UNIVERSITY OF LJUBLJANA
FACULTY OF ECONOMICS

SABINA BOGILOVIĆ

A MULTILEVEL APPROACH IN EXAMINING CULTURAL INTELLIGENCE AND CREATIVITY

DOCTORAL DISSERTATION

Ljubljana, 2016

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The undersigned, Sabina Bogilović, a student at the University of Ljubljana, Faculty of Economics, (hereafter: FELU), declare that I am the author of the doctoral dissertation entitled A multilevel approach in examining cultural intelligence and creativity**,** written under supervision of Associate Professor Miha Škerlavaj, PhD.

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VEČNIVOJSKI PRISTOP K PROUČEVANJU KULTURNE INTELIGENTNOSTI IN USTVARJALNOSTI

POVZETEK

Glavni namen doktorske disertacije je z uporabo večnivojskega pristopa (na posameznikovi in timski ravni) povezati koncepta kulturna inteligentnost in ustvarjalnost ter odgovoriti na temeljno vprašanje moje naloge: »Ali kulturna inteligentnost lahko spodbudi posameznikovo in timsko ustvarjalnost kljub negativnim vplivov kulturno raznolikega okolja?« Svoje raziskovanje sem gradila na teoriji raznolikosti in večnivojskem pristopu (od spodaj navzgor) z namenom najprej povezati raziskovalni področji kulturne inteligentnosti in ustvarjalnosti ter ju tudi podrobneje razširiti.

V uvodnem poglavju sem opisala področje kulturne inteligentnosti in ustvarjalnosti ter predstavila nasprotujoča si empirična znanstvena dognanja z omenjenega področja, da podlagi katerih razvijem raziskovalna vprašanja doktorske naloge. Z uvodnega poglavja je mogoče razbrati, da sta konstrukta kulturna inteligentnost in ustvarjalnost jasno opredeljena ter konceptualno ločena od ostalih pojavov na področju managementa, pa vendar ju raziskovalci zamenjujejo z ostalimi konstrukti (npr. kulturno inteligentnost s čustveno inteligenco in ustvarjalnost z inovativnostjo ali inovacijami). Zato sem v prvem poglavju naredila bibliometrično analizo skupnega navajanja objavljenih raziskav, ki so na voljo na ISI Web of Science, za konstrukta kulturna inteligentnost in ustvarjalnost. Tako sem s podrobnejšim vpogledom v vodilne citirane članke na obeh področjih prispevala k pojasnitvi razvoja obeh področij. Nadalje sem področji povezala in pregled objavljene literature na ISI Web of Science je pokazal, da področji kulturne inteligentnosti in ustvarjalnosti skupaj še nista bili empirično raziskani.

V drugem poglavju sem predstavila povezavo med kulturno raznolikostjo in ustvarjalnostjo ter predstavila nasprotujoče si izsledke predhodnih raziskav na tem področju. Na podlagi socialne kategorizacijske teorije sem zastavila osrednji predmet raziskovanja, ki izhaja iz premise, da je posameznikova in timska kulturna inteligentnost pozitivno povezana z ustvarjalnostjo v kulturno raznolikem okolju. To sem preverila z raziskavo v osmih različnih državah jadranske regije in eksperimentalno študijo. Prva raziskava na 621 zaposlenih iz 73 timov ter 20 malih in srednjih mednarodnih podjetjih je pokazala, da je ustvarjalnost pogojena s kulturno inteligentnostjo kot celoto ter njeno metakognitivno in motivacijsko dimenzijo na ravni posameznika in tima. Vedenjska kulturna inteligentnost ima pozitivni vpliv na ustvarjalnost le na ravni posameznika. Hkrati so rezultati razkrili, da kognitivna kulturna inteligentnost nima nobenega vpliva na ustvarjalnost na ravni posameznika in tima. Eksperimentalna študija je potrdila, da je ustvarjalnost v kulturno raznolikem okolju pogojena s kulturno inteligentnostjo. Z drugim poglavjem sem dokazala, da je posameznikova ustvarjalnost povezana s kulturno inteligentnostjo in njenimi tremi dimenzijami. Timska ustvarjalnost pa je povezane s kulturno inteligentnostjo in njenima dvema dimenzijama.

V tretjem poglavju sem najprej predstavila področje kulturne raznolikosti in negativne učinke kulturno raznolikega okolja na posameznikovo delovanje. Nato sem v samo raziskovanje uvedla skrivanje znanja kot enega od mogočih negativnih vplivov kulturno raznolikega okolja na ustvarjalnost. Tako je samo raziskovanje v tem poglavju izhajalo iz premise, da posamezniki s kulturno inteligentnostjo krepijo samozavedanje in samoregulacijo ter s tem zmanjšujejo negativne posledice raznolikosti okolja, še posebej skrivanje znanja, kar se kaže v povišani stopnji ustvarjalnosti na posameznikovi in timski ravni. Prva raziskava na omenjenih podatkih iz prvega poglavja (621 zaposlenih iz 73 timov iz jadranske regije) je pokazala, da ima skrivanje znanja neposreden negativen vpliv na ustvarjalnost na posameznikovi in timski ravni. Moderacijska analiza je razkrila, da kulturna inteligentnost kot celota, metakognitivna in vedenjska kulturna inteligentnost zmanjšajo negativno razmerje med skrivanjem znanja in ustvarjalnostjo na posameznikovi ravni. Eksperimentalna študija je potrdila omenjene empirične rezultate ter pokazala, da posameznikovo skrivanje znanja prav tako neposredno negativno vpliva na timsko ustvarjalnost.

V četrtem poglavju sem predstavila konflikt glede na nalogo kot drugi dejavnik negativnih učinkov kulturno raznolikega okolja na ustvarjalnost. Na podlagi nasprotujočih si empiričnih rezultatov, ki so povezovali konflikt glede na nalogo z ustvarjalnostjo, sem zastavila osrednji predmet raziskovanja, ki izhaja iz premise, da kulturna inteligentnost zmanjša negativno razmerje med konfliktom glede na nalogo in ustvarjalnostjo na posameznikovi in timski ravni. Prva raziskava je bila narejena na podlagi vzorca 617 zaposlenih iz 42 timov ter 16 malih in srednjih mednarodnih podjetjih in članov mednarodne mreže na Norveškem (angl. International Network of Norway). Rezultati raziskave so pokazali, da kulturna inteligentnost zmanjša negativno razmerje med konfliktom glede na nalogo in ustvarjalnostjo na posameznikovi ravni. Moderacijska analiza je nadalje razkrila, da metakognitivna, kognitivna in motivacijska kulturna inteligentnost prav tako zmanjšajo negativno razmerje med konfliktom glede na nalogo in ustvarjalnostjo, vendar le na posameznikovi ravni. Eksperimentalna študija je potrdila, da ustvarjalnost zmanjša negativno razmerje med konfliktom glede na nalogo in ustvarjalnostjo na posameznikovi in timski ravni. Nadalje je eksperimentalna študija nakazala, da ko posameznik zazna veliko stopnjo konflikta glede na nalogo, je ustvarjalnost najvišja, če ima posameznik srednjo raven kulturne inteligentnosti.

Prispevki disertacije so opisani v poglavju pet in sicer obsegajo sočasno preučevanje kulturne inteligentnosti in ustvarjalnosti v kulturno raznolikem okolju ter poglobljeni vpogled v to, kako lahko kulturna inteligentnost zmanjša negativne vplive kulturno raznolikega okolja, kot so socialna kategorizacija, skrivanje znanja in konflikt glede na nalogo, z namenom spodbuditi ustvarjalnost. Izsledki disertacije so lahko v veliko pomoč zaposlenim, managerjem in podjetnikom, saj podajo rešitev, kako do najvišje stopnje ustvarjalnosti v kulturno raznolikem okolju s posameznikovo in timsko kulturno inteligentnostjo.

Ključne besede: kulturna inteligentnost, ustvarjalnost, kulturno raznoliko okolje, skrivanje znanja, konflikt glede na nalogo, večnivojski pristop, socialna kategorizacija in izmenjava

A MULTILEVEL APPROACH IN EXAMINING CULTURAL INTELLIGENCE AND CREATIVITY

SUMMARY

The main aim of this doctoral dissertation is to examine the cultural intelligence–creativity relationship by using a multilevel approach (individual and team levels) in order to answer the main question of this dissertation: "Can cultural intelligence clarify the creativity–cultural diversity relationship and minimize the negative aspects of cultural diversity?" Attempting to contribute to the broader field of creativity and cultural intelligence, I draw from diversity theory (Williams & O'Reilly, 1998) and provide deeper understanding of whether cultural intelligence is indeed a valuable individual capability that can stimulate creativity, help with negative aspects of cultural diversity such as knowledge hiding and task conflict, and help to resolve inconsistent empirical evidence in the relationship between cultural diversity and creativity.

In the introductory chapter, I first describe the research area of cultural intelligence and creativity and introduce conflicting empirical findings in order to develop research questions relevant to this dissertation. From the introduction we can see that cultural intelligence and creativity constructs are clearly defined and conceptually distinct from other phenomena in the field of management, yet scholars still are confused by other constructs (e.g., cultural intelligence with emotional or social intelligence and creativity with innovation or innovation). Therefore, in Chapter 1, I use science mapping and conduct bibliometric analysis of the joint-citing published research available on the ISI Web of Science for the constructs of cultural intelligence and creativity. As such, I distinguish cultural intelligence and creativity constructs from other phenomena, clarify the foundation of both the construct and identify the key studies in the cultural intelligence and creativity field. Moreover, I also review the literature that connects cultural intelligence and creativity and show that there is a gap in theorizing and empirical research on cultural intelligence and creativity together in the organizational field.

In Chapter 2, I thus first link cultural intelligence and creativity and explore the proposed relationship in a culturally diverse working environment. Based on social categorization theory, I propose that cultural intelligence can help minimize the categorization process in culturally diverse environments and thus have direct positive impact on creativity at the individual and team levels. A sample of 621 employees in 20 small and medium-sized enterprises (SME) including multicultural companies from eight countries in the Adriatic region revealed that metacognitive and motivational cultural intelligence have a positive impact on creativity at the individual and team levels. Behavioral cultural intelligence has positive impact on creativity only at individual level. The experimental study strengthens causal inferences that creativity in a culturally diverse environment conditioned by cultural intelligence. Chapter 2 provides evidence that creativity is associated with cultural intelligence and its tree dimensions on individual level and two on team level.

In the Chapter 3, I first introduce the literature on cultural diversity and its negative effects on individual work performance factors, more specifically creativity. Then I introduce knowledge hiding as one of possible negative consequences of cultural diversity and how it can decrease creativity. Based on the premise that individuals with cultural intelligence strengthen self-awareness and self-regulation, I propose that cultural intelligence as a whole and in each dimension can enhance the likelihood of high-quality social exchange between culturally diverse individuals, and it therefore remedies the otherwise negative relationship between knowledge hiding and creativity (i.e., individuals and teams). A sample of 621 employees in 20 multicultural SME companies from eight countries in the Adriatic region revealed that knowledge hiding has a direct negative effect on creativity at individual and team level. Moderating analysis showed that overall cultural intelligence as well as metacognitive and behavioral cultural intelligence reduces the negative relationship between knowledge hiding and creativity at the individual level. The experimental study confirmed the above empirical results and showed that individual knowledge hiding also has a direct negative impact on team creativity.

Chapter 4 aims to introduce task conflict as the second negative consequence of cultural diversity for creativity. Based on the equivocal empirical results of the relationship between task conflict and creativity in a culturally diverse environment, I propose cultural intelligence as a specific individual ability that can help resolve the inconsistent association between task conflict and creativity while it reduces the negative relationship between conflict with the task and creativity on the individual and team levels. A sample of 617 employees from 42 teams and 16 international SMEs and members of international networks in Norway (Summary, International Network of Norway) showed that cultural intelligence and metacognitive, cognitive, and motivational cultural intelligence reduce the negative relationship between task conflict and creativity at the individual level. Moreover, cognitive cultural intelligence reduces the negative relationship between task conflict and creativity at the team level as well. Experimental study confirmed the above empirical results and indicated that a high level of cultural intelligence can have a "too-much-of-a-good-thing" effect on the task conflict-creativity relationship at the individual level.

Contributions of this dissertation are present in Chapter 5 and include simultaneously researching cultural intelligence and creativity in culturally diverse environment using a multilevel approach and providing in-depth insight into how cultural intelligence can reduce the negative impact of culturally diverse environments such as social categorization, knowledge hiding, and task conflict in order to stimulate creativity. The results of the thesis can be of great assistance to employees, managers, and entrepreneurs and provide insight into how to simulate a high level of creativity in a culturally diverse environment with the help of cultural intelligence at individual and team level.

Keywords: cultural intelligence, creativity, culturally diversity, knowledge hiding, task conflict, multilevel theory, social categorization theory and social exchange

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INTRODUCTION

"Creativity is not attribute of individuals, but of social systems making judgments about individuals … The social and cultural conditions, interacting with individual potentialities, brought about the objects, and behaviors we call creative"
(Csikszentmihalyi, 1994, p. 144).

