Diversity, climate and innovative work behavior

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Abstract

Purpose – The purpose of this paper is to extend current discussion on the drivers of innovative work behavior (IWB) by exploring how individual perceived diversities (visible dissimilarity and cognitive group diversity) and climates (team/clan and innovative/entrepreneurial) impact IWB.

Design/methodology/approach – Data had been collected from a cross-national study of working professionals ($n = 584$) from five different cultural contexts.

Findings – Findings of this study indicated that cognitive group diversity mediated the negative relationship between visible dissimilarity and IWB. Further, both innovative/entrepreneurial and team/clan climates moderated the relationship between visible dissimilarity and cognitive group diversity. Such a moderation effect reduced the negative effect that visible dissimilarity had on IWB.

Research limitations/implications – A cross-sectional single-source data set.

Practical implications – From a managerial perspective, climates (team/clan and innovative/entrepreneurial) are central for IWB in the diverse (visible and cognitive) working environment. Thus, organizations should pay attention to create a climate (team/clan or/and innovative/entrepreneurial) that reduces the negative impact of perceived diversity in the working environment while supporting IWB.

Originality/value – This study is the first of its kind that is based on social categorization theory, empirically examining how different types of diversity (visible dissimilarity and cognitive group diversity) simultaneously reduce individuals' IWB. Furthermore, this paper provides insights that climates (team/clan and innovative/entrepreneurial) are crucial for IWB in the diverse working environment.

Keywords Visible dissimilarity, Cognitive group diversity, Innovative work behavior, Team/clan climate, Innovative/entrepreneurial climate, Social categorization theory

Paper type Research paper

Introduction

Employees' ability to continuously innovate products and processes is more than ever crucial for organizations due to the rapid changes occurring in the global markets that require proper addressing in organizations (Anderson *et al.*, 2014; West, 2002; De Jong and Den Hartog, 2010). In addition, in the last two decades, globalization and demographic (age, sex, race, etc.), sociographic (culture, education, religion, etc.) and psychographics (thinking styles, attitudes, mindsets, etc.) changes in the workforce have increased the heterogeneity of the labor force (Agrawal, 2012). Heterogeneity is a double-edged sword (Zhou and Hoever, 2014). It can encourage cross-culture contamination, and it can also determine situations of misunderstanding, fear and balkanization of individuals and groups (e.g. Harrison and Klein, 2007; Horwitz, 2005; Horwitz and Horwitz, 2007; Ozgen *et al.*, 2013).

Hence, managers need to balance two conflicting objectives. On the one hand, nurturing the innovative work behavior (IWB) of their employees by encouraging individuals in generating, modifying, communicating and implementing novel ideas, and on the other hand, understanding how to manage diversity to avoid the negative impact of different types of diversity on employees' IWB (e.g. Anderson *et al.*, 2014; Afsar and Umrani, 2019; Kemeny 2012; Nathan and Lee 2013; Østergaard *et al.*, 2011; Ozgen *et al.*, 2013; Parrotta *et al.*, 2014; Van Knippenberg *et al.*, 2004). The study by Williams and O'Reilly (1998) advanced the hypothesis that diversity may struggle to turn on innovation because while triggering creativity (invention), it may fail in supporting the implementation (innovation) phase. Besides, academic research digging the relationship between diversity and the IWB of individuals has privileged or the visible level of diversity (age, gender, race/ethnicity and tenure) or the deep level (knowledge, personality traits, etc,), omitting to explore the interrelation between the two (Chen *et al.*, 2010; Guillaume *et al.*, 2017; Korzilius *et al.*, 2017; Tongchaiprasit and Ariyabuddhiphongs, 2016). However, a gap exists in prior research related to reconciling contrasting results that explored the relationship between diversity and IWB as well as to examine its potential boundary conditions, especially with regards to organizational climate.

This paper aims to extend prior research and to explore the following questions: (a) *how do different dimensions of dissimilarities (visible and cognitive) jointly predict IWB?* And (b) *whether and how internal climate (distinguishing between innovative/entrepreneurial and team/clan climate) shapes the effects of diversity on IWB?* In particular, we propose that climate can moderate the relationship between visible and cognitive dissimilarities, and in this way, it can also moderate the relationship between diversity and IWB.

We base our assumptions on social categorization theory (Turner *et al.*, 1987) by predicting that individuals will first categorize "us" versus "them" based on visible dissimilarity. This will then further trigger categorization based on cognitive diversity and will in turn relate negatively to IWB. We then deepen the psychological mechanisms behind this process and provide evidence that the climate in which individuals propose new ideas and solutions impacts the effect of cognitive diversity on visible dissimilarity and IWB.

This paper attempts to make several important contributions to innovation and diversity literature. First, we provide evidence of the negative relationship between diversity and IWB, and in particular, we also advance our understanding of how different types of dissimilarity (visible and cognitive) interact and impact employees' IWB. As such, we extend previous research on diversity and its impact on innovation (Zhou and Hoever, 2014). Second, by linking visible and cognitive diversities with IWB, we respond to the call by Van Knippenberg *et al.* (2004) to additionally examine complex or possibly inconsistent effects of diversity on innovation. Third, by providing evidence that cognitive diversity mediates the relationship between visible dissimilarity and IWB, we add to previous evidence for the positive association between cognitive diversity and innovation (Chen *et al.*, 2019). Fourth, most studies have only centered on task-relevant actions as mediators to identify the positive association between cognitive diversity and creativity and examined few contextual factors

(Shin *et al.*, 2012; Wang *et al.*, 2016). Thus, by exploring how the context (innovative/entrepreneurial and team/clan climate) strengthens the mediating effect of cognitive group diversity between visible dissimilarity and IWB, we start a conversation on the kind of environment (climate) supports the positive role of cognitive diversity for IWB, thereby answering a recent call from Chen *et al.* (2019).

The research model is presented in Figure 1, followed by the development of hypotheses tested in our paper. We use multiple methods and locations to test our hypotheses reporting data from a field study of working professionals (*n* = 584) from five different cultural contexts (Italy, India, Slovenia, the Republic of North Macedonia and multinational small and medium-sized enterprises [SMEs]).

