b) combining all three identification items into a single latent construct ($\Delta\chi^2_{[5]} = 732.31$, $p < .001$; see Maslowsky et al., 2015, for an explanation).

To measure innovative work behavior, we employed nine items loading on three dimensions proposed by Janssen (2000): idea generation (α = .91; e.g., "How often do you create new ideas for difficult issues?"), idea promotion (α = .86; e.g., "How often do you make important organizational members enthusiastic for innovative ideas?", and idea realization (α = .90; e.g., "How often do you transform innovative ideas into useful applications?"). Responses to all items were made on 7-point Likert scales (where 1 = *never*, 7 = *always*).

We used the in-group collectivism and power distance scores ("as is," i.e., practices) published by the GLOBE project (GLOBE, 2020, data from 2004). More specifically, we selected the overall in-group collectivism and power distance practices score for each country when available. In the GLOBE study, practices ("as is") capture a country's current cultural practices as they are, whereas GLOBE values capture its prescriptive values (what "should be") in the respective country. We used the practices scores because these better reflect each country's cultural characteristics, whereas values reflect culturally idealized characteristics. Furthermore, as Herrera et al. (2011) showed, the GLOBE practices scores of power distance correlate positively with Hofstede's power distance indicator ($r = .61$), whereas GLOBE values scores do not ($r = -.03$). The GLOBE practices score of in-group collectivism correlates (as one would expect) negatively with Hofstede's individualism scale ($r = -.82$), whereas GLOBE values scores correlate less strongly ($r = -.20$) (Herrera et al., 2011). It should be noted, though, that our sample included some countries that were not part of the GLOBE studies. In these cases, we used the cluster score of the respective country (e.g., Norway was sorted to Nordic Europe; see Table 1). In-group collectivism (as practice) was originally measured with items such as "In this society, parents take pride in the individual accomplishments of their children," rated on a 7-point Likert scale (where 1 = *strongly agree*, 7 = *strongly disagree*) (GLOBE, 2020). Power distance was measured with items such as "In this society, followers are expected to ... *obey their leaders without question*: 1; *question their leaders when in disagreement*: 7."

Data analysis

First, we tested for measurement invariance, multicollinearity, and discriminant validity across each cultural cluster to explore whether it was acceptable to compare results across cultural clusters. Appendix S1. shows the methodology and results of these initial validity checks. To test our main effect and mediation hypotheses, we conducted several SEMs in Mplus (Muthén & Muthén, 2017). More specifically, we constructed two models in which we tested our hypotheses either in the global data set (identified by the suffix "a") or after grouping our data into clusters ("b").

Models 1a and 1b included all main effects between the four positive forms of leadership and FIB simultaneously. We then respecified our model, entering our two proposed mediators, social and personal identification with the leader. Again, we tested our mediation models with all countries combined for the general hypotheses (Model 2a), as well as in the form of a multigroup analysis that differentiated the different culture clusters (Model 2b). In Appendix S1, we also describe our mitigation for common method variance (Richardson et al., 2009).

To account for the multidimensionality of the identity leadership, and innovative behavior measures, we modeled the parceled indicators into higher-order constructs (for a discussion on parcelling, see Little et al., 2002). In other words, the means of each dimension were loaded on the latent construct. As our transformational leadership, authentic leadership, perceived LMX quality, and social identification measures were one dimensional, we loaded each item on a higher order factor representing the latent construct. We added a correlation between social identification and personal identification with the leader to account for the underlying process that is shared among these two identity-based mechanisms (identification).

TABLE 3 Means, standard deviations, reliabilities, and correlations among study variables

Country cluster	Variables	Mean	SD	1	1a	1b	1c	1d	2	3	4	5	6	7	7a	7b	7c
All countries	1. IL	4.55	1.63	(.98)													
	1a. IL_PROT	4.60	1.69	.94	(.94)												
	1b. IL_ADV	4.72	1.72	.95	.87	(.95)											
	1c. IL_ENTRE	4.56	1.74	.97	.88	.89	(.96)										
	1d. IL_IMPR	4.26	1.79	.91	.80	.80	.86	(.94)									
	2. TFL	4.51	1.70	.88	.81	.83	.85	.79	(.96)								
	3. AL	4.43	1.54	.83	.78	.79	.81	.76	.90	(.94)							
	4. LMX	4.55	1.53	.79	.74	.76	.76	.69	.84	.82	(.94)						
	5. SID	4.93	1.47	.52	.49	.48	.51	.49	.53	.52	.53						
	6. PIL	4.29	1.92	.74	.71	.70	.72	.66	.76	.74	.76	.67					
	7. FIB	4.69	1.27	.29	.26	.27	.29	.30	.30	.30	.33	.40	.30	(.94)			
	7a. FIB_GEN	4.99	1.31	.18	.17	.17	.18	.18	.19	.20	.23	.32	.20	.89	(.91)		
	7b. FIB_PROM	4.56	1.40	.33	.30	.30	.32	.33	.34	.34	.37	.40	.34	.93	.72	(.86)	
	7c. FIB_REAL	4.51	1.44	.29	.25	.25	.28	.30	.28	.29	.31	.36	.29	.93	.73	.82	(.90)
Anglo cultures	1. IL	4.85	1.52	(.98)													
	1a. IL_PROT	4.96	1.52	.95	(.95)												
	1b. IL_ADV	5.0	1.62	.96	.89	(.95)											
	1c. IL_ENTRE	4.87	1.63	.97	.89	.91	(.96)										
	1d. IL_IMPR	4.50	1.65	.90	.79	.81	.85	(.93)									
	2. TFL	4.79	1.62	.92	.86	.88	.89	.83	(.97)								
	3. AL	4.66	1.50	.88	.83	.84	.85	.80	.93	(.95)							
	4. LMX	4.83	1.50	.84	.79	.83	.82	.74	.87	.84	(.95)						
	5. SID	5.09	1.35	.53	.50	.51	.52	.49	.54	.53	.54						
	6. PIL	4.69	1.78	.78	.75	.75	.75	.68	.79	.78	.80	.70					

(Continues)

TABLE 3 (Continued)