Dissertation area and topics

Multilevel approach to creativity

Creativity within an organizational context is part of organizational innovation, and together they form a part of a much broader domain – organizational change (Harrison, Price, Gavin, & Florey, 2002; Woodman, Sawyer, & Griffin, 1993). Organizational change has been recognized as a building block for organizational effectiveness and survival. Creativity is "the cornerstone of organizational change, the foundation of innovation, and a key to organizational effectiveness" (Gilson, Mathieu, Shalley, & Ruddy, 2005, p. 521). Organizations can respond to opportunities, adapt, grow, and compete if they use and implement creative ideas from their employees (Amabile, 1996; Oldham & Cummings, 1996). Therefore, it is not surprising that creativity and innovation have considerable attention in academic research, especially in social sciences, and particularly by organizational psychologists and management scholars (Zhou & Hoever, 2014).

As part of organizational change, creativity and innovation are closely related processes in organizations; what is more, they are part of almost the same process (Anderson, Potočnik, & Zhou, 2014). Some scholars even used the terms interchangeably (Ford, 1996), as all innovations begin with individual creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996) and both constructs are related to the same criteria of novelty and usefulness (Nijstad, Berger-Selman, & De Dreu, 2014). However, creativity by itself does not automatically guarantee organizational change through innovation (Amabile, 1988), because only some creative ideas from employees are selected for further development and implementation in organizations (Litchfield, Gilson, & Gilson, 2015).

Furthermore, predictors that can trigger employees' creativity may not enhance innovation processes in organizations (West, 2002; Zhou & Hoever, 2014); therefore, it is crucial to make a distinction between creativity and innovation. Innovation is a broader concept than creativity (Axtell, Holman, Unsworth, Wall, & Waterson, 2000) and involves the generation, adoption, and implementation phases of ideas (Van de Ven, Angle, & Poole, 1989). Thus, creativity mainly encompasses the generation phase, in which employees develop novel and useful ideas that can be successfully implemented as innovations within an organization (Amabile, 1996; Shalley, Gilson, & Blum, 2009; Shalley, Zhou, & Oldham, 2004; Zhou & Shalley, 2003).

Generally, scholars define creativity as the production of ideas that are both novel and useful (Amabile, 1996). According to the interactionist perspective of organizational creativity (Woodman, et al., 1993), creativity can occur at multiple levels (e.g., individual, team/group, organizational). Over the past two decades, creativity has mostly been conceptualized and researched through frameworks that stress personal and contextual conditions or interactions between them that may facilitate or inhibit creativity (Shalley & Gilson, 2004; Shalley, et al., 2009; Zhou & Shalley, 2011), but mostly at a single level (Gong, Kim, Zhu, & Lee, 2013). Thus, the question of whether the same individual and contextual characteristics predict the same creative outcome at different levels remains unanswered (Zhou & Shalley, 2008). Researchers posit that individual creativity is related to team creativity (Woodman, et al., 1993), as team creativity occurs only when individuals are involved in individual-level creativity (Drazin, Glynn, & Kazanjian, 1999).

However, we cannot average individual creativity to team creativity because individuals can behave differently in the team context (Gong, et al., 2013). As Kozlowski and Klein (2001) explain, on the one hand, using only the individual-level performance measures might lead to misinterpretation, but on the other, using only the team-level performance measures does not provide enough information about mechanisms at the micro-level, in which teams actually operate. Moreover, the existing research does not provide clear theory or demonstrate the mechanism that links individual and team creativity. As Gong and colleagues (2013, p. 828) summarized, "This is problematic because any multilevel theory of creativity will be incomplete and imprecise as long as the bottom-up process remains a black box." This is why I will use a multilevel research approach and empirically test creativity (i.e., individual and team level) with respect to the bottom-up process (Kozlowski & Klein, 2001). In this dissertation, my aim is thus to contribute to discussion and advance the multilevel theory of creativity.

Social and cultural diversity side of creativity

The classic psychological creativity research mostly focused on individual creative abilities and personality traits (Barron & Harrington, 1981) and saw creativity as the individual process in which individuals came to break through creative ideas after hard work in isolation (Madjar, 2005). However, in contemporary organizations, employees' creativity is often a social process (Perry-Smith & Shalley, 2003) during which individuals are exposed to different social contexts (Anderson, et al., 2014). A research provided evidence that different aspects of social context (e.g., leadership/supervision, feedback, evaluation, knowledge/information sharing, knowledge hiding, informational evaluation, social networks, participative safety, culture, and values) are indeed positively related and/or can stimulate individual and team creativity (Anderson, et al., 2014; Zhou & Hoever, 2014). Thus, employees' creativity in nowadays' highly interactive work environment is often the result of a social interaction (Madjar, 2005; Perry-Smith & Shalley, 2003).

The creativity literature suggests that there are two relevant groups that may impact creativity. The first group includes leaders, teammates, and coworkers (Anderson, et al., 2014; Zhou & Hoever, 2014), whereas the second involves non-work-related others (Madjar, Oldham, & Pratt, 2002). Leaders and coworkers may stimulate individual creativity by providing support for the initial ideas, which will stimulate individuals to be more engaged in the creative process (Baer & Oldham, 2006; George & Zhou, 2007; Gilson & Shalley, 2004; Grant & Berry, 2011; Madjar, et al., 2002). Moreover, supervisors and/or teammates may enhance individual and team creative performance during social exchange by exposing individuals to new information and knowledge that may in turn trigger new creative ideas (De Stobbeleir, Ashford, & Buyens, 2011; Gong, Cheung, Wang, & Huang, 2012; Madjar, 2005, 2008; Perry-Smith, 2006). Therefore, the key to employees' creativity are the people they interact with and their way of interaction. However, in present organizations, the workplace has become more diverse (Shin, Kim, Lee, & Bian, 2012) and diverse workforce enables companies to increase organizational processes, such as problem-solving and creativity (Cox & Blake, 1991).

Harisson and Klein (2007, p. 1200) defined diversity as "the distribution of differences among the members of a unit with respect to a common attribute, such as tenure, ethnicity". According to the diversity literature, there are two main classifications of the diversity characteristics: the surface-level and deep-level forms of dissimilarity in a work group (see e.g., Guillaume, Brodbeck, & Riketta, 2012; Harrison, Price, & Bell, 1998; Harrison, et al., 2002; Phillips, Northcraft, & Neale, 2006; Riordan, 2000). Surface-level dissimilarity is associated with demographic variables that are most likely visible to teammates, such as age, gender, race/ethnicity, and tenure (Harrison, et al., 2002). Deep-level diversity is a less visible diversity (Riordan, 2000), which includes individual attributes, such as personality traits (Barsade, Ward, Turner, & Sonnenfeld, 2000), values (Jehn, Chadwick, & Thatcher, 1997), and beliefs (Harrison, et al., 1998).

However, cultural diversity involves both surface- and deep-level diversity since it is defined as visible and nonvisible individual differences in characteristics, such as ethnicity, race, beliefs and values, and in national culture (Chua, 2013; Cox, 1994). Cultural diversity is nowadays quite essential as employees are working and collaborating with teammates of different cultural backgrounds more than ever before (Pieterse, Van Knippenberg, & Van Dierendonck, 2013). Throughout the whole dissertation, I will thus focus explicitly on cultural diversity.

Culturally diverse colleagues may be beneficial for the individual and team creative processes, as they provide access to a broader range of knowledge and skills, and bring new ideas and perspectives from different cultures (Chua, 2013; Gilson, Lim, Luciano, & Choi, 2013; Milliken, Bartel, & Kurtzberg, 2003; Shin, et al., 2012). In line with this theory, the diversity literature based on the value-in diversity argument (Williams & O'Reilly, 1998) suggests that cross-cultural interactions may stimulate team members to

generate new ideas (Perry-Smith & Shalley, 2003) because individuals are exposed to different thinking styles, knowledge, and skills. Although some studies have shown that creativity is indeed related to workplace cultural diversity (Chua, 2013; Chua, Morris, & Mor, 2012; Cox, Lobel, & McLeod, 1991; Giambatista & Bhappu, 2010; Stahl, Maznevski, Voigt, & Jonsen, 2010), the research has not yielded equally consistent evidence that cultural diversity actually triggers individual or team creativity (Hülsheger, Anderson, & Salgado, 2009; Jackson & Joshi, 2011).

On the other hand, the similarity attraction argument (Pfeffer, 1983) proposes that dissimilarity provokes negative treatment (Shin, et al., 2012). Therefore, cultural diversity can indirectly stifle employees' creativity, as a research indicates that in diverse work groups, individuals experience high conflicts (Jehn, Northcraft, & Neale, 1999; Mannix & Neale, 2005), low cohesion (Harrison & Klein, 2007), and talk less with their coworkers (Hoffman, 1985; Watson, Kumar, & Michaelsen, 1993). For example, if employees are engaged in different conflicts caused by culturally diverse teammates, it is less likely that they will engage in creative processes, such as exchanging or elaborating ideas (Shin, et al., 2012). Cultural diversity may therefore indirectly decrease individual and team creativity. A recent meta-analysis has shown that on the one hand, cultural diversity leads to organizational process losses through task conflict and decreased social integration, but on the other hand, organizational process gains through increased creativity and satisfaction (Stahl, et al., 2010).

Considering all of the above, broader concepts of the factors and conditions that allow people from different cultures to collaborate creatively are needed (Anderson, De Dreu, & Nijstad, 2004; Leung, Maddux, Galinsky, & Chiu, 2008). Reviewing a growing body of research on creativity, Anderson et al. (2014, p. 1301) explained that "significant research-practice gap has led to repeated calls for greater research attention on cultural differences and creativity." Moreover, Erez and colleagues (Erez, Van De Ven, & Lee, 2015, p. 1) in special issue of the Journal of Organizational Behavior for "Contextualizing Creativity and Innovation Across Cultures" stress that: "there has been ongoing research on the effects of culture on creativity and innovation, leading to inconsistent findings." Thus, the purpose of this dissertation is also to understand whether the social interaction and exchange with culturally diverse colleagues can promote creativity. In this dissertation, I intend to contribute to the discussion on the cultural diversity–creativity relationship with the purpose of explaining and resolving the inconsistent relationship between a culturally diverse environment and creativity.

Cultural intelligence

Creativity in 21st century globalized and culturally diverse workplace (Rockstuhl, Seiler, Ang, Van Dyne, & Annen, 2011) depends now more than ever on employees' cross-cultural effectiveness. While during cross-cultural interactions, such as business trips to

foreign countries or overseas assignments, (Black & Mendenhall, 1991) employees "must have the ability to build interconnections with people who are different from them" (Chen, Lin, & Sawangpattanakul, 2011, p. 246) and have to be mindful of one's own and others' perceptions (Chua, et al., 2012; Johnson, Cullen, Sakano, & Takenouchi, 1996; LaBahn & Harich, 1997) in order to be successful. And although scholars provide a broad range of different measurements of individual intercultural competencies (Kelley & Meyers, 1995; Paige, 2004) or individual differences (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005; Hechanova, Beehr, & Christiansen, 2003) they can impact cross-cultural effectiveness, I propose that cultural intelligence is the most valuable individual capability for effective cross-cultural interactions, especially creative interactions. I elaborate upon my proposal in more detail below.

The contemporary perspective (Gardner, 1993) in the intelligence literature suggests that intelligence is more than just a narrow cognitive intelligence ability, and further suggests that intelligence is a multifaceted concept that is specific for various dimensions. Sternberg (1985) theorized that individual intelligence does not help individuals to solve only problems in the academic world, but it may also help individuals to overcome creative and practical issues in the "real world." Thus, based on specific content domains, scholars have conceptualized different types of individual intelligence, such as practical intelligence (Sternberg et al., 2000), Grader's (1993) seven multiple intelligences, emotional intelligence (Salovey & Mayer, 1989), social intelligence (Thorndike & Stein, 1937), and cultural intelligence (Earley & Ang, 2003). However, it is important to distinguish between the above mentioned intelligences, as Ang and Van Dyne (2008a) explain it is unlikely that individuals with a high level of cognitive intelligence, emotional intelligence, or social intelligence will automatically deal and cooperate effectively in a cross-cultural adjustment and interactions as norms of social interactions differ between cultures. More precisely, an individual who is highly emotionally intelligent in one culture may not show emotional intelligence in another culture due to the differences (Ang et al., 2007).

Cultural intelligence is not based only on one or some cultures, but it is conceptualized as an intelligence that "focuses on individual ability to grasp and reason correctly in situations characterized by cultural diversity" (Ang & Van Dyne, 2008a, p. 4). Therefore, cultural intelligence complements cognitive intelligence and emotional intelligence (Earley & Gibson, 2002) and emphasizes whether an individual actually functions and manages effectively in culturally diverse settings or in new cultural settings (Ang, Van Dyne, & Tan, 2011). A recent empirical evidence (Crowne, 2009; Crowne, 2013; Kirkman, & Chen, 2008; Moon, 2010; Rockstuhl, et al., 2011) provides support for this theory by showing that cultural intelligence is related to emotional and social intelligence, but presents a distinct construct of emotional and social intelligence.