Theoretical background and hypotheses development

In their social categorization model of diversity and its impact on innovation, Van Knippenberg *et al.* (2004) highlighted that each type of diversity has both positive and negative effects on innovation. Thus, we first need to distinguish between different types of diversity that are relevant for IWB. While objective diversity (e.g. the degree of dissimilarity based on the demographic composition of work teams; Jansen *et al.*, 2017) is connected to positive and negative consequences (Van Knippenberg *et al.*, 2004; Williams and O'Reilly, 1998), perceived dissimilarity has negative consequences in terms of job-related outcomes (Harrison *et al.*, 2002; Liao *et al.*, 2008; Zellmer-Bruhn *et al.*, 2008). Several studies have indicated that perceived dissimilarity has stronger effects than actual dissimilarity (Hobman *et al.*, 2004; Turban *et al.*, 1988; Strauss *et al.*, 2001).

Hobman *et al.* (2003, 2004) divided perceived dissimilarity into visible (including attributes such as age, gender and ethnicity), informational–professional (profession, education, professional background, tenure and work experience) and value dissimilarities (work ethic, work values and motivations, personal interests, attitudes, etc.). In line with their definition, we will divide between surface- (relatively visible or readily detected) and deep-level (less visible or underlying) diversities such as beliefs and values. Employees may assume that those, who are visually different, would also have different mindsets, values, beliefs, etc. Even though this is usually true, surface- and deep-level dissimilarities do not necessarily overlap (Sahin *et al.*, 2019). For employees they both may look different than others at work (e.g. skin color suggesting a different ethnicity) and hold different values to them, but it is also possible that they look very similar, yet hold different values or that they look very different, yet hold the same values (Sahin *et al.*, 2019).
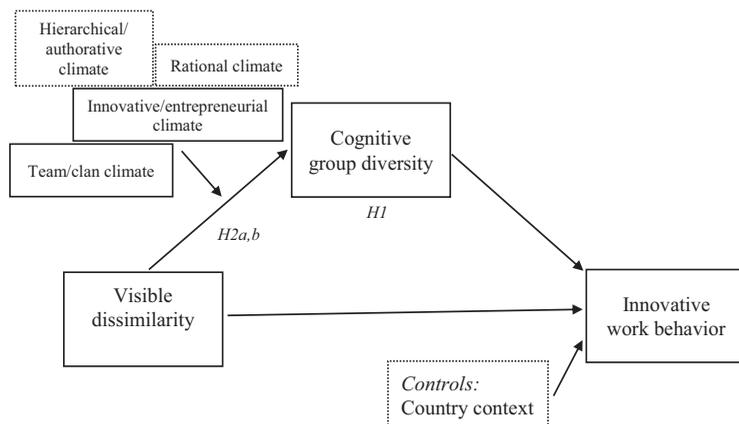

Figure 1.
The hypothesized model

In addition, researchers (e.g. Shore *et al.*, 2011; Sahin *et al.*, 2019) indicated that different dimensions of dissimilarity also differently influence the outcome variables and/or their effects depending on different moderating factors. As Sahin *et al.* (2019, p. 2) explained, "even though prior work suggests that surface-level and deep-level dissimilarity are both negatively related to work outcomes, the ways in which they impact employees are likely to differ." Thus, in our research, we will differentiate between surface (visible) diversity and deep (cognitive) diversities. We define visible dissimilarity as the diversity that is associated with demographic variables that are most likely visible to teammates, such as age, gender, race/ethnicity and tenure (Harrison *et al.*, 2002). And in line with Van der Vegt and Janssen (2003), we define cognitive group diversity as perceived differences in knowledge, values and skills between individual team members.

Diversity is often associated with negative outcomes such as fewer social interactions and negative team cohesion due to the social categorization (Van Knippenberg *et al.*, 2004). Individuals usually start their initial social categorization process ("we" against "others") based on surface-level attributes (e.g. age, gender, sexual orientation, disabilities, racial background, etc.). They tend to be more comfortable when they interact with those whom they perceive to be similar to them. As such, due to the social categorization process, individuals who are visibly dissimilar (non-prototypical) in a working environment may be classified as out-group members and thus, they will neither be engaging in collaboration nor exchanging information with other colleagues. In addition, the similarity-attraction perspective (Byrne, 1997) stresses that due to the visible differences, individuals may self-segregate into minority subgroups, which detaches employees from others at work and that in turn has other negative influences on desired work-related outcomes (Guillaume *et al.*, 2017). Also, research indicates that due to employees' perceived dissimilarity, objective differences and adverse stereotypes about dissimilar co-workers (Fujimoto *et al.*, 2013; Hofhuis *et al.*, 2016; Shaban, 2016), groups of "we" against "them" leads to less social cohesion, relational conflicts and miscommunication.

However, the circulation of knowledge and information nurtures IWB (Maqbool *et al.*, 2019), while knowledge sharing enhances the creative problem-solving capacity of individuals (Carmeli *et al.*, 2013) and can in turn trigger an employee's own idea generation (Paulus *et al.*, 2001). IWB is defined as individuals' behavior that encompasses idea generation, creating support for ideas and idea implementation (e.g. Scott and Bruce, 1998; Janssen, 2000). Idea generation, idea championing and idea implementation as part of IWB are inherently embedded within social contexts (see Anderson *et al.*, 2014; Škerlavaj *et al.*, 2014), while the incorporation of diverse kinds of information and knowledge broadens individual perspectives and facilitates the generation and implementation of new ideas (Perry-Smith and Shalley, 2003). Diverse (visibly and cognitively) individuals in teams can challenge each other's ideas and this might induce discussion, reanalysis and debate processes that are crucial for all stages of IWB (Pelled *et al.*, 1999). As such, diverse colleagues represent a key cognitive attribute that can stimulate individual IWB. However, based on the social categorization process, we predict that visibly dissimilar employees may face additional difficulties in cooperating with their co-workers due to discouraging communication, distrust and less knowledge sharing, and thus, individuals will be less likely engaged in the IWB. We take a step further and predict that visible dissimilarity will further trigger social categorization due to the depersonalization process (Hogg and Terry, 2000) and cognitive group diversity and that will in turn minimize IWB.