Country cluster	Variables	Mean	SD	1	1a	1b	1c	1d	2	3	4	5	6	7	7a	7b	7c
	7. FIB	4.43	1.44	.21	.20	.20	.19	.21	.22	.22	.22	.31	.25	(.97)			
	7a. FIB_GEN	4.60	1.49	.17	.16	.16	.15	.16	.18	.17	.18	.26	.20	.94	(.93)		
	7b. FIB_PROM	4.36	1.50	.22	.22	.21	.20	.23	.23	.23	.23	.33	.27	.96	.85	(.90)	
	7c. FIB_REAL	4.34	1.54	.22	.20	.20	.20	.23	.22	.23	.22	.30	.25	.96	.84	.88	(.94)
Middle East	1. IL	4.76	1.64	(.98)													
	1a. IL_PROT	4.83	1.70	.95	(.95)												
	1b. IL_ADV	4.75	1.70	.95	.88	(.94)											
	1c. IL_ENTRE	4.73	1.72	.97	.89	.89	(.97)										
	1d. IL_IMPR	4.70	1.76	.94	.85	.84	.92	(.96)									
	2. TFL	4.64	1.70	.82	.77	.77	.80	.79	(.97)								
	3. AL	4.60	1.59	.80	.75	.75	.77	.77	.91	(.96)							
	4. LMX	4.70	1.54	.74	.71	.71	.71	.70	.84	.84	(.95)						
	5. SID	5.04	1.49	.54	.52	.50	.52	.51	.57	.56	.57						
	6. PIL	4.69	1.75	.65	.63	.60	.63	.61	.72	.70	.73	.79					
	7. FIB	4.68	1.37	.34	.31	.29	.35	.34	.33	.35	.36	.43	.36	(.95)			
	7a. FIB_GEN	4.98	1.36	.29	.27	.25	.29	.29	.27	.29	.32	.41	.32	.88	(.92)		
	7b. FIB_PROM	4.59	1.48	.33	.30	.29	.35	.34	.34	.35	.36	.41	.36	.96	.76	(.88)	
	7c. FIB_REAL	4.47	1.59	.32	.29	.27	.33	.33	.30	.32	.33	.37	.32	.94	.71	.89	(.94)
Confucian Asia	1. IL	4.84	1.54	(.98)													
	1a. IL_PROT	4.78	1.53	.95	(.89)												
	1b. IL_ADV	4.99	1.61	.96	.88	(.95)											
	1c. IL_ENTRE	4.84	1.62	.97	.88	.91	(.96)										
	1d. IL_IMPR	4.74	1.67	.95	.85	.87	.94	(.96)									
	2. TFL	4.67	1.57	.84	.78	.80	.83	.81	(.96)								

TABLE 3 (Continued)

Country cluster	Variables	Mean	SD	1	1a	1b	1c	1d	2	3	4	5	6	7	7a	7b	7c
	3. AL	4.71	1.55	.83	.78	.79	.82	.80	.94	(.97)							
	4. LMX	4.60	1.39	.78	.74	.75	.76	.73	.79	.80	(.94)						
	5. SID	4.88	1.56	.72	.66	.69	.72	.71	.72	.71	.69						
	6. PIL	4.75	1.74	.79	.73	.74	.79	.76	.79	.78	.76	.87					
	7. FIB	4.54	1.31	.48	.45	.46	.46	.46	.46	.46	.54	.58	.52	(.96)			
	7a. FIB_GEN	4.69	1.36	.41	.39	.39	.39	.39	.38	.38	.45	.53	.45	.92	(.91)		
	7b. FIB_PROM	4.45	1.37	.47	.44	.46	.45	.45	.46	.47	.55	.55	.51	.96	.82	(.91)	
	7c. FIB_REAL	4.47	1.43	.47	.44	.45	.46	.47	.46	.46	.53	.56	.51	.95	.78	.90	(.94)
Eastern Europe	1. IL	4.13	1.79	(.98)													
	1a. IL_PROT	4.17	1.85	.96	(.95)												
	1b. IL_ADV	4.42	1.92	.96	.91	(.94)											
	1c. IL_ENTRE	4.10	1.88	.96	.88	.90	(.95)										
	1d. IL_IMPR	3.71	1.88	.91	.82	.81	.86	(.94)									
	2. TFL	4.07	1.86	.89	.86	.87	.85	.81	(.96)								
	3. AL	4.08	1.60	.83	.79	.82	.79	.74	.90	(.93)							
	4. LMX	4.20	1.56	.76	.75	.76	.72	.65	.82	.80	(.92)						
	5. SID	4.87	1.51	.46	.44	.43	.46	.42	.46	.47	.46						
	6. PIL	3.98	2.05	.74	.74	.71	.70	.63	.76	.75	.79	.63					
	7. FIB	4.72	1.14	.36	.33	.32	.34	.37	.34	.34	.38	.42	.35	(.91)			
	7a. FIB_GEN	5.22	1.20	.14	.12	.13	.14	.16	.13	.14	.15	.28	.17	.84	(.87)		
	7b. FIB_PROM	4.45	1.29	.44	.40	.40	.42	.44	.44	.43	.47	.43	.42	.90	.61	(.77)	
	7c. FIB_REAL	4.50	1.38	.36	.32	.32	.34	.38	.33	.33	.37	.39	.35	.92	.64	.78	(.86)
Germanic Europe	1. IL	4.62	1.49	(.97)													
	1a. IL_PROT	4.65	1.62	.92	(.93)												

(Continues)

TABLE 3 (Continued)

Country cluster	Variables	Mean	SD	1	1a	1b	1c	1d	2	3	4	5	6	7	7a	7b	7c
	1b. IL_ADV	4.97	1.60	.93	.83	(.94)											
	1c. IL_ENTRE	4.66	1.65	.95	.83	.85	(.95)										
	1d. IL_IMPR	4.08	1.66	.84	.67	.70	.76	(.88)									
	2. TFL	4.66	1.50	.84	.75	.80	.80	.71	(.94)								
	3. AL	4.40	1.32	.79	.73	.74	.76	.66	.85	(.91)							
	4. LMX	4.63	1.40	.78	.70	.76	.73	.62	.83	.77	(.93)						
	5. SID	4.99	1.35	.45	.41	.39	.44	.40	.42	.41	.44						
	6. PIL	4.20	1.88	.74	.70	.69	.71	.59	.76	.71	.77	.54					
	7. FIB	4.75	1.08	.12	.07*	.10	.13	.16	.15	.16	.18	.24	.16	(.91)			
	7a. FIB_GEN	5.06	1.12	.08*	.05**	.08*	.07*	.12	.10	.11	.15	.22	.13	.85	(.86)		
	7b. FIB_PROM	4.69	1.24	.15	.10	.13	.17	.18	.19	.17	.19	.21	.17	.89	.64	(.80)	
	7c. FIB_REAL	4.49	1.32	.08*	.04**	.06**	.10	.11	.11	.13	.13	.21	.13	.90	.65	.72	(.86)
Latin America	1. IL	4.55	1.68	(.98)													
	1a. IL_PROT	4.55	1.73	.94	(.95)												
	1b. IL_ADV	4.76	1.78	.95	.87	(.94)											
	1c. IL_ENTRE	4.57	1.78	.97	.87	.90	(.95)										
	1d. IL_IMPR	4.24	1.83	.91	.82	.81	.86	(.94)									
	2. TFL	4.65	1.75	.92	.87	.87	.89	.82	(.96)								
	3. AL	4.51	1.63	.87	.82	.82	.84	.78	.91	(.95)							
	4. LMX	4.69	1.53	.78	.73	.75	.77	.68	.83	.82	(.93)						
	5. SID	4.99	1.51	.48	.44	.46	.46	.46	.47	.44	.49						
	6. PIL	4.20	2.02	.79	.75	.75	.76	.71	.82	.79	.77	.62					
	7. FIB	5.11	1.14	.27	.23	.26	.27	.26	.28	.29	.37	.44	.36	(.92)			
	7a. FIB_GEN	5.39	1.16	.12*	.09**	.14	.12*	.11*	.12*	.13*	.22	.33	.20	.85	(.89)		

TABLE 3 (Continued)