In addition, cultural intelligence consists of metacognitive, cognitive, motivational, and behavioral individual capability (Earley & Ang, 2003). As such, it differs from individual

characteristics or outcomes (e.g., different personality types, decision making, performance, and adjustments) and other measurements of individual intercultural competencies (e.g., the Cross-Cultural Adaptability Inventory, Culture Shock Inventory, Culture-General Assimilator, Global Awareness Profile Test, Intercultural Development Inventory, Intercultural Sensitivity Inventory, Multicultural Awareness-Knowledge-Skills Survey, Overseas Assignment Inventory, and Sociocultural Adaptation Scale) (Paige, 2004). More precisely, Ang and Van Dyne (2008a) note that cultural intelligence differs from the above mentioned instruments of intercultural interaction, as it is the only construct that encompasses four related yet dissident dimensions and thus manages to integrate previously disparate empirical research on personal intercultural competencies (Ang, et al., 2007; Ang, et al., 2011; Gelfand, Imai, & Fehr, 2008; Ng, Van Dyne, & Ang, 2012). Therefore, it is no surprise that empirical studies indicate that individual traits, such as the big five personality, international non-work/work experience, and international contact, are actually antecedents of cultural intelligence (for review see: Ang, et al., 2011; Ng, et al., 2012).

Reviewing a growing body of research on cultural intelligence, Ng and colleagues (2012) also indicated that cultural intelligence is positively correlated with higher task performance, interpersonal trust (Rockstuhl & Ng, 2008), creative collaborations (Chua, et al., 2012), idea sharing (Chua & Morris, 2009), and better cultural judgment, decision making (Ang, et al., 2007), negotiation effectiveness (Imai & Gelfand, 2010), performance (Chen, et al., 2011; Chen, Liu, & Portnoy, 2012) and organizational innovation (Elenkov & Manev, 2009). Recently, scholars have shown that high cultural intelligence also enhances communication (Bücker, Furrer, Poutsma, & Buyens, 2014), adaptive performance (Sahin & Gurbuz, 2014), effectiveness (Rosenblatt, Worthley, & MacNab, 2013), performance (Taewon Moon, 2013), shared values (Adair, Hideg, & Spence, 2013), knowledge sharing (Chen & Chieh Peng Lin, 2013), fusion teamwork, and creativity (Chua, et al., 2012; Crotty & Brett, 2012) in a culturally diverse environment.

These extensive researches thus provide evidence that an individual with high cultural intelligence is more likely to have better multicultural interactions and will thus perform better in culturally diverse settings. As culturally intelligent employees are more aware of it, concerned about this, and tend to adjust their behaviors during interactions, they are more motivated for multicultural interaction and are able to understand more what culturally diverse colleagues value (Ang, et al., 2007). Therefore, I presume that cultural intelligence is a valuable capability for creativity (e.g., individual and team) in a culturally diverse environment.

Although cultural intelligence can occur at multiple levels (e.g., individual, team/group, organizational), the majority of empirical investigations still focus on at the individual level (Ng, et al., 2012). However, team cultural intelligence, like individual cultural intelligence, stimulates team performance by enhancing team optimism and efficacy and

helping to overcome difficulties due to cultural diversity in the team (Earley, Ang, & Tan, 2006). Also, empirical research provides evidence that, indeed, teams with higher cultural intelligence exhibit higher rates of performance improvement in a culturally diverse environment (Moon, 2013). Moreover, Crotty and Brett (2012) indicated that teams with high metacognitive cultural intelligence are more likely to be more creative. As such, I predict that team cultural intelligence is a relevant indicator of the team's creativity in a culturally diverse environment. Thus, in line with previous scholars (Chen, et al., 2012; Crotty & Brett, 2012; Moon, 2013), I will use a multilevel research approach and also empirically test cultural intelligence (e.g., individual and team level) with respect to the bottom-up process (Kozlowski & Klein, 2001).

To sum up, the main research purpose of my dissertation as a whole is to link and provide a deeper understating about the creativity–cultural intelligence relationship by using a multilevel approach. Attempting to contribute to the broader field of creativity and cultural intelligence, I derive from the diversity theory (Williams & O'Reilly, 1998) and investigate whether cultural intelligence can clarify the creativity–cultural diversity relationship and minimize the negative aspects of cultural diversity by emphasizing the social exchange (knowledge hiding) and social iterations (task conflict) and its effect on the social side of creativity. As such, I first provide bibliometric co-citation analysis and representation of co-citation network of two fields: the creativity field and cultural intelligence field separately and then together. In the following chapters I explore and proved more detail insights about cultural intelligence and creativity relationship in a culturally diverse environment.

Research questions addressed in this dissertation

Relationship between cultural intelligence and creativity

A creative process demands intensive individual or team investment of time and efforts (Mumford, 2000; Shalley & Gilson, 2004) in order to generate new ideas that may be further developed in useful and novel products (Mumford, Scott, Gaddis, & Strange, 2002). Creative process as such most likely requires collaboration (Agars, Kaufman, Deane, Smith, & Mumford, 2012) as creativity cannot happen in a vacuum (Guilford, 1950). Through all chapters of the dissertation, I will thus focus on creativity as part of the social process (Perry-Smith & Shalley, 2003) in which individuals are interacting, and collaborating with teammates (Chua, et al., 2012; Madjar, 2005; Perry-Smith, 2006; Unsworth, Wall, & Carter, 2005).

As Amabile (1988) explained, knowledge is essential for creativity, and employees can increase their knowledge if they interact socially and share information with coworkers who are involved in similar work tasks as them (Perry-Smith, 2006). Therefore, social exchanges among teammates are crucial for creativity as during interactions, individuals can gain new ideas, knowledge and perspectives (Bandura, 1986), which may in turn trigger new creative ideas (Amabile, 1988). For example, a research by Gong et al. (2013)

has shown that team information exchange was significantly related to individual and team creativity. Moreover, the employees' feedback-seeking behavior affects creative performance, whereas providing employees with diverse input and information about their performance will stimulate creativity (De Stobbeleir, et al., 2011).

Culturally diverse colleagues can therefore present a valuable source of creativity as they bring a wider and different pool of knowledge, ideas, and perspectives (Pelled, Eisenhardt, & Xin, 1999; Williams & O'Reilly, 1998) to the table, which may result in disparate creative ideas and perspectives (Chua, 2013). Culturally diverse teammates can present a valuable recourse for employees' creativity (Jackson, 1992). More precisely, van Knippenberg and colleagues' (2004) categorization-elaboration model (CEM) proposes that diversity within a workplace is related to creativity and innovation through individual's engagement in the elaboration of task-relevant information and perspectives. I propose, if employees exchange, discuss, and integrate ideas, knowledge and important insight into work takes with culturally diverse colleagues, they will stimulate their own creativity.

However, a culturally diverse workplace does not automatically imply that employees will participate willingly in the elaboration of task-relevant information and perspectives with teammates from a culturally diverse background (Van Knippenberg, et al., 2004). Studies indicate that the moderate level of national diversity as part of cultural diversity will actually disrupt the information use (Earley & Mosakowski, 2000). Moreover, national diversity was found to have curvilinear relationship with the range, depth, and integration of information use (Dahlin, Weingart, & Hinds, 2005). Furthermore, an experimental study (Dahlin, et al., 2005) revealed that national diversity usually has a negative effect on accumulation phase in which individuals introduce new ideas in work groups.

According to the diversity literature, the disruption of the information elaboration process (i.e. exchange and integration) in a culturally diverse environment, which is essential for creativity, most likely occurs due to the social categorization process (Daan Van Knippenberg, Dawson, West, & Homan, 2011). In this dissertation, I focus on the core premise of the social categorization theory (Turner, 1985), or more precisely "the social identity theory of intergroup behavior" (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987, p. 42). According to the social categorization theory, individuals in a culturally diverse environment categorize themselves and others in an in-group and outgroup (e.g., based on cultural category), which on the one hand decreases the information exchange and collaboration with culturally diverse individuals (Hogg & Terry, 2000; Williams & O'Reilly, 1998), and on the other hand increases conflict (Jehn, et al., 1999; Jehn, Rispens, & Thatcher, 2010). Cultural diversity diminishes the information exchange for idea generation (Choi & Thompson, 2005) and decreases mutual understanding about new ideas (Kurtzberg & Amabile, 2001), which is essential for creativity (Amabile, 1988).

However, in order to increase creativity in a culturally diverse work environment, we need to shed a light on how to minimize these negative aspects of cultural diversity. As Kirton

(1976; 1989) already proposed, there is a need for some kind of effective "translators" in a work environment group who will help employees appreciate the value of the diverse perspective (Kurtzberg & Amabile, 2001) of their culturally diverse colleagues. Highly culturally intelligent individuals can be effective translators as they have all the necessary capabilities to deal with challenges due to cultural diversity, and are deeply involved in cross-cultural interactions (Ang & Van Dyne, 2008a). Moreover, employees with high cultural intelligence manage to increase mutual collective optimism and identifications with individuals from other cultural backgrounds, which are essential for work performance in a culturally diverse environment (Earley, et al., 2006; Moon, 2013).

Taking all together, the first research question (*RQ1a*) of my dissertation is*: What is the relationship between cultural intelligence and creativity at the individual level?* To delve deeper into the cultural intelligence literature, I will focus on each dimension of cultural intelligence and its involvement in the creative process. Thus *RQ1: What is the relationship between (1b) metacognitive cultural intelligence, (1c) cognitive cultural intelligence, (1d) motivational cultural intelligence, (1e) behavioral cultural intelligence and creativity at the individual level?* An important contribution of Chapter 2 is the provision of evidence that cultural intelligence as a whole construct and as an individual dimensions are valuable capability for individual creativity in a culturally diverse work environment.

I take a step forward by exploring the same individual variables on the team level and thus open the black box of the bottom-up process in creativity (Gong, et al., 2013). Hence the second part (*RQ2b*) of this research question*: What is the relationship between cultural intelligence and creativity at the team level?* Furthermore, I concentrate on the study of influence of cultural intelligence's dimensions on creativity at the team level (*RQ2: What is the relationship between (b) metacognitive cultural intelligence, (c) cognitive cultural intelligence, (d) motivational cultural intelligence, (e) behavioral cultural intelligence and creativity at the team level?).* In this chapter, I thus contribute to the diversity, cultural intelligence, and creativity literature by exploring whether highly culturally intelligent employees are more creative in a culturally diverse environment. An important contribution of Chapter 2 is the theoretical conceptualization and empirical investigation of the role of cultural intelligence's aspects on individual and team creativity. With this research, I also contribute to the multilevel theory of creativity and cultural intelligence.

Cultural diverse knowledge exchange and creativity

In the diversity literature, there are two main equivocal arguments on how cultural diversity can affect creativity. As already noted above, the value-in perspective and similarity–attraction perspective has different effects on creativity. The value-in perspective suggests that a diverse work environment increases the range of different knowledge available within individuals (Pelled, et al., 1999; Williams & O'Reilly, 1998), who may be valuable sources of creativity (Amabile, 1996). An empirical research

indicates that information support and exchange among team members enhances individual and team creativity (Gong, et al., 2012; Gong, et al., 2013; Madjar, 2008). However, whether culturally diverse individuals are going to share their knowledge with colleagues is up to them (Gilson & Shalley, 2004). Diverse knowledge and task-relevant information that are crucial for creative process are often hidden in a culturally diverse work environment as employees are not aware of the benefits of the social exchange, or are simply not motivated to share their knowledge with culturally dissimilar people (Pieterse, et al., 2013).

Moreover, individuals who are not motivated to share their knowledge with culturally diverse colleagues may decide to hide their knowledge. It is most likely that individuals will hide knowledge (e.g., intentional withholding or concealing knowledge) that has been requested (Connelly, Zweig, Webster, & Trougakos, 2012) by a culturally diverse colleague due to the self-categorization process that occurs in a culturally diverse environment (Hogg & Terry, 2000). A research indicates that individuals in diverse work groups evoke more distrust (Swann, Kwan, Polzer, & Milton, 2003), which leads to avoidance in communicating with their coworkers (Watson, et al., 1993). What is more, a recent research also showed that the individual knowledge hiding is negatively related to the knowledge hider creativity through a reciprocal distrust loop (Černe, Nerstad, Dysvik, & Škerlavaj, 2014). In Chapter 3, I contribute to this research and thus propose that knowledge hiding is directly and negatively related to creativity in a culturally diverse environment (*RQ3a: What is the relationship between knowledge hiding and creativity at the (a) individual level*, and *(b) team level? and RQ3c: What is the relationship between individual knowledge hiding and team creativity?*).