The mediating role of cognitive diversity in the visible dissimilarity and innovative work behavior relationship

The majority of the research studies on social categorization have focused on single-group membership (e.g. gender or nationality); however, most of us belong to multiple groups

simultaneously and thus, people can be categorized into multiple groups (Van Rijswijk and Ellemers, 2002; Crisp *et al.*, 2001; Loh *et al.*, 2010). For example, the same person can be categorized as a man, psychologist or as a US citizen. Being less visible, cognitive diversity can be quickly overlooked in the social categorization process, even though it is very important, especially for creativity and IWB, while it can also enable the synthesis of different knowledge bases, perspectives and opinions necessary to solve difficult problems or come up with novel solutions and innovation (Aggarwal and Woolley, 2018; Ellemers and Rink, 2016; Hong and Page, 2001; Mello and Rentsch, 2015; Uzzi *et al.*, 2013; Woolley *et al.*, 2008). Based on this notion, we predict that visible dissimilarity and cognitive group diversity together can create multiple subgroups (e.g. ethnicity memberships and workgroup knowledge) due to the social categorization and have a negative impact on IWB in the diverse working environment.

In line with Guillaume *et al.* (2012), we propose that individuals are most likely to start their initial categorization of others based on surface-level attributes and visible dissimilarity and continue to categorize on in-group out-group members based on cognitive group diversity, while "people use accessible categories to make sense of their social context" (Hogg and Reid, 2006, p. 12). More specifically, if the initial fit of the categorization is poor (e.g. similarities and differences do not correspond to people's gender, and people do not behave in gender stereotypical ways), individuals will further engage in the categorization process based on other accessible categorizations (e.g. knowledge or profession) until they reach an optimal level of fit with in-group members. Thus, individuals are motivated to make further categorization that favor the in-group fit, while the in-group membership reduces feelings of uncertainty about their sense of self (Hogg, 2000; Hogg and Terry, 2000) and because it contributes to their feelings of competence (self-efficacy; Mael and Ashforth, 2001; Brickson, 2013).

In addition, we proposed that initial categorization based on visible dissimilarity might trigger further categorization based on cognitive group diversity due to the depersonalization process. When group members categorize themselves and others in terms of a higher-order identity, it is more likely that they will depersonalize out-group members rather than perceiving and valuing their unique individuality (Hogg *et al.*, 1995). We predict that depersonalization will further simulate individuals to categorize their own co-workers based on cognitive diversity. Thus, in order to feel safe and self-efficient, individuals will more likely form multiple social categories and create multiple identity subgroups based on visible and cognitive dissimilarities in the same team (see Carton and Cummings, 2012).

This goes hand in hand with proximity economics (Aguilera *et al.*, 2012), distinguishing between spatial (geographic) and nonspatial proximities (i.e. cognitive, organizational, social and institutional, Boschma, 2005) and corresponding either to a system of joint belonging or to a system of similarity (Rallet and Torre, 2005). A set of studies (see Aguilera *et al.*, 2012) showed a positive correlation between all nonspatial proximities (including cognitive proximity) and collaborative innovation, where nonspatial proximities are even more relevant than geographic proximity. The literature on proximity suggests that nonspatial proximity (such as cognitive diversity) is much more critical in coordination processes, especially when interactions are complex. The role of nonspatial proximities in coordination is supposed to be the highest when coordination requires the exchange also of tacit knowledge (Aguilera *et al.*, 2012), which is highly important for IWB and innovative organizations (Nonaka and Takeuchi, 1995). However, the creation of multiple identity subgroups based on visible and cognitive dissimilarities will probably increase the nonspatial proximity and that will in turn have a negative impact on IWB.

Research shows that social categorization (connected to social proximity or distance) and its creation of multiple subgroups have a negative impact on individuals' work performance (Pelled *et al.*, 1999), group processes (Guillaume *et al.*, 2013; Guillaume *et al.*, 2014) and minimize interactions in diverse workgroups, such as sharing and elaborating on creative ideas (Van

Knippenberg *et al.*, 2004). For example, Loh *et al.* (2010) revealed that individuals indeed created multiple subgroups (e.g. cultural group and workgroup membership, organizational status, etc.) in the working environment and that individuals trusted and cooperated in work more with in-group members than with out-group members. Thus, out-group members in teams have difficulty in accessing useful information, which in turn can harm trust-based relationships in teams. This can trigger relationship conflict and consequently impede innovation (Jehn *et al.*, 1999; Van Knippenberg and Schippers, 2007). In addition, tacit knowledge as an important cognitive attribute in IWB will most likely be difficult to be shared, especially when employees create multiple subgroups, lack personal commitment and do not have a sense of identity with their teams (Nonaka and Takeuchi, 1995).

Thus, as Chen *et al.* (2019, p. 675) explained, "cognitive diversity can cause employees to engage in irrational tit-for-tat responses (categorization process), thus impeding the development of creative activities." In addition, their empirical evidence shows that cognitive diversity is negatively related to the IWB, such that cognitive diversity is negatively and indirectly related to IWB through relationship conflict.

Moreover, Bogilović *et al.* (2017) explained that the social categorization process of in-groups and out-groups can increase reciprocal knowledge hiding and thus have negative consequences on individuals' and teams' creativity. As such, it is more likely that social categorization due to the visible dissimilarity and cognitive group diversity will provide individual members with more disadvantages than benefits because individuals will not engage in the social interactions with out-group members and thus will not participate in various ideas, knowledge and perspectives exchange with out-group members (Harrison and Klein, 2007; Van Knippenberg *et al.*, 2004; Shin *et al.*, 2012). However, only through intensive knowledge exchange, employees can identify work-related problems and improve their knowledge bases regarding those problems to generate new creative ideas (Frese and Fay, 2001; Gong *et al.*, 2012; Grant and Ashford, 2008). As Edmondson (2003) explained if employees do not share new ideas, opinions, thoughts and concerns, this may in turn hamper their own innovation capability.

