EUROPEAN JOURNAL OF WORK AND ORGANIZATIONAL PSYCHOLOGY, 2017
VOL. 26, NO. 5, 710–723
https://doi.org/10.1080/1359432X.2017.1337747

Routledge
Taylor & Francis Group

Hiding behind a mask? Cultural intelligence, knowledge hiding, and individual and team creativity

Sabina Bogilović[a], Matej Černe[b] and Miha Škerlavaj[c]

[a]Faculty of Administration, University of Ljubljana, Slovenia; [b]Faculty of Economics, University of Ljubljana, Slovenia; [c]Department of Leadership and Organisational Behaviour, BI Norwegian Business School, Oslo, Norway

ABSTRACT

Culturally diverse colleagues can be valuable sources for stimulating creativity at work, yet only if they decide to share their knowledge. Drawing on the social exchange theory, we propose that cross-cultural interactions among individuals from different national backgrounds can act as a salient contingency in the relationship between knowledge hiding and creativity (individual and team). We further suggest, based on the social categorization theory (e.g., the categorization process of "us" against "them" based on national differences), that cultural intelligence enhances the likelihood of high-quality social exchanges between culturally diverse individuals and, therefore, remedies the otherwise negative relationship between individual knowledge hiding and individual creativity. Two studies using field and experimental data offer consistent support for this argument. First, a field study of 621 employees nested among 70 teams revealed that individual knowledge hiding is negatively related to individual creativity and that cultural intelligence moderates the relationship between knowledge hiding and creativity at an individual level. A quasi-experimental study of 104 international students nested in 24 teams replicated and extended these findings by implying that individual knowledge hiding is also negatively related to team creativity. We discuss the implications for practice and future research.

ARTICLE HISTORY
Received 1 July 2016
Accepted 28 May 2017

KEYWORDS
Knowledge hiding; creativity; cultural intelligence; social exchange

Innovations are crucial for organizations as the work environment is rapidly changing and is increasingly uncertain (George, 2007; Lopez-Cabrales, Pérez-Luño, & Cabrera, 2009). Driven by the assumption that all innovations start with creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996), it is not surprising that scholars and practitioners have shown a strong interest identifying creativity-enhancing factors. Generally, creativity is defined as the production of ideas that are novel and useful (Amabile, 1983; Shalley, 1991). In the past, researchers have examined the personal and contextual factors that facilitate or inhibit creativity (Shalley, Zhou, & Oldham, 2004; Tierney & Farmer, 2002), yet little research has been done to explore creativity during cross-cultural interactions or among culturally diverse teams based on individuals' different national backgrounds (Anderson, De Dreu, & Nijstad, 2004; Anderson, Potočnik, & Zhou, 2014).

Diversity literature based on the value perspective suggests that culturally diverse colleagues enlarge the ranges of different knowledge available within individuals (Pelled, Eisenhardt, & Xin, 1999; Williams & O'Reilly, 1998), which may be valuable sources of creativity (Amabile, 1996). However, whether individuals will share their knowledge with colleagues is not so straightforward (Gilson & Shalley, 2004). Employees that are not motivated to share their knowledge with colleagues may decide to hide their knowledge. Knowledge hiding is defined as intentional withholding or concealing knowledge that has been requested by another person (Connelly, Zweig, Webster, & Trougakos, 2012). At its core, however, creativity involves social interaction (Perry-Smith & Shalley, 2003) because interaction with different individuals may invoke new information and knowledge, which increases creativity (Madjar, 2005). This indicates that employees' knowledge hiding might decrease creativity.

We note that though researchers (Černe, Nerstad, Dysvik, & Škerlavaj, 2014) have started to investigate the role of knowledge hiding in the creativity process, specific situations remain unexplored (Connelly et al., 2012). More precisely, it is still unclear how knowledge hiding may relate to creativity when individuals interact with people from different cultural backgrounds. Therefore, the main purpose of the present research is to explore the relationship between individual active knowledge hiding and creativity (both individual and team level) in a culturally diverse environment acting as a salient contingency. An individual can decide to hide his knowledge, even if she or he is not interacting with culturally diverse individuals or does not work in a culturally diverse environment. Based on the social exchange theory (Blau, 1964), however, we predict employees in diverse work environments or working with culturally diverse individuals are most likely to hide knowledge from culturally different colleagues because they "struggle to understand one another and consequently fail to share information" (Gilson, Lim, Luciano, & Choi, 2013, p. 206). Moreover, based on social categorization (Turner, 1985), we predict employees in diverse work environments are most likely to hide their knowledge from culturally different colleagues because "people tend to favor in-group members over out-

CONTACT Matej Černe matej.cerne@ef.uni-lj.si

group members" (Van Knippenberg & Schippers, 2007, p. 518). Thus, we argue that when an employee intentionally hides knowledge from team members from different cultural backgrounds due to misunderstandings based on cultural differences, she or he might diminish his or her own and the team's creativity at work.

To advance theory, research, and practice on how managers can mitigate the effects of knowledge hiding, it is critical to know how to reduce the likelihood of knowledge hiding based on cultural misunderstandings. We suggest that individuals' cultural intelligence can affect the social exchange pattern between the knowledge hider and knowledge seeker (Poortvliet & Giebels, 2012) and can reduce in-group and out-group perception and cultural misunderstandings while it is defined as an individual's capability to function effectively in a culturally diverse environment (Ang & Van Dyne, 2008). In particular, research has shown that cultural intelligence is one of the highly relevant predictors of affective performance outcome in a culturally diverse environment (Imai & Gelfand, 2010) and can thus help with cultural communication misunderstandings. For example, Chua and Morris (2009) found that an individual's cultural intelligence through trust affected the frequency of idea sharing between intercultural ties. As Connelly et al. (2012) explained, knowledge sharing does not necessarily indicate the absence of knowledge hiding because knowledge hiding is intentional withholding of knowledge that someone else has requested. We can assume, however, that if an individual's cultural intelligence impacts his or her sharing in a culturally diverse environment, it also influences his or her knowledge hiding. We, therefore, propose that cultural intelligence can reduce the otherwise negative consequences of employee knowledge hiding and can enhance creativity at the individual level. With our research, we aim to investigate how cultural intelligence moderates the relationship between knowledge hiding and creativity at the individual level. We test hypotheses by conducting a field study and a quasi-experimental study.

Our study contributes to the literature of creativity and knowledge hiding. First, our research contributes to the creativity literature by exploring cross-level relationships between knowledge hiding and creativity both at the individual and team levels. We add to previous single-level (i.e., individual) research on the relationship between knowledge hiding and creativity (Černe et al., 2014) to also account for team creativity as the dependent variable. Second, with a quasi-experimental study, we extend previous cross-cultural creativity research by exploring the knowledge hiding–creativity relationship in culturally diverse teams. Thus, we answer repeated calls (Anderson et al., 2004, 2014; Gilson & Shalley, 2004; Shalley & Gilson, 2004) for exploring creativity in a culturally diverse setting. Third, we aim to answer the call to identify boundary conditions of knowledge hiding (Connelly et al., 2012) by introducing cultural intelligence as a potential contingency in the knowledge hiding–creativity relationship. To the best of our knowledge, no studies have examined how knowledge hiding behaviour influences individual creativity when an individual has high levels of cultural intelligence. Our study is therefore an important start in terms of providing insight into how individuals can, with the help of cultural intelligence, decrease their own knowledge hiding behaviour when interacting with individuals from different cultural backgrounds to boost their own creativity at work. Using social exchange and social categorization viewpoints, we reveal that knowledge hiding acts as a negative contingency of individual creativity, unless when accompanied by an individual's cultural intelligence.

Knowledge hiding and creativity

Though the traditional psychology-based approach to creativity has focused predominantly on individual characteristics (Mackinnon, 1965), scholars have increasingly recognized that social context is an important driver of the creative process (Amabile et al., 1996; Ford, 1996; Madjar, 2005; Perry-Smith, 2006). As a result, a number of social characteristics that influence creativity have been recognized in recent years, yet the key social characteristics that affect creativity are social interactions between individuals (Perry-Smith & Shalley, 2003). Therefore, creativity is often a result of a social process (Perry-Smith & Shalley, 2003) in which individuals collaborate and share ideas and knowledge with others (Chua, Morris, & Mor, 2012; Perry-Smith, 2006; Unsworth, Wall, & Carter, 2005).

Building on this notion, scholars have suggested that the social exchange relationship between co-workers is a valuable source for creativity as it triggers knowledge sharing among individuals (Wang & Noe, 2010). When co-workers share their knowledge, it is more likely to enhance the creative problem-solving capacity of individuals (Carmeli, Gelbard, & Reiter-Palmon, 2013), which will, in turn, assist an employee's own idea generation (Paulus, Larey, & Dzindolet, 2001). However, the individuals' knowledge-hiding behaviours can decrease their creativity while a reduction of information (Gong, Cheung, Wang, & Huang, 2012) and knowledge exchange will lessen individuals' abilities to generate creative ideas (Bartol & Srivastava, 2002). For example, through knowledge exchange with different work units, employees can identify work-related problems and improve their knowledge bases regarding those problems to generate new creative ideas for resolving problems in organizations (Frese & Fay, 2001; Gong et al., 2012; Grant & Ashford, 2008). Thus, if an employee decides to hide knowledge about his or her working unit, it will result in a broader hindering of categories and the generation of more divergent solutions (Kanter, 1988). As Gong and colleagues (2012, p. 1617) explain, "It is tempting to suggest that only the receipt of information matters for one's creativity. However, by using recipients as a sounding board, outward sharing can improve one's original idea". Thus, individual's reduction of information and knowledge exchange may harm not only team creativity but also individual creativity.