Social categorization process "generates stereotypical expectations and encourages stereotype-consistent interpretation of ambiguous behaviors" (Hogg & Reid, 2006, p. 10) and therefore decreases individual motivation to contribute to the group effectiveness (Chattopadhyay, George, & Lawrence, 2004). To summarize the diversity management research, Guillaume and colleagues (2014) proposed in their multilevel model that social categorization processes can undermine efforts to cooperate, help, communicate and perform in a group if individuals are not motivated to exchange and integrate information in groups. However, cultural intelligence can reduce the differences in one's perception on in-group and out-group members as highly culturally intelligent individuals are less likely to be engaged in stereotypes (Kim & Van Dyne, 2012) and are intrinsically motivated to increase their cross-cultural encounters (Earley & Ang, 2003; Templer, Tay, & Chandrasekar, 2006). Therefore, cultural intelligence will most likely stimulate employees to look beyond the cultural differences, which will lead to the reduction of the social categorization processes (Pieterse, et al., 2013) and in turn encourage individuals to be more engaged in cross-cultural collaborations (Ng, et al., 2012). That is why the second part of this research question (RQ4a) is*: What is the relationship between cultural intelligence, knowledge hiding and creativity at the individual level?* More precisely, I will look at the relationship between each cultural dimension, knowledge hiding and creativity, hence the *RQ4: What is the relationship between (b) metacognitive cultural intelligence,*

(c) cognitive cultural intelligence, (d) motivational cultural intelligence, (e) behavioral cultural intelligence, knowledge hiding and creativity at the individual level?

Furthermore, I will take the multilevel perspective (Kozlowski & Klein, 2001) and focus on the bottom-up relationship between knowledge hiding, cultural intelligence and creativity at the team level. Hence the *RQ5a: What is the relationship between cultural intelligence, knowledge hiding and creativity at the team level?* and *RQ5: What is the relationship between (b) metacognitive cultural intelligence, (c) cognitive cultural intelligence, (d) motivational cultural intelligence, (e) behavioral cultural intelligence, knowledge hiding and creativity at the team level?*

With this research, I provide new insights into the multilevel generalization of cultural intelligence, creativity and knowledge hiding fields. In addition to the empirical examination of the knowledge hiding and creativity relationship in a diverse work environment, I contribute by answering calls in literature to enrich the knowledge of social influences on creativity (Grant & Berry, 2011; Perry-Smith, 2006). More precisely, I contribute to the cross-cultural creativity research by simultaneously considering individual behavior (e.g., knowledge hiding) and contextual factors (e.g., a culturally diverse environment) as antecedents of individual and team creativity. Furthermore, I extend the diversity literature by researching cultural intelligence as a crucial individual capability that can minimize the negative aspect of a culturally diverse environment – knowledge hiding – and in turn enhance creativity (e.g., individual and team). Finally, with this chapter, I also identify cultural intelligence as a boundary condition that minimizes the possibility of knowledge hiding (Connelly, et al., 2012).

Creativity as a conflict outcome

Organizational scholars have long believed that a certain degree of disagreement among individuals working on the same task can actually enhance creativity (Jehn, 1995) as creativity often sparks at the crossroads of divergent avenues of knowledge (Amabile, 1996). Conflict is a negative disagreement among individuals defined as "perception by the parties involved that they hold discrepant views or have interpersonal incompatibilities" (Jehn, 1995, p. 257). Although creativity has been associated with different types of conflict (e.g., task conflict, relationship conflict and emotional conflict) and levels of conflict (e.g., high/low level of conflict and conflict asymmetry) (De Dreu, 2006; Fairchild & Hunter, 2014; Farh, Lee, & Farh, 2010; Hülsheger, et al., 2009), I will be interested only in task conflict in this chapter. Task conflict can trigger an individual sharing of unconventional solutions and a wider range of diverse ideas (Fairchild & Hunter, 2014; Jehn, 1995), and in turn expose individuals to diverse ideas that may help in their creative process (De Dreu, 2006). Therefore, the level of creativity (e.g., individual and team) depends on the amount of task conflict that individuals perceive in their work environment.

According to the minority dissent theory, task conflict can enhance creativity as it triggers the group's engagement in deep task-relevant information exchanges, challenging the status quo of ideas, procedures, and policies (De Dreu, 2006; De Dreu & West, 2001; Hülsheger, et al., 2009; McLeod, Baron, Marti, & Yoon, 1997). However, the empirical research linking task conflict and creativity has been inconsistent. Some studies have demonstrated that task conflict is positively related to creativity and innovation (e.g., De Dreu, 2006; Miron-Spektor, Gino, & Argote, 2011), whereas others have shown negative or non-significant associations (e.g., Hoever, 2012; Hülsheger, et al., 2009; Jehn, et al., 2010; Van Dyne, Jehn, & Cummings, 2002). In light of these conflicting findings, my first research question in Chapter 4 is *RQ6: What is the relationship between task conflict and creativity in a culturally diverse environment (a) at the individual level and (b) at the team level?* An important contribution of Chapter 4 is the resolution of the inconsistent empirical investigation on the relationship between task conflict and creativity.

Although task conflict can be beneficial for creativity, the existing research indicates that too much task conflict can interrupt a creative process (Farh, et al., 2010; Pearsall, Ellis, & Evans, 2008) as it stimulates strong negative emotions (Jehn, 1997), relationship conflict (De Dreu & Weingart, 2003), and may harm a coherent team final solution due to the overload of ideas (De Dreu, 2006). Moreover, the perspectives on similarity attraction (Byrne, 1971) and social categorization theories (Turner, 1985) suggest that diverse work environments foster conflict (Williams & O'Reilly, 1998) as culturally diverse teammates lack cultural awareness what are the expectations of others and therefore often have misunderstandings (Ang, Van Dyne, & Koh, 2006; Chua, et al., 2012). De Dreu (2008) suggested that in a work environment, task conflict can enhance performance only under specific circumstances.

I propose that in a culturally diverse work environment, task conflict can stimulate creativity, but only if individuals have a high level of cultural intelligence. On the one hand, a low level of cultural intelligence leads to unnecessary conflicts (Kim & Van Dyne, 2012), and on the other, high individual cultural intelligence will help resolve task conflict and misunderstandings by developing mutual trust and group cohesiveness (Moon, 2013; Rockstuhl & Ng, 2008; Shokef & Erez, 2008) in a culturally diverse work environment. Therefore, unlike recent research that focused on participative safety in task conflict–creativity relationship (Fairchild & Hunter, 2014), I focus on cultural intelligence and investigate the relationship between task conflict and creativity in a culturally diverse environment (*RQ7a: What is the relationship between task conflict, cultural intelligence and creativity at the individual level?* and *RQ7: What is the relationship between (b) metacognitive cultural intelligence, (c) cognitive cultural intelligence, (d) motivational cultural intelligence, (e) behavioral cultural intelligence, task conflict and creativity at the individual level?*). I contribute by shifting the view in conflict theory, and theoretically and empirically investigate cultural intelligence as an important moderator in conflict–creative outcome relationship.

In Chapter 4, I answer a recent call for the investigation of the effects of team task conflict and team interactions at a closer level (Fairchild & Hunter, 2014) and therefore examine the *RQ8a: What is the relationship between task conflict, cultural intelligence and creativity at the team level?* and *RQ8: What is the relationship between (b) metacognitive cultural intelligence, (c) cognitive cultural intelligence, (d) motivational cultural intelligence, (e) behavioral cultural intelligence, task conflict and creativity at the team level?*

I expect that high levels of cultural intelligence will have a negative effect on the relationship between task conflict and creativity. While employees can, due to high levels of cultural intelligence, start avoiding conflict, they will consequently begin to think as a group (Janis, 1972). Groupthink inhibits creativity, since individuals will not debate different thoughts and opinions. As Zhou and George (2003, p. 560) suggested, "Idea evaluation can become a superficial process in which employees attempt to maintain interpersonal harmony at all costs and offer no real critical assessments to improve ideas." This is why I will take my research a step further and answer the research question *RQ18: Does a high level of cultural intelligence have negative effects on the task conflict and employee creativity relationship?* This has important implications for both research and practice. In Chapter 4, I acknowledge cultural intelligence as an important individual and team capability that can minimize the negative aspect of cultural diversity – task conflict – and in turn stimulate creativity (e.g., individual and team).

Structure and contents of the dissertation

The aim of my research is to link cultural intelligence and creativity using a multiple-level approach in order to explore if cultural intelligence is an important capability that can minimize the negative aspects of cultural diversity (i.e., social categorization processes, knowledge hiding, and task conflict) and in turn stimulate creativity at the individual and team levels. I will carry out this in four content-related chapters (at two different levels of research), as shown in Figure 1. In order to do that, I will draw upon the diversity literature, more precisely on the social categorization theory that connects cultural intelligence and creativity within a culturally diverse work environment.

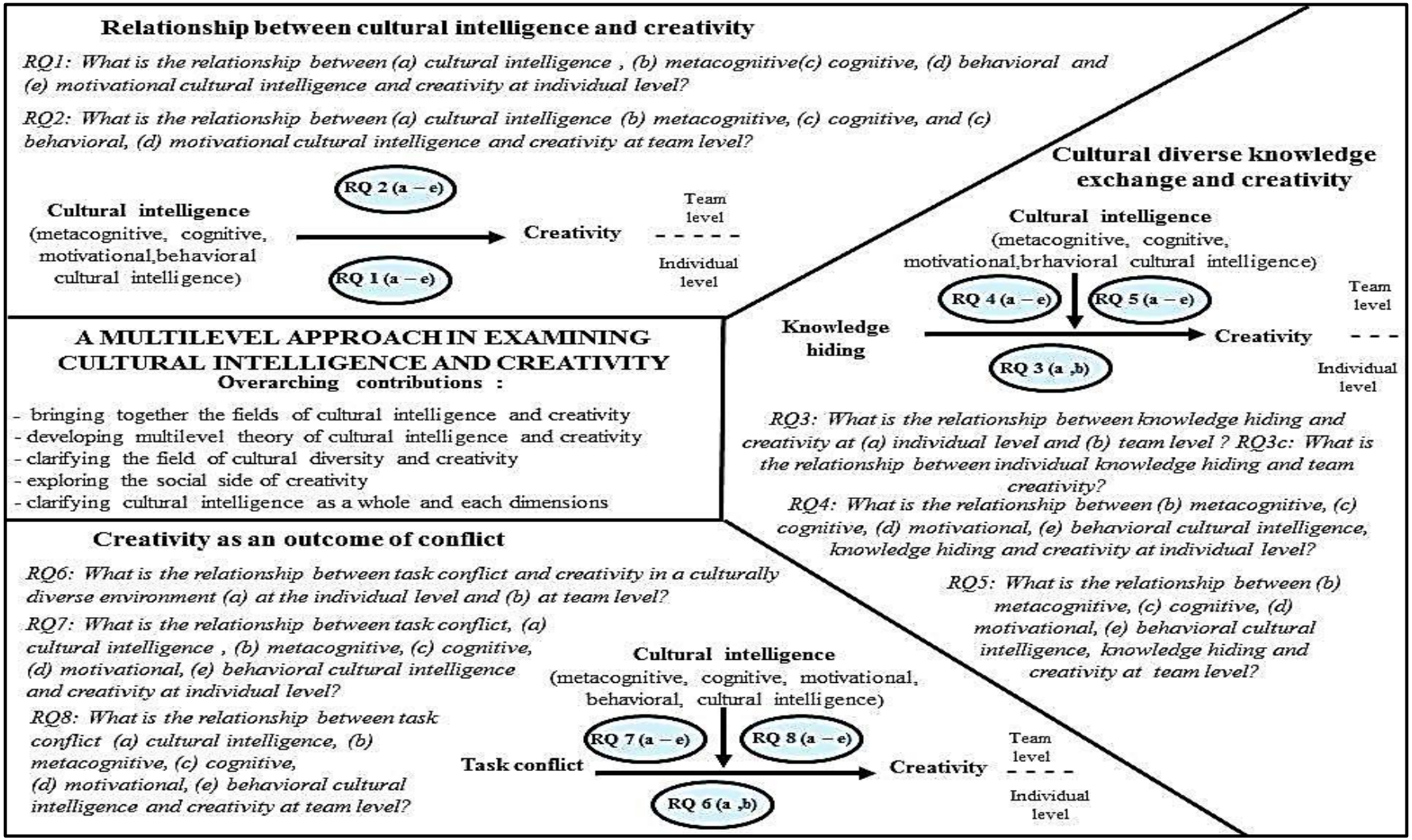
My dissertation is structured around five distinctive chapters. In Chapter 1, I first look at how the fields of cultural intelligence and creativity have evolved in organizational science by doing a brief qualitative literature review and conducting bibliometric co-citation analysis and social network representations for both constructs. Moreover, I connect cultural intelligence with the creativity field by doing a brief qualitative literature review and showing that there is a need for deeper research in connecting these two fields. Then, in other chapters, I conceptualize and explore in more detail the relationship between cultural intelligence and creativity in a culturally diverse environment. As such, Chapter 2 provides a basis for other chapters by connecting cultural intelligence as a whole and each dimension to individual and team creativity within a culturally diverse work setting. By

using the multilevel approach, I contribute to the fast-growing field of cultural intelligence, cultural diversity, and creativity. I also provide additional validity to findings in Chapter 2 by examining the same relationships at the individual level, but with a different data source.

Chapter 3 goes deeper and brings a new insight on how cultural intelligence minimizes the negative aspects of the social categorization process and thus decreases knowledge hiding, and in turn enhances creativity at the individual and team level. I use data source from Chapter 2 and also add a new data source for researcher-proposed relationship at the individual level. In Chapter 4, I contribute to this line of research and examine whether cultural intelligence can stimulate creativity in a diverse work environment with high task conflict. In all chapters, I contribute theoretically and empirically to the fast-growing field of cultural intelligence, cultural diversity, and creativity by using a multilevel approach.