Besides, only if communication flows smoothly and openly, tacit knowledge can be shared and converted into explicit knowledge (articulation) and then embodied in new ideas. Through the experience of creating a new product or implementing new solutions, team members enrich their own tacit knowledge base (internalization) and thus, new innovative solutions can be born. As such, the employees' sense of identity identification with co-workers is crucial for sharing tacit knowledge and IWB while having the feeling of being close to one another (considering also cognitive dimension of proximity) since Nonaka and Takeuchi (1995) emphasized that creating new knowledge depends on tapping the tacit and often highly subjective insights and hunches of individual employees. However, if individuals will not engage in social interactions and share their tacit knowledge with out-groups, the idea generation as part of the IWB process will most likely be harmed.

The lack of communication and knowledge sharing – due to the presence of multiple subgroups in teams – will not hurt only idea generation and idea champion dimensions of IWB but also idea implementation dimension of IWB. Idea implementation is to a large extend a sociopolitical process maneuver in teams (Baer, 2012) as it encompasses both collaboration and "selling" ideas among colleagues (Axtell *et al.*, 2000) in order to collect support and resources. Consequently, if individuals want to implement their ideas, they need to use relevant strategies and approaches in order to convince colleagues that their ideas should be implemented (Van de Ven, 1986). Individuals who work in multiple subgroups will most likely minimize interactions due to the visible and cognitive diversities and this would enable them to "sell" ideas to others and ultimately implement them.

Also, a recent research study (Maqbool *et al.*, 2019) showed that employees' silence (avoiding communicating ideas, information, concerns, questions, comments and opinions

due to different reasons) is negatively related to IWB. Thus, we predict that visible dissimilarity leads to cognitive group diversity as individuals will focus more on the social categorization process and creation of multiple subgroups than on relevant tasks and knowledge, information and opinion exchange with their diverse colleagues and that will have a negative impact on IWB. Therefore, we propose the following hypothesis:

H1. Cognitive group diversity mediates the negative relationship between visible dissimilarity and IWB.

The moderating role of innovative/entrepreneurial and team/clan climates
IWB (see Anderson *et al.*, 2014) and diversity (Guillaume *et al.*, 2014) are heavily influenced by different organizational climates via motivational processes as they signal employees about which behaviors their employer rewards and which ones are sanctioned (Lindell and Brandt, 2000; Zohar, 2000). According to West's (1990) model, climate can stimulate innovative behavior if (1) vision is understandable, valued and accepted by the team members, (2) team members perceive that they can propose new ideas and solutions without being judged or criticized, (3) there is a stimulating debate and discussion of different possible solutions within the team which at the same time will more likely be carefully examined and finally, (4) team members perceive support for innovation (Anderson and West, 1998; West, 1990). Thus, for IWB, it is crucial that through organizational climate, individuals perceive that organizational signals which innovation activates are appreciated and rewarded (Chen *et al.*, 2019). Although multiple types of climate can be distinguished, such as climates for service, support, innovation, safety and others (Schneider *et al.*, 1998), the current study focuses on innovative/entrepreneurial and team/clan climates.

Innovative/entrepreneurial climate is defined "as the shared perceptions of location members concerning the practices, procedures, and behaviors that promote the generation, introduction, and realization of new ideas" (Van der Vegt *et al.*, 2005, p. 1172). In conditions of high innovative climate, individuals are supported and encored to bring new ideas, challenge the routine way of doing things and learn from others (West, 1990). Adopting these definitions, we predict that innovation climate might simulate visible and cognitive diverse individuals to be more open to different perspectives, encouraging them to be creative or possess critical thinking rather than triggering unreasonable confrontations (Somech and Drach-Zahavy, 2013). Moreover, a highly supportive atmosphere makes diverse team members feel safe and stimulates knowledge and information sharing, which stimulates divergent thinking modes (Clegg *et al.*, 2002). Thus, we predict that innovative/entrepreneurial climate will trigger awareness among individuals related to the common goal (i.e. innovation) (Chen *et al.*, 2019), which in turn should reduce the effects of the social categorization process based on visible dissimilarity and cognitive group diversity and in turn trigger IWB. Therefore, we propose the following hypothesis:

H2a. Innovative/entrepreneurial climate moderates the relationship between visible dissimilarity and IWB, mediated by cognitive group diversity, making it less negative.

According to the competing values framework, team/clan climate is described as a family-type atmosphere that exhibits shared values and goals, participation, individuality and a sense of cohesion. The clan cultural form represents a friendly workplace in which people share themselves with others in the organization. Teams with such climates function as "clans" and have an air of strong loyalty and commitment and place a high value on teamwork, participation and consensus (Cameron and Quinn, 1999). Climates with characteristics that can be described by team/clan climate have been identified by review

and meta-analyses as a highly relevant contextual factor for stimulating creative and innovative behavior (e.g. Anderson and West, 1998; Hülsheger *et al.*, 2009).

Furthermore, numerous previous studies highlighted the positive role of inclusive workplace (e.g. Mor Barak, 2016; Shore *et al.*, 2011; Somech and Drach-Zahavy, 2013), perceived motivational (e.g. Černe *et al.*, 2014) and collaboration climates as being the key vehicle for internal access to knowledge and thus, innovation (Ahuja, 2000; Younis, 2019; Zhu *et al.*, 2018). Accordingly, scholars tested different circumstances and "sub-climates" as moderators that influenced the relationship between cognitive diversity and creativity/innovation, such as team psychological safety (Martins *et al.*, 2013), leadership style (e.g. transformational by Shin *et al.*, 2012; paradoxical by Li *et al.*, 2018), etc.

We argue that even when team members are visibly dissimilar among each other, in conditions of team/clan climate, this will not lead to reduced levels of IWB. Specifically, team/clan climate will prevent the social categorization process to occur, leading to visibly different team members being accepted in the clan of a cohesive team (Chan, 1997; Kim, 2014). Such a climate would contribute to developing a consensus (Shaner *et al.*, 2016) in visibly diverse teams of how to approach innovative behavior, ultimately reducing cognitive group diversity and having less negative impacts on IWB.

H2b. Team/clan climate moderates the relationship between visible dissimilarity and IWB, mediated by cognitive group diversity, making it less negative.