Recent research (Černe et al., 2014; Connelly & Zweig, 2015; Connelly et al., 2012) suggests that examining only the prosocial or positive knowledge-sharing behaviour of employees is insufficient as not all employees are motivated to share their knowledge. For a richer understanding of social exchange relationships in the creative process, we also need to shed light on knowledge-hiding behaviour. Connelly and colleagues (2012, p. 67) explain that knowledge hiding "is not simply the absence of sharing; rather, knowledge hiding is the intentional attempt to withhold or conceal knowledge that has been requested by another individual". Like other

counterproductive work behaviour, it is rarely self-reported and has unanticipated consequences organizations and managers need to address.

Knowledge hiding involves three related behaviours: playing dumb, evasive hiding, and rationalized hiding (Connelly et al., 2012). Playing dumb occurs when an individual pretends she or he does not know the specific information requested by a knowledge seeker. Rationalized hiding involves an accurate explanation from the knowledge hider about why she or he is hiding information. Evasive hiding occurs when an individual pretends she or he will disclose information with the knowledge seeker, even though she or he intends to conceal it. As Connelly and colleagues (2012) summarized, knowledge hiding consists of varying levels of employee deception that are triggered when an individual makes a specific request for knowledge from another person.

Intentionally hiding knowledge is more likely to threaten beneficial outcomes (Connelly et al., 2012). For example, a recent multilevel field study of 240 employees nested into 34 groups (each with its own supervisor) from Černe and colleagues (2014) revealed a negative relationship between knowledge hiding and creativity. Furthermore, an experimental study using 132 undergraduate students (Černe et al., 2014) showed this is because of the negative reciprocal mechanism of the distrust loop, such as when employee A intentionally hides knowledge from employee B, as knowledge hiding is intentional behaviour. This will result in a reciprocal distrust loop that inhibits the creativity of the initial knowledge hider (employee A). These studies indicate that knowledge hiding can decrease individual creativity through the reciprocal mechanism of distrust between employees.

As such, the focus of the present paper is to examine the relationship between knowledge hiding and creativity yet if individuals interact or work in a culturally diverse setting. We predict active knowledge hiding will diminish individual and team creativity when interacting with culturally diverse individuals, while deception in knowledge hiding is highly constrained by the individual's culture (Seiter, Bruschke, & Bai, 2002). Research from Chow and colleagues (Chow, Deng, & Ho, 2000; Chow, Harrison, McKinnon, & Wu, 1999) revealed that Chinese participants see sharing information with other colleagues as personally disadvantageous, compared with participants from Anglo-American culture. Moreover, Chow and colleagues (2000) found that, compared with Anglo-American participants, individuals from a Chinese cultural background are less likely to share their knowledge with someone they consider an "out-group" member. Therefore, based on the social exchange theory (Blau, 1964), we argue employees will hide knowledge from culturally diverse colleagues, while individuals will categorize themselves by their cultural similarities and differences within groups (Hogg & Terry, 2000). This, in turn, will inhibit individual creativity. We thus propose:

Hypothesis 1a: *Individual knowledge hiding is negatively related to individual creativity.*

We go even further by highlighting the importance of individual knowledge hiding on team creativity. We propose knowledge hiding may inhibit not only individual but team creativity. Team creativity is not just the average of individual creativity (Gong, Kim, Zhu, & Lee, 2013); it is a result of individual creative behaviour, interaction between group members, group characteristics, team processes, and contextual influences (Anderson et al., 2014). Social exchanges (Liao, Liu, & Loi, 2010; Perry-Smith & Shalley, 2003)—especially knowledge exchange with fellow team members—are highly important for team creativity, while knowledge sharing may enhance creative solutions or the generation of new ideas within a team (Amabile, 1988; Richter, Hirst, van Knippenberg, & Baer, 2012). Thus, if an individual is not motivated to share his or her knowledge and the employee intentionally withholds knowledge, this can prevent other team members to channel new knowledge towards producing new ideas and solutions, therefore inhibiting team creativity. We therefore propose that individual active knowledge hiding among culturally diverse team members will be negatively related to team creativity. Therefore:

Hypothesis 1b: *Individual knowledge hiding is negatively related to team creativity.*

The moderating role of individual cultural intelligence

Drawing on the social categorization theory (Tajfel & Turner, 1979), we propose that when employees are highly culturally intelligent, it results in reducing individual social categorization and knowledge hiding and enhances individual creativity. According to the diversity literature, when cultural diversity increases in the work environment, a social categorization process emerges (Richard, Barnett, Dwyer, & Chadwick, 2004). Individuals start to compare themselves based on similarities and differences between other team members to reduce uncertainty (Tajfel & Turner, 1986; Van Knippenberg, De Dreu, & Homan, 2004).

A culturally diverse environment motivates employees to generate new subgroups in their work environments based on cultural dissimilarities between similar in-group members and dissimilar out-group members (Van Knippenberg & Schippers, 2007). Scholars have identified that social categorization is negatively related to individual work performance (Pelled et al., 1999), group processes (Guillaume, Dawson, Woods, Sacramento, & West, 2013; Guillaume et al., 2014), and interactions in the diverse work group, such as sharing and elaborating creative ideas (Van Knippenberg et al., 2004), while individuals tend to favour similar colleagues more than dissimilar colleagues (Williams & O'Reilly, 1998). For example, Makela and colleagues (2007) discovered that dissimilarities based on national–cultural backgrounds and different language backgrounds decrease knowledge sharing within multinational corporations. As a result, the social categorization process of in-groups and out-groups can increase reciprocal knowledge hiding and thus have negative consequences on individual creativity (Erez et al., 2013; Milliken, Bartel, & Kurtzberg, 2003).

We propose that cultural intelligence can reduce the potentially negative consequences of the social categorization process as such that this will enhance the social exchange pattern between knowledge hiders and knowledge seekers from different cultural backgrounds, thus decreasing knowledge hiding. Cultural intelligence represents an individual's ability to deal effectively with situations characterized by culturally diverse settings and with people from a culturally diverse environment (Earley & Ang, 2003; Li, Mobley, & Kelly, 2013). Earley and Ang (2003) conceptualized cultural intelligence as a multidimensional construct, consisting of metacognitive, cognitive, motivational, and behavioural complementary dimensions or capabilities. We predict a combination of these cultural intelligence dimensions can reduce an individual's tendency to categorize colleagues from different cultural backgrounds as out-group members and enhance social exchange between colleagues, buffering the negative relationship between knowledge hiding and individual creativity.

The metacognitive cultural intelligence dimension is related to individual capabilities, such as planning for upcoming intercultural situations, monitoring during intercultural interactions and revising mental models of past intercultural situations (Ang, Van Dyne, & Koh, 2006). These capabilities allow individuals to "adjust to new cultural environments and develop more appropriate heuristics and rules for social interactions in new cultural situations" (Erez et al., 2013, p. 335). Furthermore, individuals with high metacognitive cultural intelligence are more likely to decrease negative aspects of social categorization processes in diverse teams (Rockstuhl & Ng, 2008), while metacognitive cultural intelligence helps individuals create a fusion culture in the work environment and blend diverse cultural values into one culture (Crotty & Brett, 2012). If employees have a common culture, they perceive themselves more as in-group members rather than as out-group members, and this will trigger knowledge sharing among individuals, in turn decreasing the negative effect of knowledge-hiding behaviour on creativity.

Cognitive cultural intelligence, as a second dimension, is likely to be similarly useful in decreasing social categorization processes (Rockstuhl & Ng, 2008) and the outcomes of knowledge-hiding behaviour while reflecting the knowledge individuals have of other cultures. This includes knowledge about different aspects of foreign culture, such as norms, practices, conventions, language, religious beliefs, and economic, legal, and social systems (Erez et al., 2013; Triandis, 1994). The possession of such knowledge helps individuals anticipate and understand similarities and differences among themselves and colleagues from different cultural backgrounds (Ng, Van Dyne, & Ang, 2009). Therefore, individuals with high cognitive cultural intelligence understand key similarities with out-group members and overcome prejudices based on superficial cultural characteristics and in turn collaborate and effectively share knowledge with out-group members (Ang & Van Dyne, 2008; Michailova & Hutchings, 2006). As such, we predict that cognitive cultural intelligence dimension can help to minimize knowledge-hiding behaviour based on cross-cultural differences to stimulate creativity.

The third dimension, motivational cultural intelligence, is defined as an individual's intrinsic willingness, energy, and direct attention to learn about and deal with the challenges of cross-cultural interactions (Ang & Van Dyne, 2008). Employees with high motivational cultural intelligence experience enjoyment and have more confidence while interacting with individuals from different cultures. Therefore, individuals with high motivational cultural intelligence interact more with colleagues from different cultural backgrounds (Li et al., 2013). As Rockstuhl and Ng (2008, p. 206) explain, these individuals "are less likely to maintain a strong in-group–out-group distinction when interacting with different ethnic members in the group". They go even further by suggesting employees with a high motivational cultural intelligence may look for opportunities to interact with out-group members. It follows that individuals with high motivational cultural intelligence will interact more with out-group members, and the social categorization process and the negative outcomes of individual knowledge-hiding behaviour will decrease. The behavioural cultural intelligence, as a fourth dimension, refers to using appropriate verbal and non-verbal behaviour (e.g., words, tones, gestures, facial expressions) when interacting with people from culturally diverse environments (Gudykunst, Ting-Toomey, & Chua, 1988; Ng et al., 2009). With appropriate verbal and non-verbal behaviour, individuals may be more easily accepted by out-group members while interacting with them (Lin, Chen, & Song, 2012). Thus, behavioural cultural intelligence can enhance interaction with dissimilar out-group members.