Country cluster	Variables	Mean	SD	1	1a	1b	1c	1d	2	3	4	5	6	7	7a	7b	7c
	7b. FIB_PROM	5.03	1.30	.29	.26	.28	.28	.27	.31	.33	.41	.43	.39	.90	.63	(.84)	
	7c. FIB_REAL	4.90	1.36	.30	.25	.28	.31	.29	.29	.30	.35	.41	.36	.93	.69	.78	(.86)
Latin Europe	1. IL	4.06	1.68	(.98)													
	1a. IL_PROT	4.08	1.75	.93	(.93)												
	1b. IL_ADV	4.38	1.83	.94	.83	(.95)											
	1c. IL_ENTRE	4.07	1.82	.96	.86	.88	(.95)										
	1d. IL_IMPR	3.58	1.83	.89	.76	.77	.81	(.94)									
	2. TFL	4.13	1.80	.89	.81	.85	.87	.78	(.96)								
	3. AL	4.03	1.53	.83	.76	.78	.80	.74	.89	(.92)							
	4. LMX	4.22	1.63	.81	.74	.78	.78	.70	.87	.83	(.94)						
	5. SID	4.67	1.55	.48	.45	.43	.47	.47	.48	.46	.47						
	6. PIL	3.65	2.06	.76	.74	.71	.73	.65	.79	.75	.78	.59					
	7. FIB	4.74	1.21	.38	.32	.33	.35	.41	.38	.37	.41	.40	.38	(.93)			
	7a. FIB_GEN	5.17	1.21	.23	.19	.21	.22	.27	.24	.24	.27	.27	.24	.87	(.89)		
	7b. FIB_PROM	4.48	1.41	.42	.36	.38	.40	.45	.44	.43	.47	.44	.43	.92	.69	(.85)	
	7c. FIB_REAL	4.58	1.39	.35	.30	.30	.31	.39	.33	.33	.36	.35	.34	.92	.70	.77	(.83)
Nordic Europe	1. IL	4.12	1.55	(.98)													
	1a. IL_PROT	4.21	1.61	.94	(.94)												
	1b. IL_ADV	4.24	1.65	.94	.86	(.94)											
	1c. IL_ENTRE	4.09	1.68	.96	.87	.88	(.95)										
	1d. IL_IMPR	3.87	1.67	.90	.80	.77	.86	(.92)									
	2. TFL	4.12	1.61	.90	.84	.85	.88	.80	(.96)								
	3. AL	4.07	1.39	.84	.80	.80	.81	.75	.89	(.92)							
	4. LMX	4.17	1.46	.74	.71	.74	.69	.64	.77	.75	(.93)						

(Continues)

TABLE 3 (Continued)

Country cluster	Variables	Mean	SD	1	1a	1b	1c	1d	2	3	4	5	6	7	7a	7b	7c
	5. SID	4.63	1.37	.42	.38	.39	.39	.40	.44	.43	.45						
	6. PIL	3.65	1.81	.73	.70	.69	.70	.65	.74	.69	.73	.59					
	7. FIB	4.58	1.05	.28	.29	.24	.26	.25	.30	.30	.34	.42	.30	(.91)			
	7a. FIB_GEN	5.0	1.14	.07**	.10*	.06**	.06**	.05**	.11	.12	.14	.23	.07**	.83	(.85)		
	7b. FIB_PROM	4.35	1.27	.37	.36	.35	.34	.33	.39	.37	.43	.47	.41	.87	.53	(.89)	
	7c. FIB_REAL	4.38	1.22	.26	.27	.21	.26	.26	.28	.28	.30	.37	.30	.91	.65	.70	(.84)
Southern Asia	1. IL	4.82	1.54	(.97)													
	1a. IL_PROT	4.91	1.64	.92	(.91)												
	1b. IL_ADV	4.88	1.64	.94	.83	(.90)											
	1c. IL_ENTRE	4.83	1.66	.96	.84	.86	(.94)										
	1d. IL_IMPR	4.55	1.75	.90	.74	.77	.87	(.92)									
	2. TFL	4.72	1.63	.87	.76	.83	.84	.80	(.94)								
	3. AL	4.64	1.49	.82	.75	.77	.79	.73	.89	(.92)							
	4. LMX	4.76	1.47	.80	.72	.76	.78	.70	.81	.81	(.92)						
	5. SID	5.15	1.54	.55	.49	.48	.54	.54	.48	.48	.54						
	6. PIL	4.17	2.02	.67	.61	.64	.64	.61	.69	.68	.72	.64					
	7. FIB	5.31	1.03	.45	.39	.38	.47	.45	.40	.37	.45	.53	.33	(.91)			
	7a. FIB_GEN	5.42	1.15	.34	.30	.27	.36	.33	.29	.26	.35	.44	.22	.87	(.89)		
	7b. FIB_PROM	5.38	1.14	.43	.38	.36	.45	.42	.38	.36	.42	.49	.30	.87	.62	(.77)	
	7c. FIB_REAL	5.12	1.21	.41	.34	.36	.43	.43	.38	.35	.40	.48	.36	.90	.69	.68	(.88)

Note: All correlations are significant at $p < .01$; except: * significant at $p < .05$, ** not significant. Cronbach's alpha values appear in parentheses along diagonal. PIL was measured as a single item, SID with two items.

Abbreviations: AL, authentic leadership; FIB, followers' innovative behavior; FIB_GEN, idea generation; FIB_PROM, idea promotion; FIB_REAL, idea realization; IL, identity leadership; ILI_ADV, identity advancement; ILI_ENTRE, identity entrepreneurship; ILI_IMPR, identity impresarioship; ILI_PROT, identity prototypicality; PIL, personal identification with the leader; SID, social identification; TFL, transformational leadership.

Goodness-of-fit indicators

The chi-square value tests for exact model fit and indicates a good model fit when it is non-significant (e.g., Geiser, 2011), with the caveat that the chi-square test is sensitive to large sample sizes. It is therefore good practice to complement the chi-square test with additional goodness-of-fit indicators, such as the root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the standardized root mean square residual (SRMR). The comparative fit index (CFI) measures incremental fit whereby values close to .95 are required (Hu & Bentler, 1999). This is because values close to 1 indicate that the model explains the data better than an independence model. The RMSEA tests for approximate data fit, and it should be about .05 or below to indicate close fit (Browne & Cudeck, 1993). The SRMR provides an overall evaluation of the residuals and should be .08 or below (Hu & Bentler, 1999).

Relative importance analysis

To explore the relative importance of different forms of positive leader behavior, we applied relative weight analysis (Tonidandel & LeBreton, 2015). This method allows researchers to "decompose the total variance predicted in a regression model (R^2) into weights that accurately reflect the proportional contribution of the various predictor variables" (Tonidandel & LeBreton, 2015, p. 207), which are often highly correlated. We conducted relative weight analyses for both Models 1 and 2 using the online calculator developed in R by Tonidandel and LeBreton (2015), entering the latent correlation matrix as input for these analyses.

Multilevel moderated mediations

Finally, to test our cultural cluster moderation hypotheses, we constructed eight multilevel models. We employed the maximum likelihood robust estimator (MLR) to ensure the robustness of our results. In each model, we entered country scores for in-group collectivism and power distance as Level 2 moderators of the random slopes of Path A (leadership-identification), Path B (identification-FIB), and the indirect effects (assessed as simple slopes).