The research methodology
Research setting, participants and procedures
In order to gain cross-national samples that will be transnationally, culturally and cognitively diverse, we collected the data of 584 employees from five different contexts. All were transnational companies that dealt with multicultural interactions and collaborations daily. Included were employees from (1) two large firms in Italy (a high-technology company and a firm operating in the metal industry), (2) three organizations in India (national post, professional education and public services), (3) four organizations in Slovenia (a nongovernmental organization, a public agency, a manufacturing company and a distributor of cosmetics), (4) one medical institution in the Republic of North Macedonia and (5) a set of multinational SMEs to capture the most diverse sample that dealt with multicultural interactions and collaborations daily.

The data collections were introduced with a definition of diversity and that the purpose of this study was to improve understanding of how diversity (e.g. age, gender, culture, nationality, etc.) in the working environment affects the employees' engagement in the organization. Since the study was focused on culturally diverse and cross-cultural work settings, it was administered in English. We informed employees that participation was anonymous, confidential and voluntary. The online survey was fully completed by 632 employed professionals; 59.60% of respondents were female and about 39.70% respondents were male, with an average age of 28.88 years (SD = 11.57). The employees in our sample were from different cultural backgrounds and, taken together, had at least ten different origins (Slovenia = 19.0%, India = 10.0%, Portugal = 5.9%, Italy = 5.7%, Croatia = 5.7%, Macedonia = 3.4%, Hong Kong = 2.9%, Spain = 2.7%, France = 2.1%, Germany = 2.0%). Most participants had acquired a bachelor's degree (46.20%), 44.20% had managerial duties and on average, they had 6.37 years of work experience (SD = 7.14).

Measures
We used five-point Likert-type scales ranging from 1 ("strongly disagree") to 5 ("strongly agree") to measure our constructs unless otherwise noted.

Independent variable. Visible dissimilarity was assessed with a two-item scale dimension of Hobman *et al.* (2003). The participants were asked to assess their identification with their team members at work based on informational, visible and value dissimilarities. The items included in the visible dissimilarity dimension are as follows: "In terms of visible characteristics (e.g. age, gender, ethnicity) I think I am different from other group members" and "I feel I am visibly dissimilar to other group members" – $\alpha = 0.72$.

Mediating variable. Cognitive group diversity was measured with a three-item scale that was adapted from Van der Vegt and Janssen (2003). The participants were asked to assess "to what extent the members of the workgroup differed in: a) their way of thinking; b) in how they viewed the world; and c) in their beliefs about what is right and wrong" – $\alpha = 0.73$.

Dependent variable. IWB was measured with five items taken from De Jong and Den Hartog (2010). The respondents were asked to assess, for example, "How often they wonder how things can be improved"; "How often they contribute to the implementation of new ideas" or "How often they find new approaches to execute tasks" etc. – $\alpha = 0.86$.

Moderating variables. Innovative/entrepreneurial climate was measured with a four-item scale taken from Helfrich *et al.* (2007). The respondents were asked to assess, for example, "The glue that holds my unit together is a commitment to innovation and development" – $\alpha = 0.78$.

Team/clan climate was measured with a three-item scale taken from Helfrich *et al.* (2007). The respondents were asked to assess, for example, "The glue that holds my unit together is loyalty and tradition. Commitment to this unit runs high," and "My unit emphasizes human resources. High cohesion and morale in the organization are important" – $\alpha = 0.66$.

Hierarchical/authoritative climate was measured with a four-item scale taken from Helfrich *et al.* (2007). The respondents were asked to assess, for example, "My unit is a very formalized and structured place. Bureaucratic procedures generally govern what people do," and "My supervisors in my unit are rule-enforcers" – $\alpha = 0.74$.

Rational/results-oriented climate was measured with a three-item scale taken from Helfrich *et al.* (2007). The respondents were asked to assess, for example, "My supervisors in my unit are coordinators and coaches. They help employees meet the unit's goals and objectives," and "The glue that holds my unit together is the emphasis on tasks and goal accomplishment" – $\alpha = 0.73$.

Controls. We controlled for a variable specifying which of the five contexts of data collection a respondent belonged to.

Results
Descriptive statistics, confirmatory factor analysis and common method variance treatment
Table 1 presents mean, standard deviation and correlation values for the key study variables.

Next, we ran a confirmatory factor analysis (CFA) with maximum likelihood estimation procedures using AMOS, version 21. The expected five-factor solution (visible dissimilarity, team/clan and innovative/entrepreneurial climates, cognitive group diversity and IWB) displayed good fit with the data (chi-square [109] = 347.70, CFI = 0.93, RMSEA = 0.06). We tested alternate nested models to examine whether a more parsimonious model achieved an equivalent fit, but the chi-square difference tests indicated that the proposed five-factor model achieved a significantly better fit. Based on these results, we used scale averages across the items representing each construct in further analyses.

Because of the cross-sectional nature of our research (data for our constructs were collected from the same respondents at a single time), we conducted two additional analyses to alleviate the potential issues related to common method bias (Podsakoff *et al.*, 2012). First, we conducted Harman's single-factor test – a principal component analysis of all items of our constructs, extracting only one factor and using no rotation method. No dominant factor emerged; the overall variance explained by the extracted factor was below the threshold of

Variables	M	SD	1	2	3	4	5	6	7	8	9	10
1 Age	28.88	11.57	–									
2 Education	2.14	0.73	0.32**	–								
3 Gender	1.41	0.50	0.02	-0.02	–							
4 Rational climate	3.55	0.74	-0.03	0.12**	-0.02	–						
5 Hierarchical climate	3.37	0.74	0.07	0.03	-0.10*	0.24**	–					
6 Visible dissimilarity	2.64	0.92	-0.04	-0.05	0.04	-0.16**	-0.03	–				
7 Cognitive group diversity	2.99	0.71	-0.12**	-0.00	-0.00	0.11**	-0.08**	0.27**	–			
8 Team climate	3.48	0.74	-0.02	0.10*	-0.04	0.60**	0.28**	-0.18**	-0.02	–		
9 Innovation climate	3.33	0.77	-0.06	0.08*	-0.00	0.45**	0.07	-0.03	0.06	0.47**	–	
10 Innovative work behavior	4.79	1.13	-0.10*	0.12**	-0.14**	0.34**	0.01	-0.04	0.26**	0.24**	0.32**	–

Note(s): N = 584. Alpha coefficients are given on the diagonal in parentheses. For gender, 1 = female, 2 = male; †p < 0.10; *p < 0.05; **p < 0.01

Table 1.
Descriptive statistics

50% (specifically, it was 22%), thus providing no evidence that common method variance might be an issue.