Consequently, we predict that cultural intelligence as a whole (i.e., combination of all cultural intelligence dimensions) may enhance the pattern of social exchange between knowledge hiders and knowledge seekers from different cultural environments and, therefore, have a moderating role in the knowledge hiding–creativity relationship. When employees are highly culturally intelligent, it is more likely they will decrease the social categorization process. In turn, the social exchange between culturally diverse colleagues will be enhanced, decreasing the detrimental outcomes of individual knowledge-hiding behaviour and triggering individual creativity. Empirical evidence has demonstrated cultural intelligence can lessen the social categorization process (Rockstuhl & Ng, 2008) and enhance patterns of social exchange through knowledge sharing among colleagues (Chen & Lin, 2013). As mentioned before, recent research (Černe et al., 2014) has emphasized that the social exchange between colleagues has a crucial role in the stimulation of individual creativity when individuals hide knowledge. Therefore, with respect to the relationship between knowledge hiding and creativity, our premise is that individual cultural intelligence may help override the social categorization process and result in a more positive social exchange pattern, which will increase individual creativity even when individuals hide knowledge. We therefore hypothesize the below:

Hypothesis 2: *Individual cultural intelligence moderates the relationship between individual knowledge hiding and individual creativity. The higher the cultural intelligence, the less negative the relationship.*

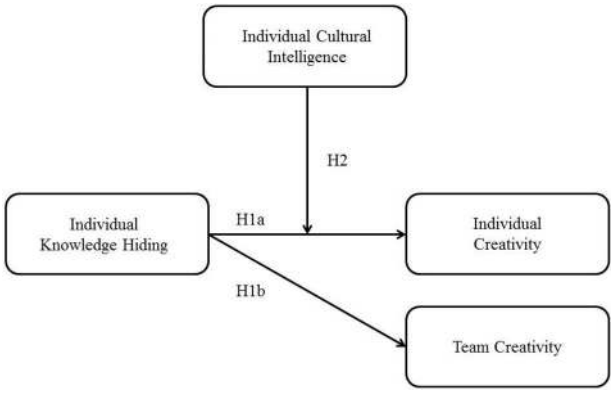

Figure 1. Relationships between our focal constructs.

We tested these hypotheses in two studies. In study 1, we tested Hypotheses 1a and 2 by examining the role of knowledge hiding in individual creativity and the role of cultural intelligence in moderating the relationship between individual knowledge hiding and individual creativity. In study 2, we tested the full theoretical model as shown in Figure 1.

Study 1: methods

Sample and procedures

Empirical data were collected from 787 employees nested within 73 groups from 20 diverse and innovative small- and medium-sized enterprises. As such, the data collection took place as part of the PACINNO project (Pacinno, 2015) in October 2014 and November 2014; employees were from eight different countries to create culturally diverse sample. Firms had to meet two requirements to be included in our sample: they had to be international (e.g., doing business in other countries, collaborating with partners outside Europe, or expanding their business in the foreign markets) and innovative. As such, the participants in the sample were dealing with culturally diverse interactions on a daily basis. A translation-back translation procedure was used, and participants were invited to complete a survey online either during or outside their working hours. Furthermore, to protect the confidentiality of the employees, we provided the option for them to identify themselves by code names and not their real names. We collected data on an individual level, controlling the group and team work units the employees were a part of.

The firms used in the sample are from different industries (pharmaceutical, IT, automotive, biotechnology). Multicultural interactions and collaboration in the participating firms take a diverse set of occurrences (e.g., an IT company from Bosnia and Herzegovina is collaborating with colleagues from the US; automotive company from Italy is selling their products and expanding to multiple foreign markets; biotechnology company from Slovenia is expanding on the international market and collaborating with companies in the US and Japan). Moreover, the employees in these companies were from different cultural backgrounds. More precisely, the participants were from at least eight different nationalities from different countries (Croatia = 16.5%, Italy = 14.4%, Bosnia and Herzegovina = 13.9%, Albania = 12.6%, Slovenia = 12.7%, Montenegro = 12.1%, Greece = 9.4%, and Serbia = 8.5%). Thus, we can conclude that our sample was culturally diverse.

As such, a total of 787 employees completed the survey (a 46.7% response rate, ranging from 20% to 86% by organization). Their demographic data are as follows: about 61.4% of the participants were male, and their average age was 35.86 years (SD = 9 years); 92.8% of the respondents were fully employed in their organizations (SD = 0.26). In the sample, employees have been working at their current place of employment for an average of 6.5 years (SD = 6.64), and 52.1% (SD = 0.52) of the employees performed managerial duties. Moreover, employees have been working with their current supervisor for an average of 4.2 years (SD = 4.05) in our sample.

Measures

In the study, we used seven-point Likert-type scales ranging from 1 to 7 ("strongly disagree" to "strongly agree," respectively) for measuring our constructs.

Knowledge hiding was self-assessed with an eight-item shortened scale of Connelly et al. (2012), –α = .95. In line with Connelly et al. (2012, p. 70), in the instructions, we first asked employees to "think of a recent episode that occurred during work in which a specific co-worker requested knowledge from you or asked for help, but you rejected them or you did not take the time to share your knowledge or experience or you simply did not give all the necessary information". We also provided them with specific examples: *you did not show your co-worker how to do something, you gave him or her only part of the necessary information, you did not give him any necessary information or you did not help him to learn something important*. Then, we asked them to include items like *I agreed to help him/her but instead gave him/her information different from what s/he wanted* or *I pretended that I did not know the information he was asking me for*.

Creativity was also self-reported and measured according to a 13-item questionnaire developed by Zhou and George (2001), –α = .95. The employees were asked to assess their beliefs with regard to their ability to come up with new ideas regarding the work tasks and promoting ideas to other colleagues. Sample items included items such as *I exhibit creativity on the job when given the opportunity to* and *I come up with new and practical ideas to improve performance*. We used self-measurement for creativity constructs while creativity is a domain-specific individual behaviour that depends on the organizational context in which the creative process takes place.

Cultural intelligence was assessed with a 16-item scale developed by Ang and Van Dyne (2008), and the overall cultural intelligence reliability score was –α = .95. We measured cultural intelligence by calculating the sum of a four-item scale of metacognitive cultural intelligence (–α = .92), cognitive cultural intelligence (–α = .87), motivational cultural intelligence (–α = .91), and behavioural cultural intelligence (–α = .89). The overall cultural intelligence was then divided by 16 as we used 16 items in the scale. The questionnaire

included items like *I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds* and *I am confident that I can socialize with locals in a culture that is unfamiliar to me*.

Control variables

We controlled for several individual and contextual factors that could influence knowledge hiding, cultural intelligence, and creativity at an individual level. Following other researchers (e.g., Amabile, 1996; Shin, Kim, Lee, & Bian, 2012; Shin & Zhou, 2003), we controlled for *education* level because it might be associated with creativity. We also included other control variables, such as *age, gender, and work experience*. All control variables were self-reported. We also controlled for nested teams in the companies.

Study 1: results and discussion

Table 1 presents means, standard deviations, and correlations for the key study variables. We first observed the factor structure of the focal variables at the individual level. Therefore, we conducted a confirmatory factor analysis using Mplus 7 software (Muthén & Muthén, 2007) with maximum likelihood estimation procedures. First, we assessed knowledge hiding and four cultural intelligence factors to creativity to assess the best model fit (model A). The expected three-factor solution (creativity, knowledge hiding, cultural intelligence) fit reasonably with the data (χ^2 [614] = 2849.807, comparative fit index (CFI) = 0.912, Tucker-Lewis Index = 0.905, standardized root mean square residual (SRMR) = 0.057, root mean square error of approximation (RMSEA) = 0.068). The factor loadings ranged from 0.60 to 0.74 for cultural intelligence, from 0.72 to 0.89 for knowledge hiding and from 0.69 to 0.83 for creativity items. Second, we compared this three-factor model with an alternative four-factor model by splitting cultural intelligence on dimensions (i.e., model B: knowledge hiding and cognitive, motivational and behavioural cultural intelligence combined with creativity) to assess the best fit. The results provided in Table 2 show that the three-factor solution—cultural intelligence as whole (model A, albeit not characterized by extremely high fit indices)—was superior to other solution.

Our data set consisted of two hierarchically nested levels: 787 employees (level 1) nested within 73 groups (level 2), with each group having its own supervisor. However, because of missing data on focal variables, the final analysis was conducted on 621 employees (level 1) nested within 70 groups (level 2). Because the data were nested, we applied random coefficient modelling (multilevel analysis) using the HLM software (Raudenbush, Bryk & Congdon, 2011) to test our hypotheses.

Table 2. Study 1: comparing the fit of alternative models for the four-factor model of cultural intelligence and creativity.

	Model	χ^2	*df*	CFI	TLI	SRMR	RMSEA
A	Knowledge hiding, cultural intelligence, combined on creativity (six-factor solution)	2849.807	614	0.912	0.905	0.057	0.068
B	Knowledge hiding, cognition, motivational and behavioural cultural intelligence combined on creativity	6389.914	623	0.774	0.758	0.215	0.109

CFI = (Bentler's) comparative fit index; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation.

Based on our theoretical predictions, we developed a set of multilevel models using Hox's (2010) procedure for incremental improvement. All variables were grand-mean centred. We started analysis with the intercept-only model by making individual employee creativity the dependent variable (see model 1 in Table 3). We conducted hierarchical linear modelling to test the following aspects of the multilevel model: (1) the existence of a multilevel structure, (2) control variables and the knowledge-hiding effect on creativity, (3) knowledge-hiding and cultural intelligence effects on creativity, and (4) the moderating effect of cultural intelligence on the association between knowledge hiding and creativity at the individual level (see Table 3).