We centered our L1 predictors (forms of leadership) using the group mean (country score) and the cultural predictors using the grand mean (Hofmann & Gavin, 1998) approach. Importantly, we tested each leadership form, mediator, and moderator in separate models because a more complex model would violate the parameter:cluster ratio necessary for model identification (cf. Kline, 2013). Finally, we implemented Stride et al.'s (2015) syntax to test main, indirect, and total effects at different levels of our moderator variable. This allows indirect effects to be tested at high (+1SD) and low (−1SD) levels of in-group collectivism and power distance.

RESULTS

Our hypotheses and results are summarized in Table 2. Table 3 presents means, standard deviations, Pearson's *r*, and Cronbach's alpha for the overall data set and grouped by cultural cluster. We first report findings related to Models 1a and 2a in the global data set, and then results

related to Models 1b and 2b in the clustered data set. Finally, we report our multilevel moderated mediation models at the country level (Models 3a–3h, respectively).

Main effects of leadership on FIB (Model 1a) and their relative importance

Model 1a showed an excellent fit to the data ($\chi^2 = 4{,}235.72$ [$p < .001$], $df = 338$, RMSEA = .04, CFI = .97, and SRMR = .02). H1a, which hypothesized that transformational leadership was positively related to FIB above and beyond the three other forms of leadership, was not supported by our data, because although significant, the standardized coefficient sign was negative ($\beta = -.08$, $p < .001$, 95% CI = [−.12, −.04]). Instead, H1b, which predicted a direct positive relationship between authentic leadership and FIB above and beyond the other positive leadership behaviors, was confirmed ($\beta = .08$, $p < .001$, 95% CI = [.04, .11]). Similarly, H1c, which suggested a positive relationship between perceived LMX quality and FIB above and beyond transformational, authentic, and identity leadership, was supported by our data ($\beta = .17$, $p < .001$, 95% CI = [.14, .21]). Finally, H1d, which predicted a direct and positive relationship between identity leadership and FIB, after controlling for the other three forms of leadership, was also supported by our data ($\beta = .05$, $p < .01$, 95% CI = [.02, .09]).

In regard to RQ1, which inquired about which set of positive leadership behaviors would have the higher relative weight on FIB, we found that for our Model 1a, perceived LMX quality had the strongest relative weight (68.69), followed by authentic leadership (13.61), identity leadership (12.03), and finally transformational leadership (5.67). An overview of findings for all culture clusters can be found in Appendix S2.

Indirect effects of leadership and relative importance of social and personal identity for FIB (Model 2a)

Model 2a also showed an excellent fit to the data ($\chi^2 = 4603.75$ [$p < .001$], $df = 412$, RMSEA = .04, CFI = .97, and SRMR = .02). The introduction of our identity-based mediators did not substantively affect the findings of Model 1a, except for identity leadership, which no longer showed a significant main effect.

Table 4 shows that our data provided support for H2a, which predicted a significant unique and positive effect of social identification on FIB ($\beta = .45$, $p < .001$, 95% CI = [.41, .49]), after controlling for the effects of our four positive forms of leadership and followers' personal identification with the leader. Results indicated that the main effect of personal identification with the leader on FIB was significant but negative in sign ($\beta = -.33$, $p < .001$, 95% CI = [−.39, −.27]). Thus, our results did not support H2b, which predicted a unique positive effect of personal identification with the leader on FIB, after controlling for the four leadership behaviors and social identification.

In our meditation model, LMX showed the highest rescaled weight of all our four leadership constructs (7.33), followed by authentic leadership (2.12), identity leadership (1.18), and transformational leadership (0.62). Moreover, social identification had a substantially larger rescaled relative weight (52.30) than personal identification with the leader (15.68). This finding therefore supported Hypothesis H2c. More detailed results are displayed in Appendix S2.

TABLE 4 Standardized estimates and standard errors of Models 1 and 2

Path	All Countries	Anglo cultures	Middle East	Confucian Asia	Eastern Europe	Germanic Europe	Latin America	Latin Europe	Nordic Europe	Southern Asia
	Model 1a	**Model 1b**								
TFL–FIB	−.08*** (.02)	−.05 (.06)	−.12* (.05)	.02 (.07)	−.14 (.09)	.00 (.07)	−.25* (.11)	−.20** (.08)	.01 (.09)	−.04 (.14)
AL–FIB	.08*** (.02)	.17*** (.05)	.03 (.06)	−.11 (.08)	.13 (.09)	.15** (.05)	.22** (.08)	.25*** (.07)	.06 (.07)	−.18 (.18)
IL–FIB	.05** (.02)	−.03 (.05)	.13*** (.03)	.05 (.05)	.14* (.07)	−.10 (.06)	.09 (.08)	.09 (.06)	−.05 (.08)	.29**(.09)
LMX–FIB	.17*** (.02)	.08 (.04)	.14*** (.03)	.31*** (.04)	.22*** (.06)	.09 (.06)	.33*** (.07)	.22*** (.06)	.20*** (.05)	.27** (.09)
	Model 2a	**Model 2b**								
Direct effects										
TFL–FIB	−.06 ***(.02)	−.05 (.06)	−.12** (.05)	−.01 (.07)	−.11 (.09)	.08 (.07)	−.14 (.12)	−.17* (.08)	−.02 (.09)	.13 (.14)
AL–FIB	.09*** (.02)	.20*** (.05)	−.01 (.06)	−.10 (.08)	.16 (.09)	.20*** (.06)	.24** (.08)	.24*** (.07)	.11 (.09)	−.23 (.16)
IL–FIB	.01 (.02)	−.05 (.04)	.09** (.03)	−.04 (.05)	.10 (.06)	−.14* (.06)	−.05 (.08)	.02 (.06)	−.01 (.08)	.06 (.09)
LMX–FIB	.14*** (.02)	.05 (.04)	.10** (.03)	.28*** (.04)	.21*** (.05)	.12 (.07)	.19** (.06)	.20*** (.06)	.15* (.06)	.21* (.09)
First-stage paths										
Mediator 1: SID										
TFL–SID	−.05 (.03)	−.04 (.07)	.05 (.05)	.11 (.07)	−.10 (.11)	−.18* (.09)	−.15 (.14)	−.13 (.11)	.08 (.14)	−.22 (.14)
AL–SID	.01 (.02)	−.05 (.06)	.09 (.06)	−.05 (.07)	−.07 (.10)	−.01 (.07)	.02 (.09)	.09 (.08)	−.04 (.11)	.09 (.17)
IL–SID	.17*** (.02)	.10 (.06)	.13*** (.04)	.27*** (.06)	.17 (.09)	.25*** (.07)	.27* (.12)	.25*** (.08)	.01 (.11)	.37*** (.09)
LMX–SID	.22*** (.02)	.24*** (.05)	.23*** (.04)	.16** (.05)	.22** (.08)	.27*** (.07)	.33*** (.08)	.17** (.07)	.26*** (.07)	.26** (.10)
Mediator 2: PIL										
TFL–PIL	−.01 (.01)	−.05 (.04)	.05 (.03)	.07 (.04)	−.03 (.05)	.01 (.05)	.08 (.07)	−.03 (.06)	.03 (.07)	.08 (.07)
AL–PIL	.11*** (.01)	.06* (.03)	.07 (.04)	.00 (.04)	−.01 (.05)	.11** (.03)	.12** (.04)	.09* (.04)	.10 (.06)	.05 (.09)
IL–PIL	.10*** (.01)	.08* (.03)	.05* (.02)	.17*** (.04)	.11** (.04)	.14*** (.04)	.06 (.06)	.16*** (.04)	.15** (.06)	.02 (.06)
LMX–PIL	.23*** (.01)	.27*** (.03)	.23*** (.03)	.16*** (.03)	.34*** (.04)	.34*** (.04)	.15*** (.05)	.29*** (.04)	.28*** (.03)	.26*** (.06)