Second, we applied Lindell and Whitney's (2001) marker variable test, using a theoretically unrelated variable (i.e. marker variable) to adjust the correlations among the principal constructs in the model. Any high correlation of the marker variable with any of the study's other principal constructs would indicate potential common method bias. We conducted the marker variable test with a variable that was not included in the model (employee reports of their gender) for which, we had little or no theoretical basis to expect a relationship with the study's principal constructs. The average correlation between the study's principal constructs for respondents' gender ($r = 0.05$) was low and nonsignificant, providing no evidence of common method bias.

Hypotheses testing

To test our hypotheses, we first examined the relationship between visible dissimilarity and IWB, mediated by cognitive group diversity (H1) and then examined the moderated mediation models that included the moderators of entrepreneurial/innovation (H2a) and team/clan climates (H2b). We followed standard procedures to examine these moderated mediation models using a bootstrap approach (Preacher and Hayes, 2004). Drawing 5,000 random samples using replacement from the full sample, we constructed 95% bias-corrected confidence intervals for the hypothesized indirect mediating effects at different values of the moderator.

Mediation model 4 in PROCESS macro (Table 2) indicated that cognitive diversity indeed mediated the negative relationship between visible dissimilarity and IWB (indirect effect = −0.06 and its confidence intervals excluded 0: LLCI = −0.1047; ULCI –0.0242), thus supporting hypothesis 1. When individuals perceive their groups to be visibly dissimilar, this fosters their perceptions of cognitive diversity and thereby reduces the levels of IWB.

Table 2 also presents the moderated mediation results for the proposed moderating roles of climates, with conditional indirect path coefficients and the 95% confidence intervals using PROCESS macro model 14.

The results indicated that the mediated relationship was supported at all levels of innovative/entrepreneurial climate, with a significant index of moderated mediation (−0.06 and its confidence intervals excluded 0: LLCI = −0.1114; ULCI –0.0150). Therefore, hypothesis 2a was supported. The mediated relationship was also supported at moderate and high levels of team/clan climate, with a significant index of moderated mediation (−0.06 and its confidence intervals excluded 0: LLCI = −0.1251; ULCI –0.0162). Therefore, hypothesis 2b was also supported. In the cases of both climate moderations, the basic mediated relationship between visible dissimilarity, cognitive group diversity and IWB becomes less negative.

The supplementary analysis

In addition to testing the hypothesized relationships, we also examined two alternate moderators of our mediated model – hierarchical/authoritative and rational climates – which are all part of the same Cameron and Quinn's (1999) climate model archetypes. In the case of each of those moderators, the moderated mediation index was not significant (with confidence intervals including 0) and both exhibited insignificant interaction terms.

Discussion

Our study first tested a mediating mechanism of cognitive group diversity in the relationship between visible dissimilarity and IWB. Furthermore, we specified that this process is contingent on the contextual influence of team/clan and innovation/entrepreneurship

Model 4 (mediation)		Model 14 (moderated mediation); entrepreneurial/ innovation climate as moderator	Model 14 (moderated mediation); team/ clan climate as moderator
Constant	4.14 (0.23)[**]	1.14 (0.59)[*]	0.91 (0.70)
Cognitive group diversity (mediator)	0.49 (0.07)[**]	0.47 (0.06)[**]	0.50 (0.06)[**]
Visible dissimilarity	−0.17 (0.05)[**]	0.44 (0.21)[*]	0.54 (0.23)[*]
Data collection context	−0.15 (0.04)[**]	−0.17 (0.04)[**]	−0.14 (0.04)[**]
Entrepreneurial/innovation climate (moderator)		0.89 (0.16)[**]	
Team/clan climate (moderator)			0.84 (0.18)[**]
Visible dissimilarity × entrepreneurial/ innovation climate (interaction)		−0.17 (0.06)[**]	
Visible dissimilarity × team/clan climate (interaction)			−0.18 (0.06)[**]
F	23.99	32.03	24.74
df	(3, 567)	(5, 564)	(5, 559)
R^2	0.212	0.22	0.18

Note(s): $N = 584$. [*]$p < 0.05$; [**]$p < 0.01$; unstandardized coefficients are reported. LLCI: lower-level confidence interval, ULCI: upper-level confidence interval. The results are similar when replacing the idea generation manipulation variable with self-reported idea generation

Table 2.
Results of moderated mediation analyses predicting group identification using PROCESS macro

climates, which contributes to minimizing social categorization due to the visible dissimilarity and enhancing cognitive diversity which result in higher IWB.

Theoretical contributions
Our study provides theoretical contributions to research on diversity management at the workplace and innovation literature. First, we contribute to the innovation literature by providing empirical evidence that diversity holds important costs to IWB. As such, we challenge the value-in-diversity argument that diversity promotes divergence in teams (Williams and O'Reilly, 1998) and provide evidence that diversity (visible and cognitive) generally prevents effective IWB. This occurs because diverse teammates will be less engaged in creative and innovative processes, such as exchanging or elaborating on ideas (Shin *et al.*, 2012) due to the dissimilarity, proximity and creation of multiple subgroups. We add to the innovation literature by showing that multiple diversity types (visible and cognitive) in organizations not only diminish the information exchange required for idea generation (Choi and Thompson, 2005) and decrease mutual understanding about new ideas (Kurtzberg and Amabile, 2001) but also negatively relate to IWB. Thus, by showing that diversity in itself is not beneficial to stimulate IWB in a multicultural work environment, we importantly highlight that workplace diversity is most likely related to innovation through an individual's engagement in the elaboration of task-relevant information and perspectives (Van Knippenberg *et al.*, 2004).