In model 3, we examined knowledge hiding and cultural intelligence as direct predictors of individual creativity. Multilevel analysis showed knowledge hiding (supporting Hypothesis 1a) is negatively and significantly related to individual creativity (Model 2: $\gamma = -0.29$, SE = 0.03, $p < .001$; and model 3: $\gamma = -0.17$, SE = 0.03, $p < .001$). Individual cultural intelligence also predicted individual creativity (model 3: $\gamma = 0.44$, SE = 0.04, $p < .001$). Supporting Hypothesis 2, cultural intelligence had a significant moderating effect on the knowledge-hiding and creativity relationship at the individual level (model 4: $\gamma = 0.06$, SE = 0.02, $p < .05$). The partial product of cultural intelligence and knowledge hiding has a positive impact on creativity at the individual level. To interpret the results of the interaction more precisely, we followed the recommendation of Aiken and West

Table 1. Study 1: descriptive statistics and correlations among variables used in the analyses.

Variable		Mean	SD	1	2	3	4	5	6	7
1	Education[a]	2.06	0.85	1						
2	Gender[b]	1.64	0.49	0.04	1					
3	Age[c]	35.86	9.69	−0.05	0.03	1				
4	Work experience[c]	6.57	6.64	−0.09*	−0.00	0.62**	1			
5	Knowledge hiding	2.29	1.71	−0.25**	−0.08*	−0.03	0.01	1		
6	Cultural intelligence	4.55	1.24	0.22**	−0.00	0.02	0.02	−0.43**	1	
7	Creativity	4.67	1.33	0.22**	0.08*	0.03	0.02	−0.40**	0.52**	1

n = 787. Coefficient alphas are on the diagonal in parentheses.
[a]For education 1 = "high school diploma", 2 = "associate's degree", 3 = "master's degree", 4 = "doctorate degree".
[b]For gender, 1 = "female", 2 = "male".
[c]For age and work experience were measured in years.
* $p < .05$, ** $p < .01$.

Table 3. Study 1: multilevel analysis results for individual creativity as the dependent variable at the individual level.

	Model 1	Model 2	Model 3	Model 4
Intercept	4.39*** (0.11)	4.63*** (0.42)	2.39*** (0.47)	2.38*** (0.45)
Gender		0.12 (0.12)	0.16 (0.11)	0.17 (0.10)
Age		0.00 (0.00)	0.00 (0.00)	−0.00 (0.00)
Education		0.16* (0.06)	0.12* (0.05)	0.12* (0.05)
Work experience		0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Knowledge hiding		**−0.29*** (0.03)**	**−0.17*** (0.03)**	**−0.10* (0.05)**
Cultural intelligence			**0.44*** (0.04)**	**0.44*** (0.04)**
Knowledge hiding × Cultural Intelligence				**0.06* (0.02)**
Pseudo R^2		−0.08	0.12	0.06
Deviance	1980.17	1927.94	1813.22	2137.66
n (level 1)	621	621	621	621
n (level 2)	70	70	70	70
χ^2		52.22***	114.71***	324.43***
Degrees of freedom		5	1	8

Values in bold are relevant to tests of hypotheses.
*$p < .05$, ***$p < .001$.

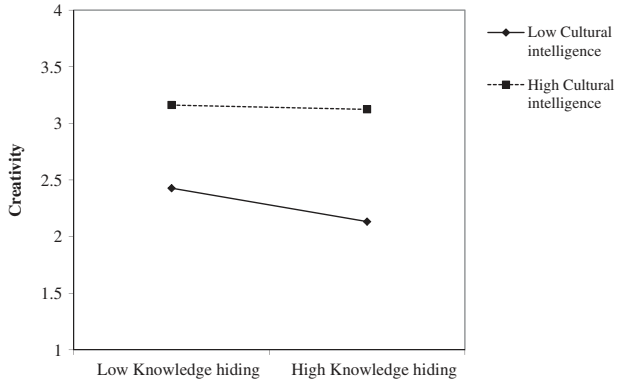

Figure 2. Study 1: simple slopes for moderating effect of cultural intelligence on knowledge hiding–creativity relationship at the individual level.

(1991) and plotted the simple slopes for the relationship between knowledge hiding and creativity at 1 SD above and below the mean cultural intelligence at the individual level. The results of the simple slopes are presented in Figure 2.

The simple slopes are in line with our Hypothesis 2—that cultural intelligence reduced the negative association between knowledge hiding and creativity at the individual level. As these findings were found to provide initial support for our theoretical predictions, we conducted a quasi-experimental study to constructively replicate these findings with a different method, sample, and measure. In addition, we had to test our Hypothesis 1b, predicting that individual knowledge hiding is also negatively related to team creativity.

Study 2: methods

To strengthen causal inferences and rule out alternative explanations, we conducted an experimental study with international students in an elective course at a Slovenian university. The main aim of the quasi-experimental study was to manipulate the individuals' knowledge-hiding behaviour in creative processes (individual and team) among culturally diverse working teams. Therefore, we needed to control for the task to capture the individuals' knowledge-hiding behaviour and to use multiple experts to rate the individual and team creative outcomes. The goal of our quasi-experimental study was to test the proposed relationships between knowledge hiding and creativity (individual and team) among culturally diverse team members as well as the moderation of cultural intelligence in the knowledge hiding–individual creativity relationship. We thus manipulated individuals' knowledge hiding to capture the effect of under-reporting this undesirable behaviour, and we used participants' ratings of cultural intelligence as a moderator. Based on mean splits, we delineated the sample into participants with low and high values of cultural intelligence. Moreover, we ensured a culturally diverse working environment by putting together individuals from different cultural or national backgrounds to work on the same task.

Sample, design, and procedures

The sample consisted of 104 international undergraduate (83%) and graduate (16%) students who attended an elective course. The age of the participants ranged from 18 to 33 years, and the mean age was 22.4 years (SD = 2.88). There were 61% of females with average work experience in positions such as student or summer jobs for 2.7 years (SD = 2.26). Participants also indicated their cultural background. The majority of participants were from Slovenia (31%). The remaining students were from Germany (10%), Turkey (7%), Macedonia (7%), Spain (6%), China (5%), France (5%), Canada (4%), Poland (4%), Serbia (3%), South Korea (3%), and Ukraine (3%). The minority individuals were from other countries, including Albania, Austria, Belgium, Bulgaria, Finland, Iran, Italy, Kazakhstan, Latvia, Lithuania, Nigeria, Portugal, and Sweden.

The cultural backgrounds of the participants in this experimental study were quite diverse; we can say that we had a culturally diverse sample. Also, as already mentioned, we ensured a culturally diverse working environment by compiling individuals from different cultural or national backgrounds to work on the same task. We calculated the recommended Blau's index of heterogeneity (Blau, 1977; Harrison & Klein, 2007)—*the cultural diversity index*—based on the different nationally diversity of categorical variables, (P*i*)2, where P*i* is the proportion of a team's members in the *i*th category. The average cultural diversity index was 3.28, meaning that, on average, more than two countries were presented in each group, while this number ranged from two to six. Therefore,

the sample justifies our main goal to analyse the relationship between knowledge hiding and creativity in a culturally diverse environment based on participants' different nationalities.

The quasi-experiment employed a two-by-two (i.e., two conditions of knowledge hiding, low/high; two quasi-experimental conditions of cultural intelligence based on participants' answers about this construct) between-subjects factorial design. A similar experimental design and manipulations of knowledge hiding were used as by Černe et al. (2014). However, the students in this study were asked to form groups rather than dyads. Previous research examined knowledge hiding within dyadic interactions; however, we were interested in determining whether individuals' knowledge hiding has the same influence on individual and team creativity. Therefore, we asked students to form culturally diverse (i.e., based on their nationality background) groups of four or five.

The participants were then randomly assigned to two different conditions (low/high knowledge hiding). We informed them that we were interested in studying how people solve business problems. Then we randomly assigned the roles of a company's marketing managers (i.e., sales channels, motto development, promotion, strategy, and advertising) to the students. The experiment began by presenting a marketing scenario in which the students had to successfully develop new ideas and release a new product into the market. These ideas served as creative outputs. The scenario consisted of two stages (15 min each). We started the experiment by introducing our manipulation of knowledge hiding.

Knowledge-hiding manipulation

To ensure that the participants in the low and high knowledge-hiding conditions would experience different levels of knowledge hiding, we gave the students special instructions about knowledge hiding (i.e., a sign that read "Hide Your Knowledge and Information" was written on an instruction sheet). We randomly provided instructions about knowledge hiding to participants in each group. Therefore, the teams could consist of five, four, three, two, one, or no knowledge hiders. Accordingly, we provided the participants with different pieces of information about their team colleagues' tasks. For example, the sales channel designer had information about the motto development manager (i.e., explanations of what this particular domain is supposed to mean and the goals that the individual who is fulfilling that role might be expected to achieve).

A motto development manager should come up with at least three mottos/slogans that are as creative as possible. Our company should market our product in commercials or any promotional materials by using these slogans. A slogan is a motto or short line that is easy on the ears and is easy to remember. It usually expresses the purpose or idea of a product.

On the other hand, the promotion manager had information about the sales channel manager. For example: The sales channel manager should consider options of different sales channels in which we can market our product. The manager should choose the best ones as well as some unconventional ones. What are sales channels? Examples of sales channels include the internet (in all forms and shapes), phone sales, sales representatives, our own stores, door-to-door sales, or anything else you come up with.