In the final chapter, i.e. Chapter 5, I outline the general discussion of this dissertation as a whole and its practical and theoretical contributions. I also summarize the limitations of the dissertation and outline suggestions for future research. My dissertation will thus link together as a whole: the act of finding the optimal level of cultural intelligence that will result in high creativity at work without the negative consequences of task conflict, knowledge hiding, and social categorization process due to the culturally diverse environment.

Figure 1: *Dissertation framework*



CHAPTER ONE: CULTURAL INTELLIGENCE AND CREATIVITY CO-CITATION ANALYZES, AND SCIENCE MAPPING

1.1 Cultural intelligence

Organizational scholars share a strong interest in understanding how culture and intelligence affect individual work performance (Ng & Earley, 2006). Therefore, it is no surprise that evidence of organizational research on constructs: culture and intelligence date back to the 1960s, including research on cultural managerial values by Haire, Ghiselli, and Porter (1966) and the review of Ghiselli (1966) on academic intelligence and job performance. The most common approach of cross-cultural organizational scholars in regard to research on culture and national differences in organizational studies is exploring the impact of cultural values (i.e., power distance, uncertainty avoidance, individualism-collectivism, masculinity-femininity) on different organizational behaviors on different levels (e.g., Bond & Smith, 1996; Earley & Gibson, 1998; Erez & Earley, 1993; Harry Charalambos Triandis, 1994). On the other hand, individual intelligence was mostly included as one of the predictors of job performance in a number of meta-analytic reviews (e.g., Hunter & Hunter, 1984; Salgado et al., 2003). Thus, although the research on culture and intelligence is quite established, the main question of why some individuals are more effective in intercultural interactions still remains.

Researchers started to address this question by theorizing that some individuals have certain attributes that enable them to be more efficient in intercultural communication (Ting-Toomey, 1999), in overseas assignments (Caligiuri, 2000) and in cross-cultural interactions (Cushner & Brislin, 1996). Some organizational scholars (Earley & Ang, 2003; David Clinton Thomas & Inkson, 2003) took a step forward and linked culture and intelligence in cultural intelligence as a new construct that "captures a person's capability to adapt effectively to new cultural contexts and it has both process and content features" (Earley, 2002, p. 274). Over the last decade, cultural intelligence has been introduced as the most important individual capability that can help individuals to interact effectively in foreign cultures (Crowne, 2008) and that has a positive effect on various outcomes (i.e., cognitive, psychological, behavioral, and performance) at work (Ng, et al., 2012). However, researchers define and conceptualize cultural intelligence based on different dimensions with specific relevance to functioning in culturally diverse settings (Thomas et al., 2008).

As such, in this chapter, I first report a brief qualitative literature review of the cultural intelligence field that enables me to get a whole picture of the existing different types of definition of the cultural intelligence construct and its outcomes. This serves me as a basis for my bibliometric analysis for cultural intelligence that I will do in the second stage. In Tables 1 and 2, I summarize some of the most common definitions of cultural intelligence and different elements that encompass each definition. For additional cultural intelligence definitions and levels of research, see Thomas et al. (2008), Crowne (2008), Rockstuhl, Hong, Ng, Ang & Chiu (2010), and Ng et al. (2012).

Table 1: A brief summary of definitions, elements and level of analysis of cultural intelligence

Authors	Meaning or definition	Elements	Level of analysis
Earley & Ang (2003, p. 9)	"… a person's capability for successful adaptation to new cultural, that is, for unfamiliar settings attributional to cultural context."	Cognitive Motivational Behavioral	Individual level
Thomas & Inkson (2003, pp. 182-183)	"… involves understanding the fundamentals of intercultural interaction, developing a mindful approach to intercultural interactions, and finally building adaptive skills and a repertoire of behavior so that one is effective in different intercultural situations."	Knowledge Mindfulness Behavioral skills	Individual level but accounting for higher (team) levels
Earley & Mosakowski (2004, p. 139)	"… seemingly natural ability to interpret someone's unfamiliar and ambiguous gestures in just the way that person's compatriots and colleagues would even to mirror them."	Cognitive Physical Emotional/motivational	Individual level
Earley & Peterson (2004, p. 105)	"… reflects a person's capability to gather, interpret, and act upon these radically different cues to function effectively across cultural settings or in a multicultural situation."	Metacognitive–Cognitive Motivation Behavior	Individual level but accounting for higher (team) levels
Earley, Ang & Tan (2006, p. 5)	"… a person's capability for successful adaptation to new cultural settings, that is for unfamiliar settings attributable to cultural context."	Cultural strategic thinking Motivation Behavior	Individual level

Table 2*: A brief summary of definitions, elements and level of analysis of cultural intelligence*

Authors	**Meaning or definition**	**Elements**	**Level of analysis**
Ang & Van Dyne (2008a, p. 3)	"… an individual's capability to function and manage effectively in culturally diverse settings."	Metacognitive Cognitive Motivational Behavioral	Individual level but accounting for higher (team) levels
Thomas et al. (2008, p. 126)	"… a system of interacting knowledge and skills, linked by cultural metacognition, that allows people to adapt to, select, and shape the cultural aspects of their environment."	Cultural knowledge Cross-cultural skills Cultural Metacognition	Individual level
Ang & Inkpen (2008, p. 338)	"… as a form of organizational intelligence or firm-level capability in functioning effectively in culturally diverse situations."	Managerial (Metacognitive, Cognitive, Motivational, Behavioral) Competitive Structural	Organizational level
Van Dyne et al. (2012, p. 297)	"… an individual's capability to detect, assimilate, reason, and act on cultural cues appropriately in situations characterized by cultural diversity."	Metacognitive (Planning, Awareness, Checking) Cognitive (Culture-General Knowledge, Context-Specific Knowledge) Motivational (Intrinsic interest, Extrinsic interest, Self-efficacy to adjust) Behavioral (Verbal behavior, Non-verbal behavior, Speech acts)	Individual level

It is interesting to note that almost all conceptualizations of cultural intelligence are on the individual level and only some of them also account for higher (i.e., team and organizational) levels. At this point, I would like to stress that in this dissertation, I will adopt Ang & Van Dyne's (2008a, p. 3) definition of cultural intelligence as "an individual's capability to function and manage effectively in culturally diverse settings." I will research cultural intelligence as aggregate multidimensional construct of metacognitive, cognitive, motivational and behavioral cultural intelligence dimensions. To complement the research on cultural intelligence as a multidimensional construct, I will also explore the impact of each cultural intelligence dimension individually. Moreover, I will use a multilevel research approach and also empirically test cultural intelligence as a whole and each dimension at the team level with respect to the bottom-up process (Kozlowski & Klein, 2001). Thus, in line with Ang and Van Dyne (2008b), I define team cultural intelligence as team capability to overcome problems from multicultural situations and increase engagement in cross-cultural interactions.

As already mentioned, this brief qualitative literature review of the cultural intelligence field serves me as a basis for my bibliometric analysis for cultural intelligence. The main aim of the bibliometric analysis for construct cultural intelligence is to detect the most influential schools of thought and the interrelationships among them. Although the cultural intelligence stream of research is relatively new, it is essential to examine citations of seminal authors or their works that can help us to "identify the most influential works in the field and trace the intellectual evolution of the field by tracking changes in citation patterns over time" (Nerur, Rasheed, & Natarajan, 2008, p. 320). Authors working on in the cultural intelligence field often cite one another, and thus, through co-citations, a web of relationship is established that is essential for the dissemination of knowledge in the cultural intelligence field. Thus, the aim is to, by using bibliometric methods, visually present (e.g., map) the cultural intelligence discipline and present how papers are related to one another (Zupic & Čater, 2014).

1.1.1 Bibliometric co-citation analysis of the cultural intelligence field

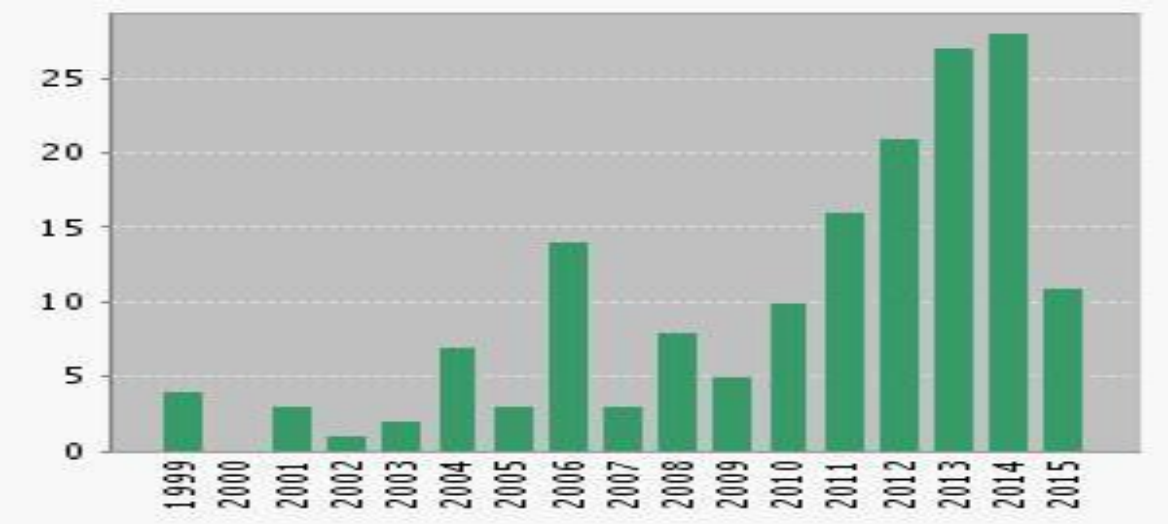
I used ISI Web of Science in order to obtain secondary data for bibliometric co-citation analysis since the majority of researchers in bibliometric studies (e.g., Nerur, et al., 2008) use this database. I searched the database using the search term "cultural intelligence" and used all years available in all citation databases offered by ISI: SCI-EXPANDED (Science Citation Index Expanded), SSCI (Social Sciences Citation Index), and A&HCI (Arts & Humanities Citation Index). I obtained a database containing 1,326 units of literature (documents) in September 2015.

In second stage of the search, I refined the search by key areas (Web of Science Categories): Management or Psychology Multisciplinary or Business or Psychology Educational or Psychology Applies or Social Sciences Interdisciplinary or Behavioral

Sciences or International Relations or Social Issues or Cultural Studies or Economics or Communication or Public Administration or Operations Research Management Science or Psychology Social or Psychology or Psychology Developmental or Psychology Experimental or Industrial Relations Labor. This search generated 785 units of literature (documents).

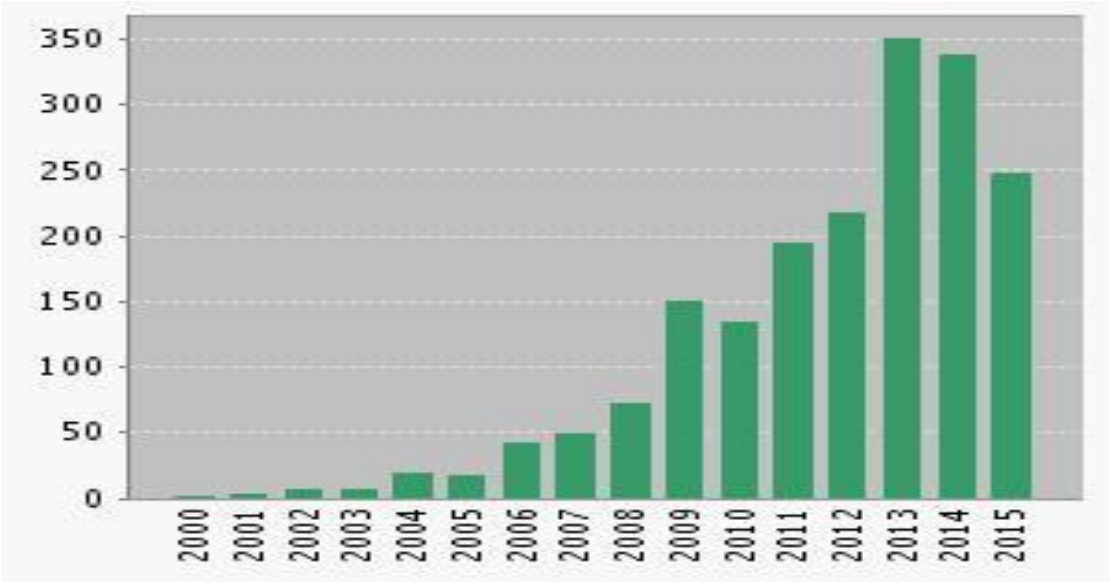
Then, in order to get a more accurate database for bibliometric co-citation analysis, I constrained the publication years from 1999 and on since the first definition of cultural intelligence was only in 2003 (e.g, Earley & Ang, 2003; Thomas & Inkson, 2003). From this search, I obtained a database containing 672 units of literature (documents). Afterward, I manually reviewed the abstracts and excluded the articles that were not relevant for my topic, even if they had passed the first filtering by keywords. In this way, I reduced the number of articles to 163 units. As such, the sample of primary articles (citations of these primary articles are used in the analyses) includes 163 documents from the ISI Web of Knowledge from the 2000–2015 period that fit the keywords relevant for the cultural intelligence field. They cited 1,871 papers (average citations per article: 10.94). Figure 2 demonstrates when the primary articles were published in terms of the actual publication dates within the period.