Second, we add to the innovation literature by providing evidence for the association between cognitive diversity and innovation (Chen *et al.*, 2019). As already discussed, different cognitions may motivate team members to gather a wide range of information, knowledge and ideas (e.g. Wang *et al.*, 2016), which is not that ambiguous when considering only the creativity phase of IWB. However, when coming to the implementation (innovation) phase,

the relationship between cognitive diversity and IWB gets unclear. Cognitive diversity as such, especially when in combination with visible dissimilarities, would not always evoke IWB but rather the opposite due to unveiled intergroup bias (Chen *et al.*, 2019), destructive effects of divergent perspectives on team coordination and interpersonal trust (van Knippenberg *et al.*, 2011). Besides, this research indicates that tacit knowledge, as an important cognitive attribute in IWB, will be most likely be very difficult to be shared, especially when employees create multiple subgroups. Moreover, our results counter the study of Shin *et al.* (2012) that cognitive diversity can enhance IWB. Our findings indicate that cognitive diversity, similar to visible dissimilarity, is indeed costly for IWB.

Third, we add to the innovation literature by showing evidence that by promoting team/ clan and innovative/entrepreneurial climates, the negative effects of diversity (visible and cognitive) can be reduced and in turn boost IWB. Our study addresses this issue by identifying that team/clan and innovative/entrepreneurial climates are two key moderators that translate visible and cognitive diversity into higher levels of IWB. To the best of our knowledge, this empirical study is the first to propose and test how the negative sides of two parallel mechanisms – visible and cognitive diversity – can be minimized by climates to stimulate IWB. Our findings indicate that this can be done using an indirect approach, by working on developing different subclimates that slowly enable employees to embrace dissimilar employees naturally and not by, for example, pushing them into diversity acceptance programs. A section of previous research came to a similar conclusion. Research by Van Knippenberg *et al.* (2013) found little support for the moderating role of diversity climate as such. Our study showed that research should be more specific when examining the moderating roles of climates. In particular, as supported also by other scholars, an innovative/entrepreneurial climate might stimulate co-workers with diverse backgrounds (cognitively dissimilar) to be open to different perspectives, encouraging creative or critical thinking rather than triggering unreasonable confrontations (Somech and Drach-Zahavy, 2013).

Such a climate may also prompt team members to be more aware of the common goal (i.e. to be innovative as a team), which should heighten employees' sense of outcome interdependence (Schippers *et al.*, 2015) and reduce the possibility of emotional conflicts. Here, the network structure over which communication takes place, aiming to effectively share information is crucial (Cowan and Jonard, 2003). While entrepreneurial/innovative climate makes space for new, unique ideas, for risk-taking and possible mistakes, team/clan climate may work as safe environment enabling employees to feel psychological safety and trust (Martins *et al.*, 2013; Nonaka and Takeuchi, 1995; Van Knippenberg *et al.*, 2013) within the team they belong to.

Fourth, we add pieces of a puzzle to the complex picture of diversity in the organization. Even though different types of diversity may be considered as double-edged swords, Mor-Barak and Cherin (1998, p. 48) reported that "the heterogeneous workforce is a reality that is here to stay." Thus, it is crucial that scholars permanently search for factors and strategies which may reduce diversity-related problems in the workplace, while still being able to take advantage of the potential benefits (Hofhuis *et al.*, 2016). Few studies have explored different types of diversity in relation to IWB, but the question of whether and how different types of diversity benefit innovation remains unclear (Chen *et al.*, 2019). By providing theoretical and empirical evidence of how visible dissimilarity leads to cognitive group diversity and thus harm IWB, we contribute to our understanding of how to get (closer) to an inclusive workplace environment that values uniqueness and provides with the feeling of belongingness. In line with previous literature (Van Knippenberg *et al.*, 2004), the results of our study confirm that different dimensions of diversity interact in evoking social categorization processes. We answered Guillaume *et al.*'s (2017) call for more insightful research on how individual-level dissimilarity (visible) and group-level

diversity (cognitive) affect simultaneously and how they interact with each other. Thus, with current research, we contribute to the organizational diversity literature by answering this call by examining both cognitive and visible dissimilarities *vis-à-vis* IWB in the same research model.

Managerial implications

Even though we are facing a wave of the relevant literature concerning different concepts and theories on diversity management dilemmas, not much can be found around practical implementation ("guidelines" for managers). There is a lack of literature, reviewing and evaluating the management practices of moderating the effects of diversity (Avery and McKay, 2010), except the work by Guillaume *et al.* (2017), providing some practical solutions. Thus, practical implications include the suggestion of how management can contribute to positive (or less negative) relationship between diversity and IWB by building on two subclimates simultaneously, namely, innovative/entrepreneurial and team/clan climates. This seems to be important since these are two (contingency) factors that organizations and managers have control over. Confirmed hypotheses related to the roles of context (climates) give us a promise that they can make it (diversity) work.

First, we identify approaches that management can take while striving to pull out the best from diversity. Instead of going directly and somehow forcing diversity climate among employees aiming to make them accept dissimilar co-workers, it seems wiser to indirectly work on changing mental models (e.g. social categorization). This can be done by building innovation and team-sense mindsets – that are suggested within current research – as well as adding other contingency factors that lead in the same direction by enabling a more open, psychologically safe environment, where intergroup uncertainty and biases are exchanged for trust and clarified interpersonal conduct. For example, team leaders should pay attention to the fact related to diverse team members' reflection on task-relevant issues and encourage individuals to exchange ideas and knowledge by providing both emotional and material rewards, which can in turn promote IWB. Thus, they should prevent free-riding and production blocking that can emerge in the idea-generation process due to diversity in a working environment.

Also, to eliminate the negative effect of the two parallel mechanisms – visible and cognitive diversities – on IWB, managers should develop a monitoring system to measure and control the level of identity subgroups and nonspatial proximity in diversity teams. Teams with a greater amount of diversity (e.g. a large number of identity subgroups) are less likely to sense that there is a unified whole of the team (Yoon *et al.*, 1994) and may lack of a common frame of reference, which may get in the way of fully appreciating all group members' contributions and knowledge (Van Knippenberg *et al.*, 2004). Hence, a human resource policy should work on sharing common organization identity that could help avoid the negative consequences of diversity and in turn enhance exchange relationship that simulates IWB.