We assessed knowledge hiding after the participants finished their tasks. The participants were asked to complete the 12-item *knowledge-hiding* questionnaire with Connelly et al.'s (2012) scale (α = .94). The responses about knowledge hiding served as *manipulation checks*. At this point, we need to emphasize that each participant had to produce specific creative solutions as an individual in the first stage of the experiment and with a team in the second stage of the experiment. Each individual and team's creative ideas were assessed by two independent raters (i.e., experts in the field of creativity) on a scale from 1 (*not at all creative*) to 7 (*very creative*). The independent raters first assessed students based on their individual creative ideas, which were produced in the first stage of the experiment. The two raters' reliability (ICC2 = .67) and agreement (single item rwg = .66) for individual creativity were within conventional guidelines (LeBreton & Senter, 2008). In the second stage of the experiment, the participants needed to present their new ideas as a team. Based on teams' creative ideas, the independent raters also assessed team creativity. The two raters' reliability (ICC2 = .77) and agreement (single item rwg = .78) for team creativity were also within conventional guidelines. We then averaged the individual ratings as a measure of individual creativity and averaged the team ratings as a measure of team creativity.

After completing both individual and team creative solutions for the proposed business problems, participants reported on their *cultural intelligence* by using the scale developed by Ang and Van Dyne (2008), which included all 20 items on a seven-point scale (α = .89). This served to rate participants' cultural intelligence, which was our moderating variable. To test the manipulation checks and our hypotheses, we used analysis of variance (ANOVA), which is a standard procedure that is used to analyse experimental data that enable comparisons between different conditions and controlling for some variables. Thus, in analysis for individual creativity, we controlled for the *assigned roles of the company's marketing managers in teams* (i.e., sales channels, motto development, promotion, strategy, and advertising). Participants also reported on control variables, such as *performance climate* (seven items, –α = .83) and *mastery climate* (six items, –α = .74) with a scale developed by Nerstand, Roberts, and Richardsen (2013), as well as *prosocial motivation* (five items, –α = .89) using a scale developed by Grant (2008). From a demographic standpoint, we controlled for *gender, work experience, age*, and *distrust* in the team by asking participants "Rate your level of distrust in another team member you felt during this task".

Study 2: results

Table 4 presents means, standard deviations, and correlations for variables using this study. Means and standard deviations for each condition (low knowledge hiding, high knowledge hiding, low cultural intelligence, and high cultural intelligence) are displayed for individual and team creativity in Table 5. We used an ANOVA to conduct a manipulation check, and we used analysis of covariance (ANCOVA) to test our hypotheses.

Table 4. Study 2: descriptive statistics and correlations among variables used in the analyses.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Individual creativity	4.12	1.55	1													
2 Team creativity	4.41	1.55	.31**	1												
3 Knowledge hiding	2.62	1.38	−.21*	−.14	1											
4 Cultural intelligence	5.06	.76	.12	−.10	−.04	1										
5 Performance climate	4.39	1.11	−.08	−.25*	.14	.09	1									
6 Mastery climate	5.29	.81	−.00	−.06	−.05	.28**	.31**	1								
7 Prosocial motivation	5.65	.89	.08	−.00	−.15	.32**	.22*	.44**	1							
8 Gender	1.61	.49	.00	.14	−.16	.00	−.04	.10	.17	1						
9 Work experience	2.69	2.26	.02	−.11	.00	.14	.05	−.04	−.05	.01	1					
10 Assigned role 1[a]	.17	.38	−.06	−.02	.21*	.05	−.06	.07	−.18	−.00	.19	1				
11 Assigned role 2[a]	.21	.41	−.07	.00	.02	−.23*	.01	−.07	.00	.02	.06	−.23*	1			
12 Assigned role 3[a]	.21	.41	−.04	−.03	−.02	.14	.08	.02	−.11	−.11	−.12	−.23*	−.26**	1		
13 Assigned role 4[a]	.19	.39	.05	.03	−.09	.08	.01	.11	.25*	.13	.03	−.22*	-,25**	-,25**	1	
14 Assigned role 5[d]	.21	.41	0.12	0.01	−10	−.05	−.14	−.13	.03	−.04	−.16	−.23*	-,26**	−26**	−.25**	1

$n = 104$. Coefficient alphas are on the diagonal in parentheses. For gender, 1 = "female", 2 = "male".[a] We created dummy variables for five different assigned roles in the experimental study.
*$p < .05$, **$p < .01$.

Table 5. Study 2: means and standard deviations by condition.

Condition	Individual creativity	Team creativity	Cultural intelligence	Knowledge hiding
Low knowledge hiding, low cultural Intelligence ($n = 25$)	4.75 (1.42)	4.85 (1.38)	4.42 (0.32)	1.91 (0.98)
Low knowledge hiding, high cultural intelligence ($n = 29$)	4.36 (1.52)	4.48 (1.55)	5.68 (0.49)	1.98 (1.10)
High knowledge hiding, low cultural Intelligence ($n = 25$)	3.13 (1.39)	4.78 (1.73)	4.43 (0.67)	3.27 (1.54)
High knowledge hiding, high cultural Intelligence ($n = 25$)	3.73 (1.52)	3.59 (1.35)	5.64 (0.49)	3.37 (1.46)

Standard deviations are in parentheses.

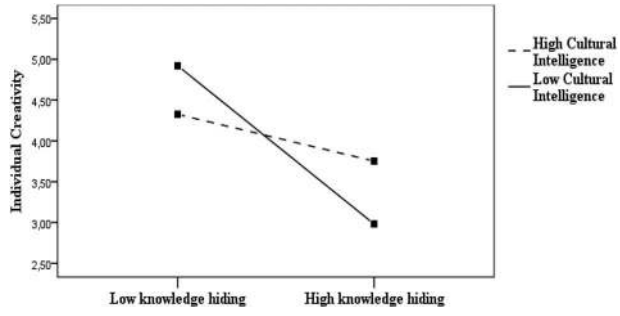

Figure 3. Study 2: the moderating effect of individual cultural intelligence on the knowledge hiding–individual creativity relationship.

First, in terms of the manipulation check, the ANOVA showed that, as expected, the main effect of knowledge hiding manipulation on self-reported knowledge hiding ($F[1,102] = 27.83$, $p < .000$) was statistically significant.

Turning to individual creativity as the dependent variable, the ANCOVA revealed a significant relationship between knowledge hiding and individual creativity ($F[1,73] = 13.11$, $p < .000$) in a culturally diverse environment. Thus, consistent with Hypothesis 1a, knowledge hiding is significantly related to individual creativity. We then produced another ANCOVA to separately test whether knowledge hiding is associated with team creativity in a culturally diverse environment. The results of the ANCOVA revealed that Hypothesis 1b is also significant, while individual knowledge hiding is related to team creativity ($F[1,65] = 4.76$, $p < .05$) in a culturally diverse environment.

To test whether cultural intelligence moderates the relationship between individual knowledge hiding and individual creativity, we also used ANCOVA procedures. The ANCOVA revealed that cultural intelligence moderates the relationship between individual knowledge hiding and individual creativity ($F[1,73] = 4.12$, $p < .05$). Therefore, the results supported Hypothesis 2. This moderating effect of cultural intelligence on the relationship between individual knowledge hiding and individual creativity is shown in Figure 3. A visual inspection of the lines (Figure 3) suggests that when individuals have high cultural intelligence the relationship between knowledge hiding and creativity is less negative, as we hypothesized. On the other hand, when individuals have low cultural intelligence the relationship between knowledge hiding and creativity is more negative.

Supplementary analyses

In a set of supplementary analyses, we tested whether cultural diversity has an impact on the proposed interplay between knowledge hiding and cultural intelligence influencing creativity (i.e., at the individual and team level).[1] Therefore, we have conducted a test of a three-way interaction (Team cultural diversity × Knowledge hiding × Cultural intelligence) predicting creativity using the aforementioned team cultural diversity index to calculate the three-way interaction term.

We tested the influence of the three-way interaction (Team cultural diversity × Knowledge hiding × Cultural intelligence) on creativity (i.e., individual and team level) by conducting the stepwise hierarchical linear regression analysis.[2] For individual creativity, the three-way interaction term (interaction term effect size = .55, *ns*) was not statistically significant, neither was the regression model. Along similar lines, the three-way interaction term predicting team creativity was also not statistically significant (interaction term effect size = –.61, SE = .60, *ns*).

Discussion

We have drawn on the social exchange theory (Blau, 1964) and social categorization theory (Tajfel & Turner, 1979) to

argue that when an individual decides to hide his or her knowledge from culturally diverse colleagues it will not only impede the individual's creativity but also the team's. The results of two studies using different research paradigms (a field survey and a quasi-experimental study) provide consistent evidence in support of our suggestion that there is a negative relationship between knowledge hiding and creativity (both individual and team). Moderation analyses in both studies provided support for our argument that the relationship between individual knowledge hiding and individual creativity is less negative when moderated by cultural intelligence. The association between individual knowledge hiding and individual creativity was even more negative when individuals had low cultural intelligence.