(Continues)

TABLE 4 (Continued)

Path	All Countries	Anglo cultures	Middle East	Confucian Asia	Eastern Europe	Germanic Europe	Latin America	Latin Europe	Nordic Europe	Southern Asia
Second-stage Paths										
SID–FIB	.45*** (.02)	.41*** (.04)	.40*** (.04)	.40*** (.04)	.47*** (.06)	.42*** (.06)	.54*** (.07)	.42*** (.05)	.54*** (.06)	.62*** (.09)
PIL–FIB	−.33*** (.03)	−.26*** (.04)	−.20*** (.04)	−.13** (.04)	−.31*** (.05)	−.38*** (.05)	−.29*** (.06)	−.22*** (.05)	−.32*** (.06)	−.38*** (.07)
Specific indirect effects: SID										
TFL–SID–FIB	−.02 (.01)	−.02 (.03)	.02 (.02)	.04 (.03)	−.05 (.05)	−.08* (.04)	−.08 (.08)	−.06 (.04)	.04 (.07)	−.14 (.10)
AL–SID–FIB	.00 (.01)	−.02 (.03)	.04 (.03)	−.21 (.03)	−.03 (.05)	.00 (.03)	.01 (.05)	.04 (.03)	−.02 (.06)	.06 (.11)
IL–SID–FIB	.08*** (.01)	.04 (.02)	.05** (.02)	.11*** (.03)	.08 (.04)	.10** (.03)	.15* (.07)	.10** (.03)	.01 (.06)	.23*** (.07)
LMX–SID–FIB	.10*** (.01)	.10*** (.02)	.09*** (.02)	.06** (.02)	.10** (.04)	.11** (.04)	.18*** (.05)	.07* (.03)	.14*** (.04)	.16** (.06)
Specific indirect effects: PIL										
TFL–PIL–FIB	.00 (.01)	.01 (.01)	−.01 (.01)	−.01 (.01)	.01 (.02)	.00 (.02)	−.02 (.02)	.01 (.01)	−.01 (.02)	−.03 (.03)
AL–PIL–FIB	−.04*** (.05)	−.02* (.01)	−.01 (.01)	.00 (.01)	.00 (.02)	−.04** (.02)	−.03* (.02)	−.02* (.01)	−.03 (.02)	−.02 (.03)
IL–PIL–FIB	−.03*** (.01)	−.02* (.01)	−.01* (.01)	−.02* (.01)	−.04** (.01)	−.05*** (.02)	−.02 (.02)	−.04** (.01)	−.05* (.02)	−.01 (.02)
LMX–PIL–FIB	−.08*** (.01)	−.07*** (.01)	−.05*** (.01)	−.02* (.01)	−.10*** (.02)	−.13*** (.02)	−.04** (.02)	−.06 *** (.02)	−.09*** (.02)	−.10*** (.03)

Note: Standard errors appear in parentheses.

Abbreviations: AL, authentic leadership; FIB, followers' innovative behavior; IL, identity leadership; LMX, leader member exchange; PIL, personal identification with the leader; SID, social identification; TFL, transformational leadership.

*$p \leq .05$.

**$p \leq .01$.

***$p \leq .001$.

As regard our mediation hypotheses, we found that social identification mediated the relationship between perceived LMX quality and FIB ($\beta = .10$, $p < .001$, 95% CI = [.08, .12]), as well as between identity leadership and FIB ($\beta = .08$, $p < .001$, 95% CI = [.05, .10]). All other proposed mediations were either insignificant or even significantly negative. Thus, our data support H5a and H6a, but did not support H3a, H3b, H4a, H4b, H5b, and H6b. Detailed results of all predicted paths can be found in Table 4.

Main effects of leadership on FIB for the clustered data set (Model 1b)

Model 1b also had an excellent fit to the data ($\chi^2 = 7{,}394.38$ [$p < .001$], $df = 3{,}642$, and RMSEA = .04, CFI = .96, SRMR = .06). An overview of the paths of Model 1b can be found in Table 4. The unique effect of transformational leadership on FIB was not significant when controlling for other positive leadership forms in most clusters. We detected a negative effect of transformational leadership on FIB in the Middle East cluster ($\beta = -.12$, $p < .05$, 95% CI = [−.21, −.02]), in the Latin America cluster ($\beta = -.25$, $p < .01$, 95% CI = [−.48, −.03), and in the Latin Europe cluster ($\beta = -.20$, $p < .01$, 95% CI = [−.36, −.05]). After controlling for the other three forms of leadership, authentic leadership had a significant unique effect on FIB in four cultural clusters: the Anglo cultures ($\beta = .17$, $p < .001$, 95% CI = [.07, .27]), the Germanic Europe cluster ($\beta = .15$, $p < .01$, 95% CI = [.05, .26]), the Latin American cluster ($\beta = .22$, $p < .01$, 95% CI = [.06, .38]), and the Latin Europe cluster ($\beta = .25$, $p < .001$, 95% CI = [.12, .38]).

Perceived LMX quality, however, had a strong and positive unique effect on FIB after controlling for the effects of transformational, authentic, and identity leadership in all clusters except the Anglo cluster ($\beta = .08$, *ns*, 95% CI = [−.01, .16]) and the Germanic Europe cluster ($\beta = .09$, *ns*, 95% CI = [−.02, .21]). Finally, a direct positive relationship between identity leadership and FIB, when controlling for the three other forms of leadership, was observed in the Eastern Europe cluster ($\beta = .14$, $p < .05$, 95% CI = [.02, .27]), the Middle East cluster ($\beta = .13$, $p < .001$, 95% CI = [.06, .19]), and the Southern Asian cluster ($\beta = .29$, $p < .01$, 95% CI = [.11, .47]).

Indirect effects of leadership on FIB for the clustered data set (Model 2b)

Model 2b showed an acceptable fit to the data ($\chi^2 = 8{,}412.10$ [$p < .001$], $df = 4{,}356$, and RMSEA = .03, CFI = .96, SRMR = .06). In line with Model 2a, social identification had a significant and positive unique effect on FIB across all culture clusters, beyond personal identification with the leader and the four positive forms of leadership. Personal identification with the leader had a significant and negative unique effect on FIB across cultural clusters when controlling for social identification and the four positive forms of leadership.