Figure 2*: Distribution of primary published items in the cultural intelligence field per year during 1999-2015 period*



From Figure 2, we can see that a relatively low number of papers were published in the earlier years of the 1999 to 2003 period. Moreover, we can see exponential growth after this period, especially in years 2006, 2013, and 2014. Figure 3 (see nest page) reveals when these primary articles were later on cited and how often the citation occurred, indicating their influence. As with the interest in the publications in the cultural intelligence field, the number of citations for selected papers also grew over the past 15 years. Interestingly, the number of citations was the highest in the year 2013 and then slightly decreased in the years 2014 and 2015.

Figure 3*: Number of citations of selected cultural intelligence documents in each year*



In Table 3 (see next page), I presented the 15 primary documents that were cited the most often. However, the findings in Figure 1, Figure 2, and Table 3 are preliminary findings; while they provide basic information about the 163 selected documents, they do not provide any insight about the structure and origins in the cultural intelligence field. Thus, I continued my research and exported the database of the chosen articles into Bibexcel (Persson, Danell, & Schneider, 2009) in order to conduct co-citation bibliometric analysis. Furthermore, I used Pajek software for network analysis (De Nooy, Mrvar, & Batagelj, 2005) in order to visually present different thresholds for the cultural intelligence field.

Table 3: The most highly cited primary articles in the cultural intelligence field

Title	Authors	Source Title	Year	Citations	Citations per Year
On being positive: Concerns and counterpoints	Fineman, S	Academy of Management Review	2006	125	12.5
Cross-cultural competence in international business: toward a definition and a model	Johnson, J. P.; Lenartowicz, T.; Apud, S.	Journal of International business studies	2006	92	9.2
Personality correlates of the four-factor model of cultural intelligence	Ang, S; Van Dyne, L; Koh, C	Group & Organization Management	2006	86	8.6
Culture and intelligence	Sternberg, R.J.	American Psychologist	2004	85	7.08
The Elusive Cultural Chameleon: Cultural Intelligence as a New Approach to Intercultural Training for the Global Manager	Earley, P. Christopher; Peterson, Randall S.	Academy of Management Learning & Education	2004	81	6,75
The predictive value of IQ	Sternberg, RJ; Grigorenko, EL; Bundy, DA	Merrill-Palmer Quarterly Journal of Developmental Psychology	2001	78	5,2
Motivational cultural intelligence, realistic job preview, realistic living conditions preview, and cross-cultural adjustment	Templer, KJ; Tay, C; Chandrasekar, NA	Group & Organization Management	2006	69	6,9
Cultural intelligence	Earley, PC; Mosakowski, E	Harvard Business Review	2004	63	5,25
Leading cultural research in the future: a matter of paradigms and taste	Earley, P. Christopher	Journal of International Business Studies	2006	56	5,6
Domain and development of cultural intelligence - The importance of mindfulness	Thomas, DC	Group & Organization Management	2006	56	5,6
Redefining interactions across cultures and organizations: Moving forward with cultural intelligence	Earley, PC	Research in Organizational Behavior	2002	53	3,79
Development of emotional intelligence: Towards a multi-level investment model	Zeidner, M; Matthews, G; Roberts, RD; MacCann, C	Human Development	2003	48	3,69
Developing Responsible Global Leaders Through International Service-Learning Programs: The Ulysses Experience	Pless, N. M.; Maak, T.; Stahl, Guenter K.	Academy of Management Learning & Education	2011	46	9,2
Toward culture-sensitive theories of the work-family interface	Powell, G. N.; Francesco, A.M.; Ling, Y.	Journal of Organizational Behavior	2009	45	6,43
Cultural intelligence and offshore outsourcing success: A framework of firm-level intercultural capability	Ang, S.; Inkpen, A. C.	Decision Sciences	2008	45	5,62

Source: ISI Web of Knowledge.

1.1.2 Co-citation analysis results of the cultural intelligence field

I continued my research and exported the database of the chosen articles into Bibexcel (Persson, et al., 2009) in order to conduct co-citation bibliometric analysis. First, I will present some descriptive statistics for the whole period. In Table 4, I presented the most frequently cited (top 30) of the chosen documents in the field of cultural intelligence that I further used for co-citation analysis. As we can see from Table 4, the article by Earley (2003) was the most cited document; it was cited 87 times in the 163 articles that constitute the database of primary articles. The second most cited piece was Ang et al. (2007), with 66 citations in the 163 papers that constitute the database of primary articles in the field of cultural intelligence.

Table 4: Target articles with the highest citation frequencies in cultural intelligence field

Citation frequency	First author, year, and publication
87	Earley P, 2003, Cultural Intelligenc
66	Ang S, 2007, V3, P335, Management Org Rev,
46	Ang S, 2006, V31, P100, Group Organ Manage,
44	Earley P, 2004, V3, P100, Acad Manag Learn Edu
28	Templer K, 2006, V31, P154, Group Organ Manage
27	Podsakoff P, 2003, V88, P879, J Appl Psychol
25	Ng K, 2009, V8, P511, Acad Manag Learn Edu
25	Ng K, 2006, V31, P4, Group Organ Manage
24	Black J, 1991, V16, P291, Acad Manage Rev
23	Ang S, 2008, P3, Hdb Cultural Intelli
22	Triandis H, 2006, V31, P20, Group Organ Manage
22	Thomas D, 2006, V31, P78, Group Organ Manage
21	Hofstede G, 2001, Cultures Consequence
21	Hofstede G, 1980, Cultures Consequence
19	Imai L, 2010, V112, P83, Organ Behav Hum Dec
19	Black J, 1990, V15, P113, Acad Manage Rev
19	Earley P, 2002, V24, P271, Res Organ Behav
19	Bhaskar-Shrinivas P, 2005, V48, P257, Acad Manage J
18	House R, 2004, Culture Leadership O
18	Thomas D, 2008, V8, P123, Int J Cross Cultural
17	Earley P, 2006, Cq Dev Cultural Inte
17	Mendenhall M, 1985, V10, P39, Acad Manage Rev
17	Johnson J, 2006, V37, P525, J Int Bus Stud
17	Johnson J, 2006, V37, P525, J Int Bus Stud
17	Ward C, 2009, V69, P85, Educ Psychol Meas
17	Black J, 1989, V15, P529, J Manage
17	Earley P, 2004, V82, P139, Harvard Bus Rev
16	Brislin R, 2006, V31, P40, Group Organ Manage
16	Bandura A, 1997, Self-Efficacy Exerci
16	Thomas D, 2004, Cultural Intelligenc
16	Chen G, 2010, V53, P1110, Acad Manage J

Table 5 reveals the articles that were most often cited together (co-occurrence). This was the basis for implementing the co-citation analysis and subsequent pathfinder analysis. Articles by Ang et al. (2007) and Earley & Ang (2003) were most often cited together in 163 primary articles—58 times—followed by the articles Ang et al. (2006) and Ang et al. (2007), which were cited together 42 times. The articles Ang et al. (2006) and Earley & Ang (2003) were also cited together 42 times in the primary articles, followed by other articles that were cited together less than 40 times in the target articles (that were in the references of the primary articles). Then, to portray a network of co-citations for the cultural intelligence field in the organizational field, I used network analysis in Pajek.

Table 5: Target articles with the highest co-citation frequencies in cultural intelligence field

Number of co-citations	**Citation 1 (First author, year, and publication)**	**Citation 2 (First author, year, and publication)**
58	Ang S, 2007, V3, P335, Management Org Rev	Earley P, 2003, Cultural Intelligenc
42	Ang S, 2006, V31, P100, Group Organ Manage	Earley P, 2003, Cultural Intelligenc
42	Ang S, 2006, V31, P100, Group Organ Manage	Ang S, 2007, V3, P335, Management Org Rev
38	Earley P, 2003, Cultural Intelligenc	Earley P, 2004, V3, P100, Acad Manag Learn Edu
37	Earley P, 2003, Cultural Intelligenc	Templer K, 2006, V31, P154, Group Organ Manage
36	Ang S, 2007, V3, P335, Management Org Rev	Templer K, 2006, V31, P154, Group Organ Manage
31	Ang S, 2007, V3, P335, Management Org Rev	Earley P, 2004, V3, P100, Acad Manag Learn Edu

I chose to use only the top 30 references (see Table 4) in that field for the network of co-citations, as otherwise, the network would become too complex for seeing connections clearly. I portray a network of co-citations for the cultural intelligence field in the organizational field in four different figures (see below, Figure 4, Figure 5, and Figure 6). In networks that are shown in Figure 4, Figure 5 and Figure 6, each node represents one author, with additional information about the cited paper (i.e., year of publication, volume, and journal).

The first figure (see Figure 4) portrays the most important authors in the cultural intelligence field and the relationships among them. More precisely, it represents a network of circles corresponding to the number of citations for authors in the cultural intelligence field. At this point, I would like to stress that in order to clear out the picture of the field of cultural intelligence, lines with a value lower than 3 were removed. As we can see in the co-citation network of the cultural intelligence field, in the middle, we can find authors like Ang (2006, 2007), Ng (2006, 2009), Triandis (2006), Earley (2004), Templer (2006), and Imai (2010). On the other hand, authors such as Hofstede (1990, 2001), Johnson (2006), Black (1990), and Bandura (1997) are more outside of the network.

In Figure 4, I portray circles corresponding to the number of citations for authors in the cultural intelligence field, and thus, the size of the node represents the number of citations (i.e., the larger the node, the more popular/cited the article is). As expected, in Figure 4, the article by Earley (2003) has the most citations, as it is the biggest node in the cultural intelligence field, followed by the articles Ang (2007, 2006), which is no surprise according to (see Table 4). As such, Figure 4 is in line with Table 4.

I wanted to show which authors are on the periphery of the network and which are in the core in the co-citation network of the cultural intelligence field and get even clearer insight into the cultural intelligence field. Thus, I portray a network of co-citations with main authors as islands in the field of cultural intelligence discipline (see Figure 5), and a chronological representation of the cultural intelligence field (see Figure 6).

Figure 4 revealed that in the cultural intelligence field, there are two main islands that are very well connected with each other. More precisely, yellow nodes represent the main authors, and light blue nodes represent the more categorical core/periphery partition of the cultural intelligence network (see Figure 5). The results establish two core authors with foru papers who dominate in the cultural intelligence field. Therefore, the works of Ang (2006, 2007) and Earley (2003, 2004) are central to the network, and as such, these studies are the most important for the development of the cultural intelligence field in the period from 1999 to 2015. The rest of the authors that have light blue nodes represent the periphery of the cultural intelligence network.

At last, in Figure 6, I portray a network that shows chronological representation of the cultural intelligence field. The color of the node represents the year when the paper was published, and as such, nodes with the same color were published in the same year. From Figure 6, we can see which authors represent the foundation of the cultural intelligence field and how the cultural intelligence field has evolved through the years. Since this bibliometric analysis provides us with several important insights about the cultural intelligence field, in the next section, I discuss in more detail the results of the analysis that are presented in Figure 4, Figure 5 and Figure 6.