Theoretical contributions

This study makes several theoretical and research-based contributions to the literature on creativity. The first is a novel perspective on the relationship between knowledge hiding and creativity among culturally diverse colleagues. Research on organizational creativity emphasizes the importance of social interactions between individuals (Perry-Smith & Shalley, 2003), especially the role of knowledge sharing (Perry-Smith, 2006) in stimulating individual and team creativity (Amabile, 1983; Zhou, Hirst, & Shipton, 2012). However, limited attention has been given to an examination of how individual engagement in knowledge-hiding behaviours might threaten individual and team creativity among culturally diverse team members based on their nationality. These results complement Černe et al.'s (2014) research by highlighting the knowledge-hiding mechanism, which is related to the diminished creativity of the initial knowledge hider. At the same time, our research takes a step forward by demonstrating that a diverse environment plays an important role in triggering the influences of individual knowledge hiding on individual and team creativity. We show that knowledge hiding is negatively related to individual and team creativity among culturally diverse team members. This process is based on the social exchange theory (Blau, 1964) and the social categorization process (Turner, 1985) that will emerge because of a culturally diverse environment.

The results of the quasi-experimental study 2 indicated that individual creativity is highest in the low knowledge hiding and low cultural intelligence condition. These findings can be further explained by implying that cultural intelligence and knowledge hiding are both related with social exchange (cf. Bogilović, Škerlavaj, & Wong, 2016; Černe et al., 2014). Highly culturally intelligent individuals are effective in social exchange with foreign individuals as they have all the necessary capabilities to deal with specific challenges related to cultural diversity, and are deeply involved in cross-cultural interactions (Ang & Van Dyne, 2008). A particular challenge related to these processes is hiding knowledge from co-workers from different cultures. When individuals hide knowledge, perhaps because of their challenging and competitive working environment, they need high levels of cultural intelligence in order to master the social exchange patterns in a diverse setting, which enables them to be creative. On the other hand, when individuals hide knowledge less, they do not necessarily need to be highly culturally intelligent in order to be highly creative because such individuals will likely be more engaged in the social exchange process by default.

Our second contribution is related to the examination of the relationship between individual knowledge hiding and team creativity. Černe et al. (2014) have explored the relationship between knowledge hiding and creativity on the dyadic level by examining the relationship between the knowledge hider's knowledge hiding and the same person's creativity via a reciprocal distrust loop. Hence, this research departs from the common scholarly focus on studying creativity only at a single level (Gong et al., 2013). Therefore, based on theoretical developments in the recent research of Černe et al. (2014), we add to their study by showing that similar patterns of social exchange that can affect the relationships between knowledge hiding and creativity at the dyadic level can also be expected within teams/groups. We take research to the team level by drawing on different emergence patterns conceptualized in the multilevel theory (Kozlowski & Klein, 2001) and find similar detrimental effects of individual knowledge hiding on team creativity. The present research found support for our proposal, suggesting that individual knowledge hiding is also negatively related to team creativity.

Third, this research advances our understanding of the cross-cultural research on creativity by introducing the moderating role of cultural intelligence on the relationship between knowledge hiding and creativity at the individual level. Our findings support the notion that the relationship between knowledge hiding and creativity is contingent on a cultural setting and individuals' responses to it. Specifically, cultural intelligence refers to individuals' ability to appropriately decrease negative social categorization processes in culturally diverse environments, which helps individuals overcome the lack of a social exchange pattern between culturally diverse colleagues and, in turn, enhances individual creativity. Our studies contribute to this line by supporting the positive effects of cultural intelligence on the relationship between knowledge hiding and individual creativity. The abovementioned relationship is less negative when individuals have high cultural intelligence. This evidence highlights the value of examining how cultural intelligence impacts the knowledge hiding–creativity relationship for individuals in a culturally diverse environment.

The results of supplementary analyses in the quasi-experimental study 2 provided consistent evidence that the level of cultural diversity of the team does not have an impact on the moderating role of cultural intelligence on the knowledge hiding–creativity relationship (both at the individual and team levels). As such, the results are in line with Van Knippenberg, De Dreu and Homan's (2004) explanation that the potentially positive effect of cultural diversity on performance (e.g., creativity) may only be obtained up to a moderate level of cultural diversity. Teams with a greater amount of cultural diversity (e.g., a large number of cultural identity subgroups) are less likely to sense that there is a unified whole of the team (Yoon, Baker, & Ko, 1994) and may lack of a common frame of reference, which may get in the way of fully appreciating all group members' contributions (Van

Knippenberg et al., 2004). Also, Carton and Cummings (2012, p. 454) theorize that in teams with two or more identity subgroups (e.g., identity based on their cultural diversity), "subgroups will decrease identity threat such that a team with a large number of subgroups will have less identity threat than a team with a small number of subgroups". Furthermore, Hartstone and Augoustinos's (1995) research showed that the process of self-categorization is more likely to occur in the presence of two groups, whereas in groups with three different identities, "us–them" categorization was less salient. As such, we can predict that a greater number of cultural identity subgroups does not necessarily lead to greater social categorization and thus a higher level of individual knowledge hiding and lower creativity (e.g., individual and team). Thus, cultural intelligence plays a moderating role in the knowledge hiding–creativity relationship in a diverse setting, regardless of the levels of diversity; when diversity is increased, this naturally increases difficulties obtaining creative performance, and cultural intelligence does not add to overcoming them more.

Practical implications

In today's dynamic and uncertain work environment, organizations use employee creativity as a potential resource for organizational innovations (George, 2007; Shalley et al., 2004). For example, most managers believe that diversity in the work environment will stimulate creativity, yet, as Shin and colleges noted (2012, p. 209), "it would be important to inform managers that diversity alone does not guarantee creativity". Our research demonstrates that culturally diverse colleagues, if they decide to hide their knowledge, can have a negative impact on creativity (individual and team) due to the social categorization process. Yet, our findings suggest that for individuals in a culturally diverse work environment managers should ensure that employees have high levels of cultural intelligence. With this research, we demonstrate how cultural intelligence can influence the knowledge hiding–creativity relationship in the culturally diverse environment by reducing the negative effects of knowledge hiding and enhancing individual creativity. Therefore, for leaders and managers, our results suggest that employees with high cultural intelligence tend to be more valuable than their colleagues with low cultural intelligence.

The second practical implication of our findings may be useful for employees in culturally diverse organizations. To reduce knowledge hiding in culturally diverse work environments and to enhance their creativity, employees may find it useful to become aware of their cultural intelligence. In the meantime, employees with low cultural intelligence should begin to improve their cultural intelligence by taking advantage of formal education and training, cross-cultural coaching, concrete international experience, overseas work experience, and experiential learning, as recent research suggests (Erez et al., 2013; Li et al., 2013; Ng et al., 2009). Conversely, a high cultural intelligence will help them remain less engaged in knowledge-hiding behaviour and will, therefore, trigger their own creative processes in a culturally diverse environment.

Limitations and suggestions for future research

Despite these contributions, our research must be qualified in light of several limitations that offer possible directions for future research. First, although the results of our studies imply that cultural intelligence has a moderating effect on the relationship between individual knowledge hiding and creativity, the knowledge hiding–creativity relationship could also be dependent on other factors. For example, the ability of cultural intelligence to change social exchange patterns between individuals—decreasing knowledge hiding and enhancing individual creativity—may also depend on individual trust or distrust between individuals, while recent research has found that knowledge hiding through trusting relationships among colleagues can influence creativity (Černe et al., 2014; Connelly et al., 2012). Individual differences, characteristics of dyadic relationships and self-perceptions of individuals involved in cross-cultural collaboration could thus also influence the proposed relationships and should be tackled with future research.

Second, our sample was culturally diverse based on the participants' nationality in study 1, and we created culturally diverse teams in the quasi-experimental based on participants' nationality study—thus justifying exploring the negative relationship between knowledge hiding and creativity in a culturally diverse work environment. However, future studies should explore the direct impact of cultural diversity on the knowledge hiding and creativity relationship beyond the cultural diversity index that we have applied in study 2, and do so in field settings. Additionally, recent research showed that managers who scored higher in metacognitive cultural intelligence were rated as more effective in intercultural creative collaboration (Chua et al., 2012), and individuals with higher cultural intelligence better implemented creative ideas than those with lower levels of this construct (Bogilović et al., 2016). Thus, future research could also study whether cultural intelligence also has a direct impact on creativity at the individual and team level in a culturally diverse environment.

Third, a potential limitation of our experimental study is the generalizability of its findings. The sample in the quasi-experimental study was somewhat homogeneous, comprised solely of student participants. According to Highhouse and Gillespie (2009), the use of the student sample is questionable only when the analysed behaviour is specific to one demographic or occupational group. However, the behaviours we researched in this study—knowledge hiding, cultural intelligence and creativity (individual and team)—are not considered specific to one occupational group and may be relevant for all working groups, including students. Thus, the student sample is reasonable for testing our hypotheses. Hence, our two-study, multimethod approach addresses this generalizability concern and indicates that knowledge hiding is negatively related to creativity (individual and team) and that this relationship at the individual level is dependent upon its interaction with cultural intelligence. Future research should, however, delve into the moderating role of cultural intelligence for the knowledge hiding–creativity relationship at the team level as well, conceptualize the interaction on the basis of similar or different logic as for the individual level and test it empirically.

The fourth limitation is that these two studies use a self-report measure of knowledge hiding and cultural intelligence as a whole and for each dimension. The self-report scale of cultural intelligence and knowledge hiding have been validated (Ang et al., 2007, Černe et al., 2014; Connelly et al., 2012) and used in diverse disciplines. Nevertheless, individuals may not be fully aware that they possess high or low levels of cultural intelligence (Kruger & Dunning, 1999) or may not report their true levels of active knowledge hiding (Connelly et al., 2012). Thus, we propose that future research should include more objective measures (e.g., colleagues' assessments, leaders' assessments, or direct observations) for cultural intelligence and knowledge hiding to validate our findings.