Social identification only mediated the effect of transformational leadership on FIB in the Germanic Europe cluster, but this effect was negative ($\beta = -.08$, $p < .05$, 95% CI = [−.15, .00]). Social identification did not mediate the indirect effect of authentic leadership on FIB in any cluster. Instead, social identification mediated the positive effect of perceived LMX quality on FIB in all clusters, with betas ranging from .06 to .18. Finally, social identification mediated the unique effect of identity leadership on FIB in six out of nine culture clusters: Confucian Asia, Germanic Europe, Middle East, Latin America, Latin Europe, and Southern Asia (with betas ranging from .05 to .23).

Personal identification with the leader did not mediate the transformational leadership–FIB relationship in any cultural cluster. The indirect effect of authentic leadership on FIB, as mediated by personal identification with the leader, was significant in the Anglo cultures ($\beta = -.02$, $p < .05$, 95% CI = [−.03, −.00]), Germanic Europe ($\beta = -.04$, $p < .01$, 95% CI = [−.07, −.01]), Latin America ($\beta = -.03$, $p < .05$, 95% CI = [−.06, −.01]), and Latin Europe ($\beta = -.02$, $p < .05$, 95% CI = [−.04, −.00]) clusters. Personal identification with the leader mediated the unique effect of perceived LMX quality on FIB across all cultural clusters, but all indirect effects were negative in sign (with betas ranging from −.02 to −.13). Finally, the specific indirect effect of identity leadership on FIB as mediated by personal identification with the leader was negative in sign and significant in all clusters but Latin America and Southern Asia.

Summing up, three of the four forms of leadership that we studied had a main effect on FIB, the exception being identity leadership, whose effect on innovation was fully mediated by social identification (positive effect) and personal identification with the leader (negative effect). Due to its positive effect on FIB, when controlling for all four positive forms of leadership and personal identification with the leader, social identification proved to be an important and positive predictor of FIB across the globe. However, when controlling for leadership and social identification, personal identification with the leader had a negative effect on FIB. The most consistent result in line with our mediation hypotheses was that the relationship between LMX quality and FIB was mediated by social identification. By comparing our results against the extant literature (Lee et al., 2020), we can argue that our predicted indirect effects are likely to be influenced by moderator variables. In the sections below, we employ a different type of culture-based moderator by focusing on two of the cultural dimensions described in the GLOBE project, namely, in-group collectivism and power distance.

In-group collectivism as a cultural moderator

The results of our multilevel models are displayed in Table 5. In line with H7a, in-group collectivism moderated the association between social identification and FIB in the models including transformational leadership ($B = .04$, $SE = .02$, $p < .05$) and authentic leadership ($B = .04$, $SE = .02$, $p < .05$), whereas this link was not significantly moderated by collectivism in the models including LMX quality and identity leadership. Hence, we found mixed support for H7a: Social identification was more strongly associated with FIB in societies with higher in-group collectivism only for transformational leadership and authentic leadership. H7b remained largely unsupported: In-group collectivism did not moderate the link between the four forms of leadership and social identification (transformational: $B = .03$, $SE = .02$, *ns*, authentic: $B = .03$, $SE = .02$, *ns*, LMX quality: $B = .02$, $SE = .03$, *ns*, identity leadership: $B = .05$, $SE = .03$, *ns*).

Although all indirect effects remained highly significant after the inclusion of in-group collectivism as a moderator,[3] the indirect effects of transformational, authentic, and identity leadership forms on FIB via social identification were moderated by in-group collectivism as proposed in Hypothesis H7c. The indirect effects via social identification were significantly (difference score: transformational: $B = -.04$, $SE = .02$, $p < .05$, authentic: $B = -.04$, $SE = .02$, $p < .05$, identity: $B = -.04$, $SE = .02$, $p < .05$) stronger in countries scoring high on cultural in-group collectivism (transformational: $B = .14$, $SE = .01$, 95% CI = [.12, .16]; authentic: $B = .15$, $SE = .01$, 95% CI = [.13, .17]; identity: $B = .15$, $SE = .01$, 95% CI = [.13, .17]) than in countries scoring low on in-group collectivism (transformational: $B = .10$, $SE = .02$, 95% CI = [.07, .13];

TABLE 5 Cultural moderation and conditional indirect effects for leadership forms and followers' innovative behavior as mediated by social and personal identification (moderators tested separately)

	Followers' innovative behavior					
	Moderator: in-group collectivism			Moderator: power distance		
Mediator: Social identification						
	B	**SE**	**95% CI**	**B**	**SE**	**95% CI**
Transformational leadership						
TFL*Moderator →SID	.03	.02		−.02	.04	
SID*Moderator →FIB	.04*	.02		.05	.04	
Indirect effect difference	−.04*	.02		−.01	.02	
Low moderator (−1SD)	.10***	.02	[.07, .13]	.11***	.02	[.08, .14]
High moderator (+1SD)	.14***	.01	[.12, .16]	.12***	.01	[.10, .15]
Authentic leadership						
AL*Moderator →SID	.03	.02		−.01	.04	
SID*Moderator →FIB	.04*	.02		.05	.05	
Indirect effect difference	−.04*	.02		−.02	.02	
Low moderator (−1SD)	.11***	.02	[.07, .14]	.12***	.02	[.08, .15]
High moderator (+1SD)	.15***	.01	[.13, .17]	.14***	.01	[.11, .16]
Perceived LMX quality						
LMX*Moderator →SID	.02	.03		−.03	.04	
SID*Moderator →FIB	.03	.02		.04	.04	
Indirect effect difference	−.03	.02		−.01	.02	
Low moderator (−1SD)	.11***	.02	[.07, .15]	.12***	.02	[.09, .15]
High moderator (+1SD)	.14***	.01	[.11, .16]	.13***	.01	[.10, .15]
Identity leadership						
IL*Moderator →SID	.05	.03		.00	.05	
SID*Moderator →FIB	.03	.02		.00	.04	
Indirect effect difference	−.04*	.02		.00	.02	
Low moderator (−1SD)	.11***	.02	[.08, .14]	.13***	.02	[.10, .16]
High moderator (+1SD)	.15***	.01	[.13, .17]	.13***	.01	[.10, .15]
Mediator: Personal identification						
	B	**SE**	**95% CI**	**B**	**SE**	**95% CI**
Transformational leadership						
TFL*Moderator →PIL	−.02	.05		.02	.06	
PIL*Moderator →FIB	.04	.07		.05	.05	
Indirect effect difference	−.05	.08		−.03	.03	
Low moderator (−1SD)	.10*	.04	[.02, .19]	.11***	.02	[.06, .16]
High moderator (+1SD)	.15***	.04	[.08, .23]	.14***	.02	[.11, .18]

(Continues)

TABLE 5 (Continued)

Mediator: Personal identification						
	B	SE	95% CI	B	SE	95% CI
Authentic leadership						
AL*Moderator →PIL	−.02	.03		.04	.09	
PIL*Moderator →FIB	.04*	.02		.06	.05	
Indirect effect difference	−.05*	.02		−.04	.04	
Low moderator (−1SD)	.10***	.02	[.06, .15]	.11***	.03	[.05, .16]
High moderator (+1SD)	.16***	.01	[.13, .18]	.15***	.02	[.11, .19]
Perceived LMX quality						
LMX*Moderator →PIL	−.01	.03		.04	.08	
PIL*Moderator →FIB	.03	.02		.05	.05	
Indirect effect difference	−.04	.03		−.03	.03	
Low moderator (−1SD)	.08**	.02	[.04, .13]	.08**	.03	[.03, .13]
High moderator (+1SD)	.12***	.02	[.09, .15]	.12***	.02	[.08, .15]
Identity leadership						
IL*Moderator →PIL	−.02	.05		.00	.26	
PIL*Moderator →FIB	.03	.02		.01	.10	
Indirect effect difference	−.04	.02		−.01	.09	
Low moderator (−1SD)	.11***	.02	[.07, .15]	.12***	.03	[.07, .18]
High moderator (+1SD)	.14***	.02	[.10, .19]	.13*	.06	[.00, .25]