Second, our current reasoning indicates that perhaps the diversity management known in past should be interpreted in novel ways. This specifically relates to the role of climates, where it is not merely the diversity climate or climate for inclusion that matters. We have shown that when a team/clan climate is very strong, employees would stifle the natural (cognitive) diversity in groups through the pressure to conform (Branscombe *et al.*, 1999). Usually, people like to fit in and are cautious about sticking their necks out. However, assimilation may hinder creative processes and IWB due to the lost opportunities that diversity can offer. Thus, leaders should encourage people to reveal and deploy their different modes of thinking. This is why entrepreneurial/innovative climate should accompany diversity in teams. The innovative climate makes it safe to try things in multiple ways. It

creates a place for different perceptions, for thinking out of the box and simply for being different (unique).

The same can be said about the team/clan climate, which is crucially based on acceptance, cohesion, support and safety. Perceived support for innovation not only encourages team members with distinct cognitions to put forward new ideas but also creates a team climate that is open to opposing ideas (Somech and Drach-Zahavy, 2013). When team members feel welcomed and valued in raising more disagreements over task issues, they are more likely to provide constructive feedback to their peers and discuss the suitability of these plans in new environments (Walumbwa and Schaubroeck, 2009). While entrepreneurial/innovation climate is beneficial due to ability to capture useful ideas needed to achieve creativity, for innovation phase, team/clan climate should be developed simultaneously, so that through the social exchange, trustful collaboration and common goals, ideas are shared and the hidden knowledge arises within the teamwork – processes that are vital for internal access to knowledge and thus, innovation (Ahuja, 2000; Černe et al., 2014; Younis, 2019; Zhu et al., 2018).

Limitations and future research suggestions
Despite our contributions, this study is not without limitations. The first set of limitations is connected with the research design and the way it was carried out. Future research could examine the studied relationships on an even bigger and more diverse sample. Our data set is also based on cross-sectional, self-reported data gathering, and although all variables can only be assessed through self-perceptions, causal relationships could be reversed. Laboratory or field experiments or three-wave longitudinal studies done in the future could alleviate these concerns and establish a more definite take on the proposed causal relationships.

The second set of limitations within our research is related to some of the constructs and their conceptualizations. For example, social identity complexity highlights how people subjectively combine multiple social identities, where there is a place for both uniqueness and similarity with other group members. Thus, individuals may be out-group members based on one's social identity (e.g. gender) while they simultaneously identify with a team on another social identity characteristic (e.g. race; Roccas and Brewer, 2002). Moreover, we should have in mind that visible and other dissimilarities are not necessarily overlapping or act as dependent/independent. These perceptions in connection to group interactions and expected work-related outcomes (such as IWB, etc.) should be further researched. Our hypotheses, that were confirmed, go hand in hand with other research studies' findings, which reveals that whether interactions between diverse individuals result in benefits or deficits for the organization depends largely on other factors – moderators, such as the level of openness to dissimilarity present (Härtel and Fujimoto, 2000; Hobman et al., 2004), task interdependence and the nature of the team (van der Vegt and van de Vliert, 2005), personality antecedents (Liao et al., 2008), etc. This means that different moderators that influence specific relationships between diversity (dimensions) and certain work-related outcomes could further be examined.

Another limitation of our research can be seen in exploring the effects of diversity (visible and cognitive) on overall IWB rather than on the different stages of innovation. Although we provide examples of how visible and cognitive diversities can have a negative impact on idea generation, idea championing and idea implementation in the theoretical part of the paper, we do not provide empirical evidence for each of the different stages of the innovation process. For these, not only creativity is needed (Mainemelis, 2010) but also additional knowledge and skills. For example, sharing of ideas in teams usually stimulates additional associations or ideas (Paulus and Yang, 2000). As such, sharing knowledge and information might be more important for idea generation than idea implementation. Thus, cognitive diversity (e.g. different knowledge, information, etc.) might have a bigger role in the idea generation than idea implementation. On the other hand, in the idea implementation stage of the IWB

employees might need more "selling" skills (Axtell *et al.*, 2000) in order to collect support and resources from their colleagues; thus, visible diversity could have more influence on idea implementation than idea generation. As such, we encourage future research to explore visible and cognitive diversities on different stages of IWB separately. Finally, future research on the field would probably further detach the separate and joint effects of dissimilar characteristics in relation with desired manifestations of workplace psychological well-being and consequently, beneficial economic results. Moreover, there is not much literature so far that would investigate synergic effects and compatibility of dissimilarities at the workplace.

Conclusion

Contemporary workplaces seem to be a mixture of different diversities. However, employing diverse people as such is only one piece of the puzzle when striving to get the most out of it. Many organizations promote diversity climate often using prepackaged programs seeking to instill new attitudes in employees. Unfortunately, employees who are naturally resistant to change may hamper organizational efforts that modify personnel policies that seek to foster an inclusive environment. Consequently, organizational activities toward embracing diversity are likely to heighten intergroup conflict and tensions.

Thus, a more effective approach seems to be going from the "opposite" direction. Instead of talking too much about embracing diversity, working on small improvements toward a generally psychologically safe work environment that stimulates sharing of all (even crazy) ideas, values uniqueness (in all of its manifestations) and nurtures a strong spirit of belongingness, seems to be far more fruitful human resource management (HRM) policy. Within a generally inclusive and supportive environment, in which team members think differently and strive toward a common goal, team members with different cognitions (and being visibly dissimilar) tend to concentrate more on task execution rather than falling into social disharmony. Thereby, team members are also more motivated to innovate. In striving to get to the fruitful (positive) outcomes of workplace diversity, innovative/entrepreneurial and team/clan climates that work simultaneously, seem to be crucial moderators. The former supporting innovativeness and risk-taking, while the latter providing employees with psychological safety and feeling of inclusion.

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1524

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