The fifth limitation is related to our methodological approach in the quasi-experimental study: we did not record the conversation that took place among culturally diverse participants during the creative task. For example, a previous study by Tost, Gino, and Larrick (2013) demonstrated a high correlation between reported talking time and recorded talking time. Therefore, future research could record the conversations during the creative cross-cultural collaboration among members in the experimental study to better detect rarely self-reported individual knowledge-hiding behaviour.

In addition, another limitation related to our study involves the important unanswered questions about how knowledge hiding affects the outcome of dyadic social exchange patterns and dyadic creativity between culturally diverse individuals. While knowledge in a working environment is best transferred in dyads (Hislop, 2002), future research could also examine the relationship between knowledge hiding and creativity within the dyad in a culturally diverse environment. This would improve the comprehensive understanding of the connections between knowledge hiding and creativity in culturally diverse organizations.

Conclusion

As employees will remain unmotivated to share their knowledge and will sometimes intentionally withhold it, scholars need a new, deeper understanding of what triggers individual knowledge hiding, its negative effects on employees and how it can be mitigated in organizations. Our research helps to resolve individual knowledge hiding during cross-cultural interactions and provides empirical insights into the knowledge hiding–creativity (individual and team) relationship. We provide empirical and practical insights into the fact that individual cultural intelligence mitigates the negative consequences of individual knowledge hiding and acts as a salient contingency for triggering creativity.

Notes

1. We thank the reviewers and the handling editor for pointing this idea out.
2. Detailed results of these analyses are available from the first author upon request.

Disclosure statement

No potential conflict of interest was reported by the author(s).

References

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.

Amabile, T. (1996). *Creativity in context*. Boulder, CO: Westview Press.

Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social psychology*, *45*, 357–376. doi:10.1037/0022-3514.45.2.357

Amabile, T. M. (1988). A model of creativity and innovation in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 10, pp. 123–167). Greenwich, CT: JAI.

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, *39*, 1154–1184. doi:10.2307/256995

Anderson, N., De Dreu, C. K., & Nijstad, B. A. (2004). The routinization of innovation research: A constructively critical review of the state-of-the-science. *Journal of Organizational Behavior*, *25*, 147–173. doi:10.1002/job.236

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations a state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management*, *40*, 1297–1333. doi:10.1177/0149206314527128

Ang, S., Van Dyne, L., & Koh, C. (2006). Personality correlates of the four-factor model of cultural intelligence. *Group & Organization Management*, *31*, 100–123. doi:10.1177/1059601105275267

Ang, S, Van Dyne, L, Koh, C, Ng, K. Y, Templer, K. J, Tay, C, & Chandrasekar, N. A. (2007). Cultural intelligence: its measurement and effects on cultural judgment and decision making, cultural adaptation and task performance. *Cultural Adaptation And Task Performance. Management And Organization Review*, *3*(3), 335-371. doi:10.1016/S0160-2896(96)90016-1

Ang, S., & Van Dyne, L. (2008). Conceptualization of cultural intelligence: Definition, distinctiveness, and nomological network. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 3–15). New York: M. E. Sharpe.

Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organizational reward systems. *Journal of Leadership & Organizational Studies*, *9*, 64–76. doi:10.1177/107179190200900105

Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: Wiley.

Blau, P. M. (1977). *Inequality and heterogeneity*. New York, NY: Free Press.

Bogilović, S., Škerlavaj, M., & Wong, S. I. (2016). Idea implementation and cultural intelligence. In M. Škerlavaj, M. Černe, A. Dysvik, & A. Carlsen (Eds.), *Capitalizing on creativity at work: fostering the implementation of creative ideas in organizations* (pp. 39–50). Cheltenham: Edward Elgar.

Carmeli, A., Gelbard, R., & Reiter-Palmon, R. (2013). Leadership, creative problem-solving capacity, and creative performance: The importance of knowledge sharing. *Human Resource Management*, *52*, 95–121. doi:10.1002/hrm.v52.1

Carton, A. M., & Cummings, J. N. (2012). A theory of subgroups in work teams. *Academy of Management Review*, *37*, 441–470. doi:10.5465/amr.2009.0322

Černe, M., Nerstad, C., Dysvik, A., & Škerlavaj, M. (2014). What goes around comes around: Knowledge hiding, perceived motivational climate, and creativity. *Academy of Management Journal*, *57*, 172–192. doi:10.5465/amj.2012.0122

Chen, M. L., & Lin, C. P. (2013). Assessing the effects of cultural intelligence on team knowledge sharing from a socio-cognitive perspective. *Human Resource Management*, *52*, 675–695. doi:10.1002/hrm.21558

Chow, C. W., Deng, F. J., & Ho, J. L. (2000). The openness of knowledge sharing within organizations: A comparative study of the United States and the People's Republic of China. *Journal of Management Accounting Research*, *12*, 65–95. doi:10.2308/jmar.2000.12.1.65

Chow, C. W., Harrison, G. L., McKinnon, J. L., & Wu, A. (1999). Cultural influences on informal information sharing in Chinese and Anglo-American organizations: An exploratory study. *Accounting, Organizations and Society*, *24*, 561–582. doi:10.1016/S0361-3682(99)00022-7

Chua, R. Y., & Morris, M. (2009). *Innovation communication in multicultural networks: Deficits in inter-cultural capability and affect-based trust as barriers to new idea sharing in inter-cultural relationships* (Harvard Business

School Organizational Behavior Unit Working Paper No. 09-130), Boston, MA: Harvard University Press.

Chua, R. Y. J., Morris, M. W., & Mor, S. (2012). Collaborating across cultures: Cultural metacognition and affect-based trust in creative collaboration. *Organizational Behavior and Human Decision Processes*, *118*, 116–131. doi:10.1016/j.obhdp.2012.03.009

Connelly, C. E., & Zweig, D. (2015). How perpetrators and targets construe knowledge hiding in organizations. *European Journal of Work and Organizational Psychology*, *24*, 479–489. doi:10.1080/1359432X.2014.931325

Connelly, C. E., Zweig, D., Webster, J., & Trougakos, J. P. (2012). Knowledge hiding in organizations. *Journal of Organizational Behavior*, *33*, 64–88. doi:10.1002/job.v33.1

Crotty, S. K., & Brett, J. M. (2012). Fusing creativity: Cultural metacognition and teamwork in multicultural teams. *Negotiation and Conflict Management Research*, *5*, 210–234. doi:10.1111/ncmr.2012.5.issue-2

Earley, P., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures*. Stanford, CA: Stanford University Press.

Erez, M., Lisak, A., Hatush, R., Glikson, E., Nouri, R., & Shokef, E. (2013). Going global: Developing management students' cultural intelligence and global identity in culturally diverse virtual teams. *Academy of Management Learning & Education*, *12*, 330–355. doi:10.5465/amle.2012.0200

Ford, C. M. (1996). Theory of individual creative action in multiple social domains. *Academy of Management Review*, *21*, 1112–1142.

Frese, M., & Fay, D. (2001). 4. Personal initiative: An active performance concept for work in the 21st century. *Research in Organizational Behavior*, *23*, 133–187. doi:10.1016/S0191-3085(01)23005-6

George, J. M. (2007). Creativity in Organizations. *The Academy of Management Annals*, *1*, 439–477. doi:10.1080/078559814

Gilson, L. L., Lim, H. S., Luciano, M. M., & Choi, J. N. (2013). Unpacking the cross-level effects of tenure diversity, explicit knowledge, and knowledge sharing on individual creativity. *Journal of Occupational and Organizational Psychology*, *86*, 203–222. doi:10.1111/joop.2013.86.issue-2

Gilson, L. L., & Shalley, C. E. (2004). A little creativity goes a long way: An examination of teams' engagement in creative processes. *Journal of Management*, *30*, 453–470. doi:10.1016/j.jm.2003.07.001

Gong, Y., Cheung, S.-Y., Wang, M., & Huang, J.-C. (2012). Unfolding the proactive process for creativity integration of the employee proactivity, information exchange, and psychological safety perspectives. *Journal of Management*, *38*, 1611–1633.

Gong, Y., Kim, T.-Y., Zhu, J., & Lee, D. R. (2013). A multilevel model of team goal orientation, information exchange, and creativity. *Academy of Management Journal*, *56*, 827–851. doi:10.5465/amj.2011.0177

Grant, A. M. (2008). Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity. *Journal of Applied Psychology*, *93*, 48–58. doi:10.1037/0021-9010.93.1.48

Grant, A. M., & Ashford, S. J. (2008). The dynamics of proactivity at work. *Research in Organizational Behavior*, *28*, 3–34. doi:10.1016/j.riob.2008.04.002

Gudykunst, W. B., Ting-Toomey, S., & Chua, E. (1988). *Culture and interpersonal communication*. Newbury Park, CA: Sage.

Guillaume, Y. R., Dawson, J. F., Woods, S. A., Sacramento, C. A., & West, M. A. (2013). Getting diversity at work to work: What we know and what we still don't know. *Journal of Occupational and Organizational Psychology*, *86*, 123–141. doi:10.1111/joop.12009

Guillaume, Y. R. F., Dawson, J. F., Priola, V., Sacramento, C. A., Woods, S. A., Higson, H. E., … West, M. A. (2014). Managing diversity in organizations: An integrative model and agenda for future research. *European Journal of Work and Organizational Psychology*, *23*, 783–802. doi:10.1080/1359432X.2013.805485

Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review*, 32, 1199–1228. doi:10.5465/AMR.2007.26586096

Hartstone, M., & Augoustinos, M. (1995). The minimal group paradigm: Categorization into two versus three groups. *European Journal of Social Psychology*, 25, 179–193. doi:10.1002/(ISSN)1099-0992

Highhouse, S., & Gillespie, J. Z. (2009). Do samples really matter that much. In C. E. Lance & R. J. Vandenberg (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences* (pp. 249–268). New York: Taylor & Fransic.