Note: For parsimony, this table only reports moderation on paths a and b as well as conditional indirect effects; the full regression coefficients are available from the corresponding author. Standard MLR estimator was used. Indirect effect difference: difference in indirect effect between contexts with low vs. high scores of the cultural moderator.
Abbreviations: AL, authentic leadership; B, unstandardized coefficient; FIB, followers' innovative behavior; IL, identity leadership; LMX, leader member exchange; PIL, personal identification with the leader; SID, social identification; TFL, transformational leadership.
*$p < .05$. **$p < .01$. ***$p < .001$.

authentic: $B = .11$, $SE = .02$, 95% CI = [.07, .14]; identity: $B = .11$, $SE = .02$, 95% CI = [.08, .14]). The indirect effects of LMX quality on FIB via social identification were not significantly moderated by in-group collectivism (see Table 5).

Although not hypothesized, in-group collectivism also moderated the association between personal identification with the leader and FIB when authentic leadership was included in the model ($B = .04$, $SE = .02$, $p < .05$). The indirect effect was significantly (difference score $B = -.05$, $SE = .02$, $p < .05$) stronger in contexts with high levels of in-group collectivism ($B = .16$, $SE = .01$, 95% CI = [.13, .18]) than in less collectivistic contexts ($B = .10$, $SE = .02$, 95% CI = [.06, .15]).

Power distance as cultural moderator

There was little support for Hypotheses H8a, H8b, or H8c, as power distance neither moderated the link between personal identification with the leader and FIB nor the association between

positive forms of leadership and personal identification with the leader. Hence, the indirect effects via personal identification with the leader were also not moderated by power distance (see Table 5). Although not hypothesized, our results also indicate that power distance moderated neither the relationship between the leadership forms and social identification nor the relationship between social identification and FIB.

Overall, then, our results support our Hypotheses H7a in the case of authentic and transformational leadership and H7c in the case of authentic, transformational, and identity leadership, whereas the effect of perceived LMX quality on FIB was universally endorsed across cultural clusters and less affected by cultural influences as Hypotheses H8a, H8b, and H8c were not supported by our data.

DISCUSSION

The present research sought to extend our understanding of the relationship between leadership and FIB by focusing on underlying mechanisms and moderators. To this end, we conducted a series of secondary analyses of the first GILD project data set combined with data from one of the GLOBE studies (GLOBE, 2020), using SEM models and multilevel moderated mediation analyses.

Our findings show that all forms of leadership—with the exception of transformational leadership—had unique positive main effects on FIB beyond the other three forms of leadership. Similarly, social identification had a unique positive effect whereas personal identification with the leader had a unique negative effect on FIB. In terms of indirect effects, both social identification and personal identification with the leader acted as parallel mediating mechanisms, but with opposite effects. While the indirect effect as mediated by social identification was positive by trend, the indirect effect as mediated by personal identification was negative in many cases.

When integrating the findings from the cultural clusters and the culture moderation analyses, at least two things become apparent. First, the link between social identification and FIB was moderated by collectivism for transformational and authentic leadership only. At the same time, the analysis of cultural clusters showed that it was only the mediation between these two forms of leadership and FIB through social identification that did not hold internationally. As transformational and authentic leadership had weaker relationships with social identification than LMX quality and identity leadership, our findings suggest that when transformational and authentic leaders have a weaker influence on their followers' social identification, culture (i.e., in-group collectivism) plays a larger role in the social identification-FIB link than is the case when leaders have a larger impact on social identification (i.e., as is the case with identity leaders, and leaders who engage in high-quality LMX). This finding indicates that the degree to which culture plays a role in FIB partly depends on the behaviors that leaders display. Accordingly, if one is concerned about minimizing the effects of culture (e.g., when leading global teams), then LMX quality or identity leadership may represent more reliable approaches to pursue than transformational or authentic leadership.

Second, in-group collectivism moderated the relationships between all forms of leadership other than LMX quality and FIB. Similarly, LMX quality had the strongest positive relationship with FIB in most culture clusters, while the impact of other leadership forms varied. On this basis, we can conclude that LMX quality is less affected by culture than the other three forms of leadership. Relationship quality in leader–follower relationships is therefore important for innovation across the globe notwithstanding a culture's enthusiasm for collectives and hierarchies.

Theoretical Contributions

The present research advances the leadership literature in three substantive ways. First, our study responds to Fischer et al.'s (2017) call for multi-process models that explore the relative or incremental impact of different forms of leadership on relevant individual and organizational outcomes. Our research also responds to a more specific call to explore the relative importance of different forms of leadership for innovative behavior (Hughes et al., 2018). Nevertheless, it would be interesting for future studies to explore the comparative effects of different forms of positive leadership on other organizational metrics (Monzani & van Dick, 2020), such as firm performance, or turnover.

Second, by exploring the role of social identification and personal identification with the leader, we were able to unpack the identity-based mechanisms that link leadership to FIB. Importantly, this unpacking allowed us to challenge the prevailing leader-centric view that, among identification-based mechanisms, personal identification with a leader is a stand-alone facilitator of innovation at work (e.g., Hughes et al., 2018; Qu et al., 2015). Instead, our analyses of the relative importance of different factors indicated that social identification is a more relevant and consistent construct in eliciting FIB than personal identification with the leader. Future studies might want to explore these parallel identification-based mechanisms in more detail to confirm (or challenge) our findings.

In this regard, one counterintuitive finding that emerged from our study was that personal identification with the leader suppressed the positive effect of leadership on FIB. This aligns with the conclusions of Hughes et al.'s (2018) review, which pointed to inconsistent evidence regarding the role of identification in follower innovation. However, it provides novel insights that might account for this. For while positive forms of leadership have moderate to strong unique main effects on FIB, these positive effects might be suppressed if the leader triggers an identification process with the wrong target (i.e., with themselves as an individual rather than with the group). As suggested by Haslam et al. (2013), the inherently social nature of creativity and innovation requires leaders to focus their energies on enabling followers to feel they belong to something larger than themselves. In this context, then, it is not surprising that the relationship between identity leadership and FIB was fully mediated by social identification.

Third, we contribute to the leadership literature by applying insights from cross-cultural leadership research to test boundary conditions of leadership-identification-FIB links. Here, our findings showed that the identification process through which leadership fosters FIB was generalizable across cultures, while at the same time in-group collectivism enhanced the meaning and effectiveness of social identification in this process. These findings indicate that generalizability and universality of process do not necessarily preclude cultural variation. This is an important insight in the context of concerns about replicability and cross-cultural applicability (e.g., van Bavel et al., 2016). Our global sampling is also an important step forward considering that most of the previous research on this topic has been conducted in Western societies. So, for instance, 86% of studies published in the *Journal of Applied Psychology* between 1995 and 2008 used samples from North America, making most of the non-English-speaking world grossly underrepresented (Shen et al., 2011). The present study therefore speaks to suggestions that Western models may have limited applicability to other cultures (e.g., Hofstede, 1980) and answers the call for more integrative (and inclusive) approaches to theory building (Avolio, 2007).