Figure 4*: Co-citation network: Representation of the circles correspond to n of citations for authors in cultural intelligence field*

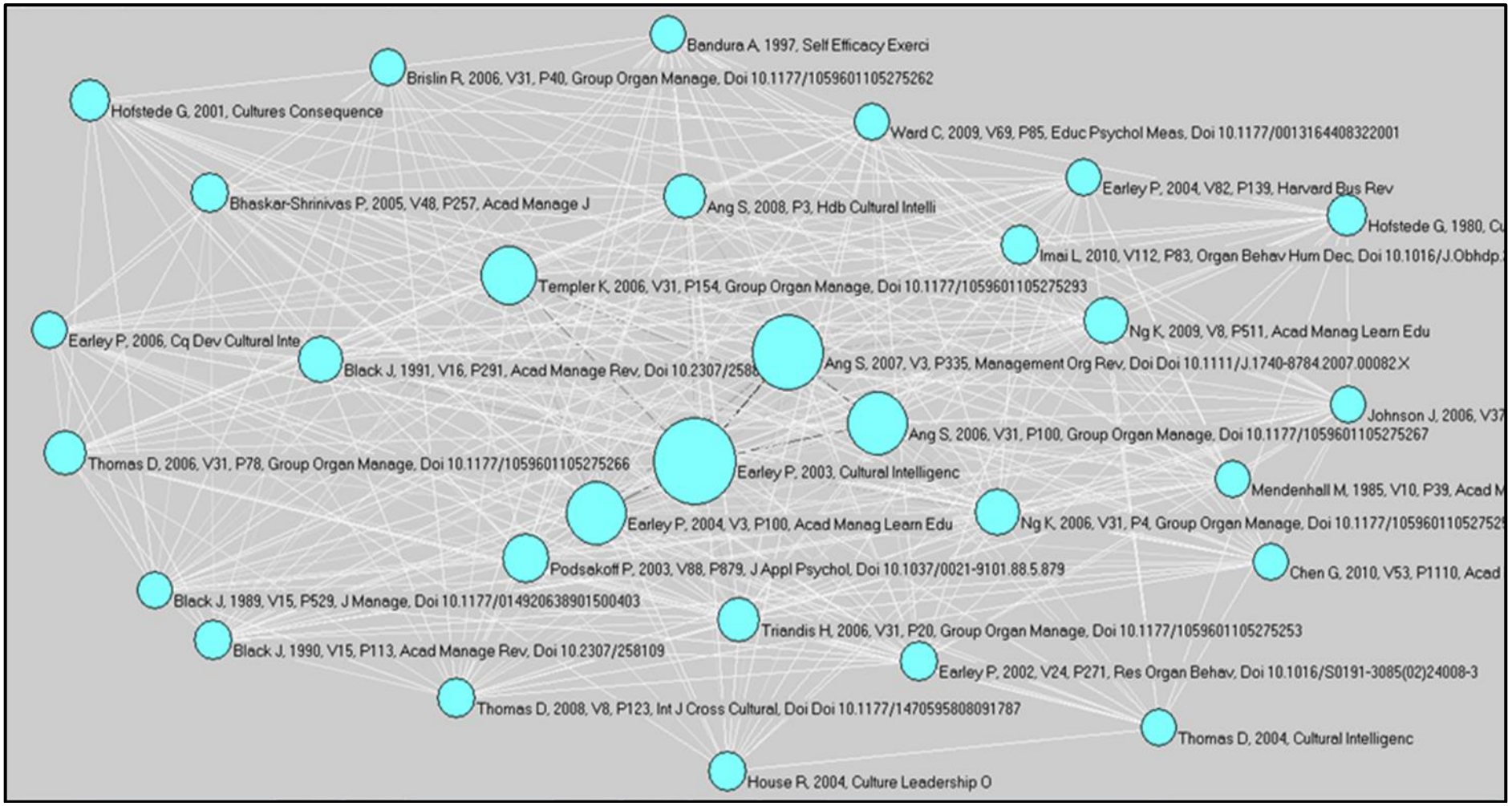


Figure 5*: Co-citation network: Representation of the islands in cultural intelligence field*

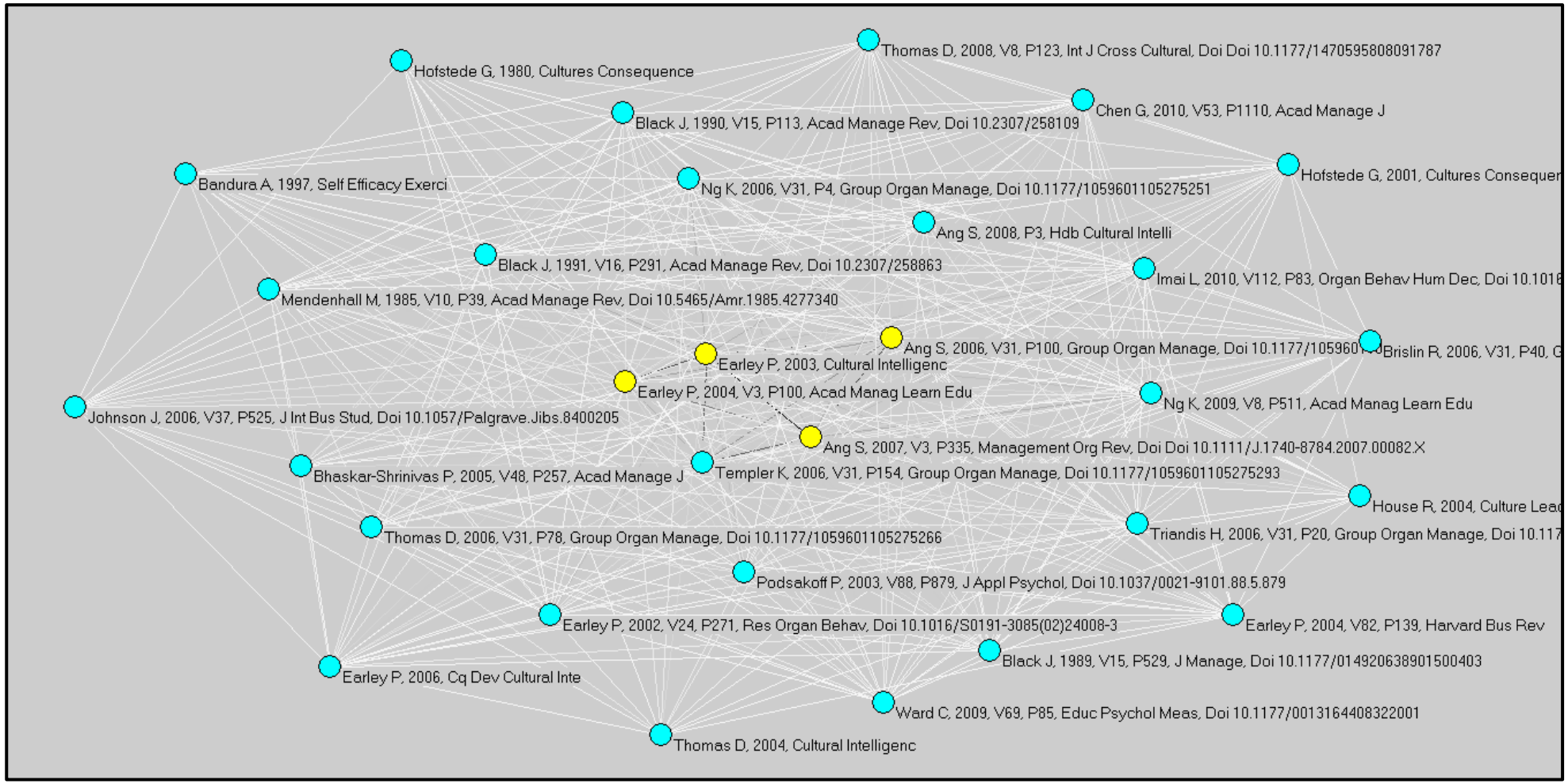
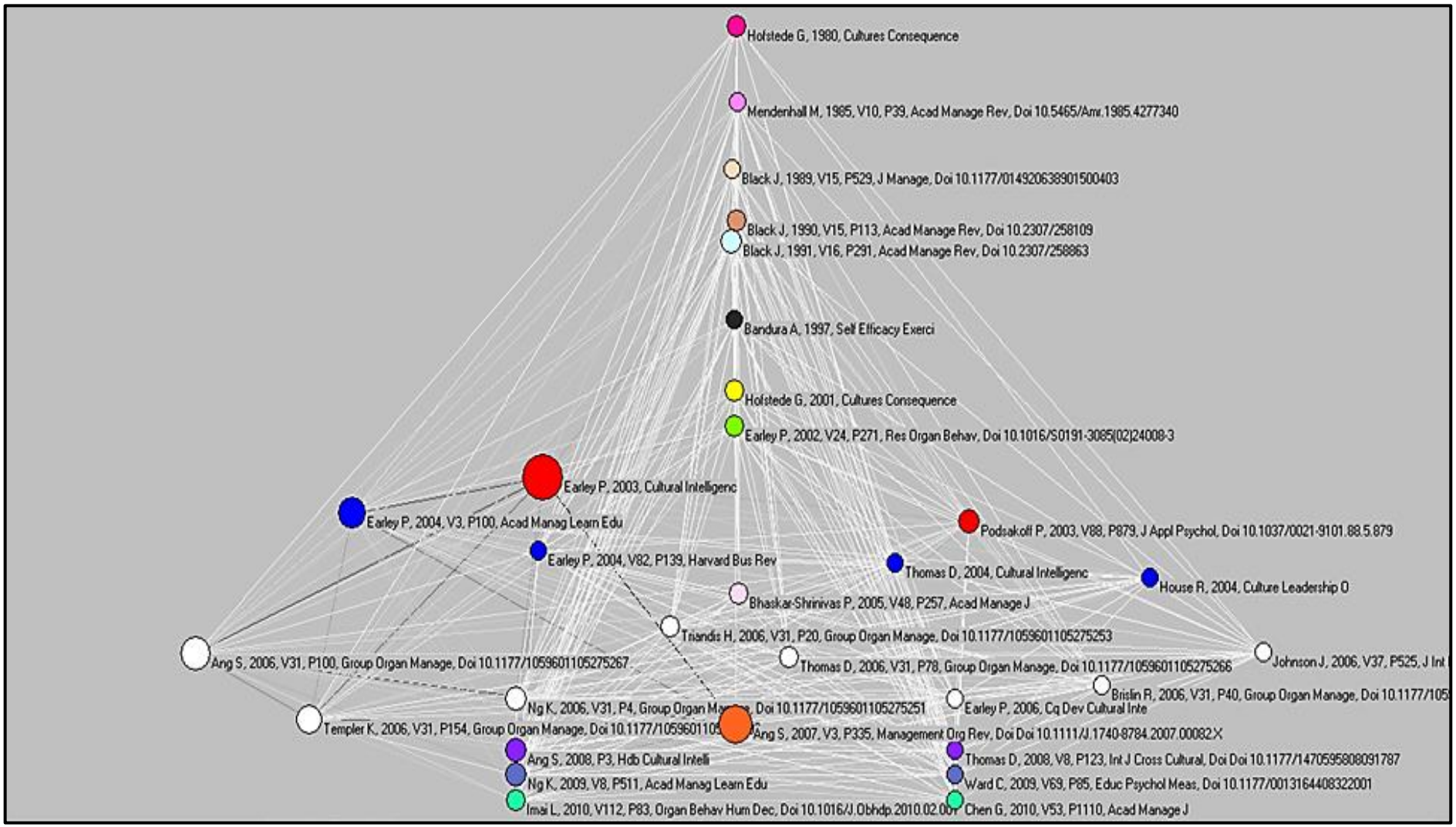


Figure 6*: Co-citation network: Chronological representation of cultural intelligence field*



1.1.3 Discussion of the co-citation analysis results of the cultural intelligence field

Bibliometric analysis provides us with insights about the origins of cultural intelligence and how the field itself has involved through the years (see Figures 4, 5 and 6). Figure 5 indicates that networks arising from co-citation relations among the most-cited authors in the cultural intelligence field are quite large; however, only one cluster was revealed. Moreover, Figure 4 shows that the cultural-intelligence field is well connected with the co-cited authors who have very similar studies, and the main authors are well connected to each other. The co-citation analysis divided the cultural intelligence field on two components.

The first component, as already previously mentioned, are the articles of Ang (2006, 2007) and Earley (2003, 2004), which are central to the network. Therefore, these studies are the core of the cultural intelligence field and are a part of the main island in the cultural intelligence co-citation network (see Figure 5, yellow nodes). The most notable work for conceptualizing and/or defining cultural intelligence as a construct is Earley and Ang's (2003) book. It is the core of the cultural-intelligence co-citation network, and authors in the field base their work on it. An article by Earley and Peterson (2004) that was published in the Academy of Management Learning and Education journal also provides a conceptualization of cultural intelligence. Moreover, this article is one of the most important and influential in cultural-intelligence field, especially for the development and training of individual cultural intelligence.

Ang et al.'s (2006) article is the third most-cited piece in the cultural intelligence field (see Figure 4) and, thus, it is no surprise that is a part of the main island in in the cultural intelligence co-citation network. In their research, Ang and colleagues (2006) demonstrated the discriminant validity of the four cultural intelligence CQ factors compared to the Big Five personality factors and provided evidence that specific personality characteristics have different correlations with specific dimensions of cultural intelligence. Thus, it is the first article that, besides offering the conceptualization of the cultural intelligence, takes one step further and provides validity for the measurement of individual cultural intelligence. Further, it empirically demonstrates that cultural intelligence is indeed different from individual personality. Furthermore, Ang et al.'s (2007) research is the second most-cited piece in the cultural intelligence field (see Figure 4) while it provides detailed development of the cultural intelligence construct and cross-validation of the multidimensional cultural intelligence scale (CQS) across samples, time and country. Moreover, it provides evidence that motivational and behavioral cultural intelligence are positively related to cultural adaptation. It also deals with cultural judgment, decision making, task performance, and cultural intelligence dimensions.

This evidence suggests that the first component can be labeled as conceptualization, definition, validity and cross-validation of the multidimensional cultural intelligence scale.

Thus, this component is the foundation of the cultural intelligence field and provides valuable information about cultural intelligence such as conceptualization, definition and its scale. It also raises the awareness that individual cultural intelligence can be trained, may help individuals with cultural adaptation and provide evidence that cultural intelligence is related to, yet is different from, big five personality types. Thus, it is no surprise that these four articles are the top four most-cited articles in the cultural intelligence field (see Table 4 and Figure 5.) and are the core of the cultural intelligence co-citation network field.