Hislop, D. (2002). Mission impossible? Communicating and sharing knowledge via information technology. *Journal of Information Technology*, *17*, 165–177. doi:10.1080/02683960210161230

Hogg, M. A., & Terry, D. J. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review*, *25*, 121–140.

Hox, J. (2010). *Multilevel analysis: Techniques and applications* (2nd ed.). New York, NY: Routledge.

Imai, L., & Gelfand, M. J. (2010). The culturally intelligent negotiator: The impact of cultural intelligence on negotiation sequences and outcomes. *Organizational Behavior and Human Decision Processes*, *112*, 83–98. doi:10.1016/j.obhdp.2010.02.001

Kanter, R. M. (1988). When a thousand flowers bloom: Structural, collective, and social conditions for innovation in organization. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 10, pp. 167–211). Greenwich, CT: JAI.

Kozlowski, S. W. J., & Klein, K. J. (2001). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In S. W. J. Kozlowski & K. J. Klein (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 3–90). San Francisco, CA: Jossey-Bass.

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, *77*, 1121–1134. doi:10.1037/0022-3514.77.6.1121

LeBreton, J. M., & Senter, J. L. (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, *11*, 815–852. doi:10.1177/1094428106296642

Li, M., Mobley, W., & Kelly, A. (2013). When do global leaders learn best to develop cultural intelligence? An investigation of the moderating role of experiential learning style. *Academy of Management Learning & Education*, *12*, 32–50. doi:10.5465/amle.2011.0014

Liao, H., Liu, D., & Loi, R. (2010). Looking at both sides of the social exchange coin: A social cognitive perspective on the joint effects of relationship quality and differentiation on creativity. *Academy of Management Journal*, *53*, 1090–1109. doi:10.5465/AMJ.2010.54533207

Lin, Y. C., Chen, A. S. Y., & Song, Y. C. (2012). Does your intelligence help to survive in a foreign jungle? The effects of cultural intelligence and emotional intelligence on cross-cultural adjustment. *International Journal of Intercultural Relations*, *36*, 541–552. doi:10.1016/j.ijintrel.2012.03.001

Lopez-Cabrales, A., Pérez-Luño, A., & Cabrera, R. V. (2009). Knowledge as a mediator between HRM practices and innovative activity. *Human Resource Management*, *48*, 485–503. doi:10.1002/hrm.v48:4

Mackinnon, D. W. (1965). Personality and the realization of creative potential. *American Psychologist*, *20*, 273. doi:10.1037/h0022403

Madjar, N. (2005). The contributions of different groups of individuals to employees' creativity. *Advances in Developing Human Resources*, *7*, 182–206. doi:10.1177/1523422305274525

Makela, K., Kalla, H. K., & Piekkari, R. (2007). Interpersonal similarity as a driver of knowledge sharing within multinational corporations. *International Business Review*, *16*, 1–22. doi:10.1016/j.ibusrev.2006.11.002

Michailova, S., & Hutchings, K. (2006). National cultural influences on knowledge sharing: A comparison of China and Russia. *Journal of Management Studies*, *43*, 383–405. doi:10.1111/joms.2006.43.issue-3

Milliken, F. J., Bartel, C. A., & Kurtzberg, T. R. (2003). Diversity and creativity in work groups: A dynamic perspective on the affective and cognitive processes that link diversity and performance. In B. P. Paulus & B. A. Nijastad (Eds.), *Group creativity: Innovation through collaboration* (pp. 32–62). New York: Oxford University Press.

Muthén, L. K, & Muthén, B. O. (2007). *Mplus user's guide (sixth edition)*. Los Angeles, CA: Muthén & Muthén.

Nerstad, C. G., Roberts, G. C., & Richardsen, A. M. (2013). Achieving success at work: Development and validation of the Motivational Climate at

Work Questionnaire (MCWQ). *Journal of Applied Social Psychology*, *43*, 2231–2250. doi:10.1111/jasp.12174

Ng, K. Y., Van Dyne, L., & Ang, S. (2009). From experience to experiential learning: Cultural intelligence as a learning capability for global leader development. *Academy of Management Learning & Education*, *8*, 511–526. doi:10.5465/AMLE.2009.47785470

PACINNO – web page. 2015. Found on 19th March 2015 on web adress. Retrieved from http://www.pacinno.eu/

Paulus, P. B., Larey, T. S., & Dzindolet, M. T. (2001). Creativity in groups and teams. In M. Turner (Ed.), *Groups at work: Advances in theory and research* (pp. 319–338). Mahwah, NJ: Lawrence Erlbaum.

Pelled, L. H., Eisenhardt, K. M., & Xin, K. R. (1999). Exploring the black box: An analysis of work group diversity, conflict, and performance. *Administrative Science Quarterly*, *44*, 1–28. doi:10.2307/2667029

Perry-Smith, J. E. (2006). Social yet creative: The role of social relationships in facilitating individual creativity. *Academy of Management Journal*, *49*, 85–101. doi:10.5465/AMJ.2006.20785503

Perry-Smith, J. E., & Shalley, C. E. (2003). The social side of creativity: A static and dynamic social network perspective. *Academy of Management Review*, *28*, 89–106.

Poortvliet, P. M., & Giebels, E. (2012). Self-improvement and cooperation: How exchange relationships promote mastery-approach driven individuals' job outcomes. *European Journal of Work and Organizational Psychology*, *21*, 392–425. doi:10.1080/1359432X.2011.555080

Raudenbush, S.W., Bryk, A.S, & Congdon, R. (2011). HLM 7.00 for Windows [Computer software]. Lincolnwood, IL: Scientific Software International, Inc.

Richard, O. C., Barnett, T., Dwyer, S., & Chadwick, K. (2004). Cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions. *Academy of Management Journal*, *47*, 255–266. doi:10.2307/20159576

Richter, A. W., Hirst, G., van Knippenberg, D., & Baer, M. (2012). Creative self-efficacy and individual creativity in team contexts: Cross-level interactions with team informational resources. *Journal of Applied Psychology*, *97*, 1282–1290. doi:10.1037/a0029359

Rockstuhl, T., & Ng, K. Y. (2008). The effects of cultural intelligence on interpersonal trust in multicultural teams. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 206–220). New York: M. E. Sharpe.

Seiter, J. S., Bruschke, J., & Bai, C. (2002). The acceptability of deception as a function of perceivers' culture, deceiver's intention, and deceiver-deceived relationship. *Western Journal of Communication*, *66*, 158–180. doi:10.1080/10570310209374731

Shalley, C. E. (1991). Effects of productivity goals, creativity goals, and personam discreation on individual creativity. *Journal of Applied Psychology*, *76*, 179–185. doi:10.1037/0021-9010.76.2.179

Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly*, *15*, 33–53. doi:10.1016/j.leaqua.2003.12.004

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: where should we go from here? *Journal of Management*, *30*, 933–958. doi:10.1016/j.jm.2004.06.007

Shin, S. J., Kim, T. Y., Lee, J. Y., & Bian, L. (2012). Cognitive team diversity and individual team member creativity: A cross-level interaction. *Academy of Management Journal*, *55*, 197–212. doi:10.5465/amj.2010.0270

Shin, S. J., & Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *Academy of Management Journal*, *46*, 703–714. doi:10.2307/30040662

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In S. Worchel & W. Austin (Eds.), *Psychology of intergroup relations* (pp. 33–47). Chicago, IL: Nelson-Hall.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Chicago, IL: Nelson-Hall.

Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal*, *45*, 1137–1148. doi:10.2307/3069429

Tost, L., Gino, F., & Larrick, R. (2013). When power makes others speechless: The negative impact of leader power on team performance. *Academy of Management Journal*, *56*, 1465–1486. doi:10.5465/amj.2011.0180

Triandis, H. C. (1994). *Culture and social behavior*. New York, NY: McGraw Hill.

Turner, J. C. (1985). Social categorization and the self-concept: A social cognitive theory of group behavior. *Advances in group processes: Theory and research*, 2, 77–122.

Unsworth, K. L., Wall, T. D., & Carter, A. (2005). Creative requirement a neglected construct in the study of employee creativity? *Group & Organization Management*, *30*, 541–560. doi:10.1177/1059601104267607

Van Knippenberg, D., De Dreu, C. K. W., & Homan, A. C. (2004). Work group diversity and group performance: An integrative model and research agenda. *Journal of Applied Psychology*, *89*, 1008–1022. doi:10.1037/0021-9010.89.6.1008

Van Knippenberg, D., & Schippers, M. C. (2007). Work group diversity. *The Annual Review of Psychology*, *58*, 515–541. doi:10.1146/annurev.psych.58.110405.085546

Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, *20*, 115–131. doi:10.1016/j.hrmr.2009.10.001

Williams, K. Y., & O'Reilly, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. In B. M. Staw & R. Sutton (Eds.), *Research in organizational behavior* (Vol. 20, pp. 77–140). Greenwich, CT: JAI.

Yoon, J., Baker, M. R., & Ko, J.-W. (1994). Interpersonal attachment and organizational commitment: Subgroup hypothesis revisited. *Human Relations*, 47, 329–351. doi:10.1177/001872679404700305

Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, *44*, 682–696. doi:10.2307/3069410

Zhou, Q., Hirst, G., & Shipton, H. (2012). Context matters: Combined influence of participation and intellectual stimulation on the promotion focus–employee creativity relationship. *Journal of Organizational Behavior*, *33*, 894–909. doi:10.1002/job.779