In addition to these contributions, our study also generated a counterintuitive finding concerning the negative or insignificant contribution of transformational leadership to some

outcomes. In line with this finding, Hughes et al. (2018) found similar patterns and referred readers to a study by Miao et al. (2012). One potential reason might be that, on its own, leader charisma may be intimidating or confusing for followers. And this may mean that without the support of other positive characteristics such as relational transparency, a strong and positive moral compass, or balanced processing of information, followers might be less (rather than more) motivated to share their innovative ideas with their leader. Consider, for example, the case of Steve Jobs. While he was both highly charismatic and highly innovative (Shah & Mulla, 2013), numerous personal accounts suggest that employees were often terrified of sharing their innovative ideas with him for fear of how he might respond (Becraft, 2016).

We can support the above logic from a more psychometric perspective too. In the data set employed for our statistical analyses, while authentic leadership was measured using a sselected number of items of the ALQ (Walumbwa et al., 2008), transformational leadership was not measured using its mainstream instrument (the MLQ; Bass & Avolio, 1995). At first glance, this might seem trivial, but by using a measure of transformational leadership that was based on a conceptualization of transformational leadership other than the full-range leadership model (Carless et al., 2000), we aimed to be better able to distinguish between the unique contribution of followers' attributions of charisma to their leader and their attributions of authenticity (Banks et al., 2016). Here, then, our data suggest that, when prized apart from other aspects of transformational leadership, leader charisma may stifle engaged followership.

Practical implications

Johann Wolfgang von Goethe's dictum that *there is strong shadow where there is much light* summarizes well the practical implications of our work. While organizational stakeholders tend to depict visionary managers as the main drivers of innovation, our findings suggest the opposite to be true. More particularly, the results of our study show that merely appearing as a charismatic figure (i.e., a bright light) for others to imitate (eliciting personal identification with the leader) may actually prevent collaborators from displaying their own innovative brilliance. Instead, our findings suggest that followers will develop brighter ideas if they identify with a relevant social group (their team/organization). These findings confirm the proposition that innovation is an inherently social phenomenon that is grounded in team members' identification with, and desire to advance, their group (Haslam et al., 2013). As we mentioned earlier, for any innovation to be useful, it must advance (and be seen by others as advancing) the functioning or outcomes of a project team or collective unit.

Accordingly, to encourage this innovation, it is always going to be important for project or team leaders to focus their development efforts on building social identification. More specifically, on the basis of the present findings, we recommend that leaders focus on identity leadership and LMX quality as both are key drivers of social identification and this was observed to have the strongest impact on FIB.

At the same time, though, if they pursue other approaches leaders need to ensure they are sensitive to the culture in which they will operate. For instance, it appears that transformational leaders may have a negative effect on FIB in Latin America. Related to this, Monzani (2018) describes a tradition of *pseudo*-transformational leadership in South America, and more specifically, Argentina. In line with the foregoing discussion, we would argue that this is because, on its own, charisma can be more about the leader than it is about the group (Barling et al., 2008; Bass & Steidlmeier, 1999).

Limitations and future research

The most obvious limitation of the present research is that our data were cross-sectional and hence preclude causal inference. Nevertheless, as our modeling aligns with extant theorizing on leadership and innovative behavior, we relied on existing theory to make causal predictions. Importantly, some of this research has been supported by experimental studies in which it has been possible to isolate causal relationships pertinent to the present analysis (Hughes et al., 2018). We also endeavored to address concerns about common-method variance by employing the ULMC technique (Richardson et al., 2009).

At the same time, the simultaneous testing of different identification targets was a strength of our study. Here too, though, the shared variance between personal identification with the leader and social identification might be masking the true direction of the effect of personal (or social) identification as a mediating mechanism. Accordingly, our results regarding the negative effect of personal identification with the leader need to be treated with caution. Nevertheless, the mixed impact of personal identification with the leader as a mediating mechanism between leadership and innovation aligns with previous observations and affords some nuanced insight into the relevance of different forms of identification for the innovation process.

The study also had a number of measurement-related limitations. First, our identification variables were measured with only three items and might therefore be susceptible to measurement error (but see Postmes et al., 2013, for reassurance regarding the robustness of single-item identification measures). Second, despite representing all four dimensions of authentic leadership, we did not use the full-length survey of authentic leadership, which may partly explain its weaker role in our findings.

We suggest that future work in this area aimed at replicating or retesting our findings use full-length scales collected at several time points to reduce potential measurement error and multicollinearity. Further complementing our research, it would be relevant to collect data on the tenth culture cluster from GLOBE (Sub-Saharan Africa) and to include other forms of leadership that might be considered relevant in specific cultures. For example, it would be interesting to explore the correlates of paternalistic leadership in Asia (e.g., Cheng et al., 2004, 2014).

Finally, while our work focused on simultaneously testing four positive forms of leadership, it would be interesting to contrast these effects with those of less positive forms (e.g., the contingent reward dimensions of transactional leadership; Lee et al., 2020, or even destructive leadership; e.g., Padilla et al., 2007). Doing so would not only round out our analysis but help to ensure that we adequately capture and understand the contexts in which leadership not only fails to stimulate creativity but can stymie it. As Alvesson et al. (2016) observe, it is a mistake to imagine that leadership is a universal good, and we need to do a better job of understanding when and why this is the case.

CONCLUSION

> A dream you dream alone is only a dream. A dream you dream together is reality.
> Yoko Ono / John Lennon

Fostering innovation is a key goal for leaders around the world today. In the present study, we explored two identity mechanisms through which leaders have been argued to encourage followers to engage in innovative work behavior. Our findings suggest that positive leader

behavior and FIB are related across the globe—either directly when leaders establish high-quality exchanges with their followers or via social identification. The bottom line here is that leadership and innovation go hand in hand. More particularly, though, it appears that followers' innovation is bound up with leadership that fosters those followers' social identification—so that leadership and followership are inspired by the same dream and ultimately become part of the same reality.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

ETHICS STATEMENT

The study was conducted according to the guidelines of the Declaration of Helsinki. Ethical review and approval were obtained from the London School of Ecomoics, London, UK (Ref: 07404).

DATA AVAILABILITY STATEMENT

As indicated in the paper's method section, our final dataset, scripts, and outputs are available at: https://bit.ly/3u4JthV.

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ENDNOTES

[1] The GILD data sets are publicly available online (at https://www.goethe-university-frankfurt.de/73333995/Data).

[2] Originally, team identification was measured with four items, but as organizational and personal identification with the leader were single-item measures, we decided to use the one item from the team identification scale that was closest to the other two items. Despite smaller differences, most relationships in the models are similar using the four-item team identification scale.

[3] These findings do not contradict the results from Model 2 above, because in Models 3a–3h, the indirect effects were tested separately, and not combined, as in Models 2a and 2b.

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