The second component of a cultural intelligence co-citation network represents the rest of the articles in Figure 5 (blue nodes). Although the co-citation analysis divided articles in these components into different groups, nevertheless, I divided scholars and their articles or books in the cultural intelligence co-citation networks (see Figures 5, and 6) based on five distinctive groups: (1) the origins or foundation for the later development of the cultural-intelligence field; (2) the conceptualization, definition and measurement of cultural intelligence; (3) the development and training of cultural intelligence; (4) adjustments and cultural intelligence and (5) behavioral processes. The grouping of the articles provides a better interpretation of the second component of cultural intelligence co-citation network.

The origins of the cultural-intelligence field may be tracked to cross-cultural psychology theory by emphasizing values orientation as an approach to breaching cultural and national differences through country-specific values orientation (R. Brislin, Worthley, & Macnab, 2006; Earley & Peterson, 2004). More specifically, most scholars in the cultural-intelligence field (Brislin, et al., 2006; Earley & Peterson, 2004) use Hofestede's (1980; 2001) work on cultural values, individualism–collectivism, power distance, uncertainty avoidance, and masculinity–femininity, to stress that the understanding of cultural-values frameworks in different cultures is not enough during international and intercultural collaborations. Moreover, they stress that the awareness of cultural values in different cultures is just one part of cultural intelligence, especially regarding the metacognitive and cognitive cultural-intelligence dimensions (Ang, et al., 2007). Therefore, it is no surprise that Hofestede's (1980; 2001) literature is the foundation of the cultural-intelligence field (see Figure 6; see the dark pink and yellow node) and is on the periphery of the cultural-intelligence co-citation network (see Figure 5).

Apart from the cross-cultural psychology view, scholars also build upon expatriate literature (Mendenhall & Oddou, 1985), more prissily, the expatriate adjustment or cross-cultural adjustments construct (Black & Mendenhall, 1990; Black, Mendenhall, & Oddou, 1991; Black & Stephens, 1989) to theorize how cultural intelligence (Ng & Earley, 2006) and its motivational (Ng, Van Dyne, & Ang, 2009; Templer, et al., 2006) and behavioral (Ang, et al., 2006; Ang, et al., 2007) cultural-intelligence dimensions can be helpful in cross-cultural adjustments. Thus, although work from Black and Mendenhall (Black &

Mendenhall, 1990; Black, et al., 1991; Black & Stephens, 1989; Mendenhall & Oddou, 1985) is more on the periphery of the network of the cultural-intelligence field (see Figure 4), it represents the foundation of the cultural-intelligence literature (see Figure 6; pink, light pink, and brown node). Furthermore, from Figure 5 (black node), we can see that Bandura's (1997) work on self-efficacy is also one of the foundations of the cultural-intelligence field, while Earley and Peterson (2004) connect self-efficacy theory with motivational cultural-intelligence constructs. Ang and colleagues (Ang, Van Dyne, Koh, & Ng, 2004) go one step further and use Bandura's (1997) self-efficacy theory to conceptualize motivational cultural intelligence as a special form of self-efficacy. Taking this all together, the chronological representation of the co-citation network in the cultural-intelligence field (see Figure 6) has revealed that the foundations of the cultural-intelligence field can be found in cross-cultural psychology theory, expatriate literature, cross-cultural adjustments literature, and self-efficacy theory.

Bibliometric analysis further reveals a research dynamic in the cultural-intelligence field after Earley's (2002) initial conceptualization of cultural intelligence as a construct (see Figure 5; green node). In particular, Figures 5 and 6 reveal the main knowledge domains that were part of the research fronts within the cultural-intelligence field from 2002 to 2015. Thus, the second group can be labeled as the second wave of articles that deals with conceptualization, definition, and measurement of cultural intelligence. This group includes scholars such Earley and Mosakowski (2004); Ng and Earley (2006); Thomas (2006); Jonhson, Lenartowicz, and Apud (2006); Brislin et al. (2006); Ang and Van Dyne (2008b); and Thomas et al. (2008) who conceptualized and/or defined cultural intelligence as a construct. Especially articles by Ng and Earley (2006) and Thomas (2006), in the special issue on cultural intelligence in the *Group & Organization Management* journal provide further conceptualization and definition of the cultural-intelligence construct. Moreover, scholars like Earley and Mosakowski (2004), Ng and Earley (2006), Ang and Van Dyne, (2008b) and Ward, Fischer, Lam, and Hall (2009) developed measures for the assessment of individual cultural intelligence.

The third group in the cultural-intelligence co-citation network is development and training of cultural intelligence. Earley (2006), Triandis (2006), and Ng et al. (2009) did not research the impact of cultural intelligence; however, they provided evidence that cultural intelligence as stat-like individual capability can be developed with proper training and cross-cultural interactions. Ng and colleagues' (2009) article can be found at the core of the cultural-intelligence co-citation network; therefore, it is also important for the training of cultural intelligence. In their article, Ng and colleagues (2009, p. 511) took a step beyond providing only suggestions for training and proposed in more detail that cultural intelligence will enhance the "likelihood that individuals on international assignments will actively engage in the four stages of experiential learning (experience, reflect, conceptualize, experiment), which in turn leads to global leadership self-efficacy, ethno-

relative attitudes toward other cultures, accurate mental models of leadership across cultures, and flexibility of leadership styles" through moderation effect.

Another interesting theory on cultural-intelligence training is Triandis's (2006) article in which he tackles the question of how organizations can overcome ethnocentrism and have culturally intelligence practices through suspending judgment and gathering information. The cultural-intelligence co-citation network articles of Ng and colleagues (2009) and Triandis (2006) are quite close and well connected to each other yet quite distant and not connected with Earley and Peterson's (2004) and Earley's (2006) articles (see Figures 5 and 6).

The fourth group deals with adjustments (e.g., cross-cultural adjustments, work adjustment, cultural adaptation) and appears to be central to the cultural-intelligence co-citation network. It consists of two different studies (Chen, Kirkman, Kim, Farh, & Tangirala, 2010; Templer, et al., 2006) that connect adjustment or cultural adaptation with cultural intelligence. Templer et al. (2006) is the first that connects motivational cultural intelligence with work, general adjustment, and interaction adjustment and thus is a foundation for future development of cultural intelligence and adjustment. Templer et al.'s (2006) article is at the core of the cultural-intelligence co-citation network and is really well connected with the core component in the cultural intelligence co-citation network (see Figure 5). On the other hand, despite using multilevel approach and relating cross-cultural motivation-motivational cultural intelligence with work adjustment Chen et al.'s (2010) article is on the periphery of the cultural-intelligence co-citation network (see Figure 5).

The fifth group comprises studies of behavioral processes (e.g., cooperative motives, epistemic motivation, integrative information behaviors, and negotiation process). Specifically, it consists of only one pieces (Imai & Gelfand, 2010) and it focusses more on behavioral processes in the negotiation process (e.g., cooperative motives, epistemic motivation, and integrative information behaviors). Precisely, Imai and Gelfand (2010) found that cultural intelligence is a key predictor of intercultural negotiation effectiveness. This finding is the foundation for further research on behavioral processes in the cultural-intelligence field such as creativity, positive emotions, and communication effectiveness (Bucker, Furrer, Poutsma, & Buyens, 2014; Chua, et al., 2012; Reichard, Dollwet, & Louw-Potgieter, 2014). Altogether, there are two components in the cultural intelligence co-citation network. The first serves as foundations of the cultural intelligence field and the second one provides a more depth insight about cultural intelligence and at is effect on adjustments and individual behavioral processes. In the next section, I provide a short conclusion on the whole bibliometric co-citation analysis of the cultural-intelligence field.

1.1.4 Limitations and conclusion

Based on the above bibliometric co-citation findings, qualitative literature review, and discussion, the aim of this chapter was to offer a deeper understanding of the cultural-intelligence field, the foundation of cultural intelligence, and insight on how the field itself has involved through the years. I did this by first providing a short introduction of the cultural-intelligence field and providing a brief summary of definitions, elements, and levels of analysis of cultural intelligence, followed by a bibliometric co-citation analysis of the cultural intelligence field. I provided insights about the distribution of primary published items per year from 1999 to 2015, the number of citations of selected cultural-intelligence documents in each year, the most-cited primary articles in the cultural-intelligence field, and co-citation networks (e.g., chronological representation, representation of the islands, representation of the circles corresponding to number of citations). In the last section, I provided an in-depth discussion based on bibliometric co-citation findings. My research identified that cultural-intelligence co-citation networks were consistent on two distinctive components. The first component can be labeled as conceptualization, definition, validity and cross-validation of the multidimensional cultural intelligence scale. I divided the second component on five distinctive groups: (1) the origins or foundation for the later development of the cultural-intelligence field; (2) the conceptualization, definition and measurement of cultural intelligence; (3) the development and training of cultural intelligence; (4) adjustments and cultural intelligence and (5) behavioral processes.

However, these contributions should be interpreted in light of limitations. First, the interpretation of the results of networks is to some degree subjective. Although I followed the instructions and recommendations of authors that already conducted co-citation analysis in the management field (Fernandez-Alles & Ramos-Rodríguez, 2009; Nerur, et al., 2008; White, 2003; Zupic & Čater, 2014), the results should be interpreted with the help of other experts (multiple raters) in order to interoperate the results more objectively. Thus, I suggest that further bibliometric co-citation findings should be interpreted with the help of experts in the cultural-intelligence field. Second, limitation refers to the analysis itself; co-citation analysis does not account for the time that it takes for a publication to build up a citation history. For example, articles published at the end of the explored period are far less exposed to the scientific community that other articles in the analysis and thus have fewer citations. I propose that future bibliometric co-citation analysis should intake a large volume of the data for analysis so it can minimize this problem significantly (White, 1990).

1.2 Creativity

Creativity, from Guilford's (1950) psychometric perspective, is the expression of divergent thinking, and from Amabile's (1983) componential theory, creativity is a dynamic relationship between an individual's motivation and his or her relevant skills. In contrast,

Pinheiro and Cruz (2014, p. 263), in their latest work on mapping creativity measurements, summarize, "It is no joke saying that creativity exists only in people's minds." Nevertheless, creativity "can be viewed as the first stage of an innovation process" (Baer, 2012, p. 1102), and thus, considerable research has built up over the last 40 years in the field of creativity in organizations (Anderson, et al., 2014). Creativity, prior to 1970, has mostly been researched in perspectives of the discussion of inventions (Royce, 1898), Freudian accounts (e.g., Freud, 1908) to Guilford's call for creativity research in 1950, cognitive accounts (Mednick, 1962), and sociological accounts (Stein, 1967). Therefore, it is no surprise that in the Rothenberg & Greenberg (1976) research, there were nearly 7,000 citations in a bibliography dating from 1566 to 1974 in the field of creativity, yet only 138 included the social or environmental characteristics, and many of those documents researched the "social variable" that influences creativity, simply social class. Amabile (1983, p. 357), in her article "The Social Psychology of Creativity: A Componential Conceptualization," stresses that prior "research has focused almost exclusively on a personality approach to creativity and, to a lesser extent, a cognitive-abilities approach." Specifically, the aim of empirical research in the field of creativity before 1980 was to identify what the personality differences are between creative and noncreative individuals (Nicholls, 1972).

Departing from the traditional approach to creativity, which focused on the individual characteristics of creative persons, Simonton's (e.g., Simonton, 1975, 1977a, 1977b, 1979) experimental studies of social influences on creativity were some of the first attempts to research creativity from the social psychology point of view. However, there was no research that explored how the working environment can contribute to the creative process in an organization. Hence, the foundation of the research on how organizational characteristics affect individual creativity at work started in the late 1980s and through the 1990s. The most influential and important works in that period are from Amabile (1988), Shalley (1991), Staw (1990), and Amabile et al. (1996). During that period, scholars (Amabile, 1987; Oldham & Cummings, 1996; Staw, 1984; Woodman, et al., 1993) also started to provide more in-depth insight into the combined effect of personal and contextual factors on individual creativity at work.

Building on that seminal work, scholars (Amabile, 1988; Ford, 1996; Woodman, et al., 1993) started to theorize and elaborate on the importance of distinguishing between organizational innovation and creativity in the organizational context. These were the foundations for researchers (Shalley, et al., 2004; Zhou & Shalley, 2003) to focus more on personal or contextual factors that can enhance or stifle employee creativity in the workplace during the late 1990s and through the 2000s. Yet Shalley et al. (2004, pp. 952-953), in their review on creativity in organizations, stress that questions like "Will boosting creativity at work necessarily result in more innovative organizations?" or "What are the benefits and costs of creativity for the organization and its employees?" still remain.

From 2002 to 2014, the body of research of creativity in the field rapidly grew (Anderson, et al., 2014). In Anderson et al.'s (2014) latest review on creativity in organizations, the scholars provide an in-depth summary of research findings in the creativity field from 2002-2011. More precisely, they summarize that at the individual level, scholars mostly researched the effect of individual differences (e.g., personality, goal orientation, values, thinking styles, self-concepts), individual factors (e.g., psychological states, motivation, strain/psychological contract, trust), task contexts (e.g., job complexity, goals and job requirements, time pressure, rewards), and social contexts (e.g., leadership and supervision, coworker influences, customer influences, feedback, social network, resources for creativity) on creativity. At the team level, the researchers analyzed the influence of team structure (e.g., task and goal interdependence), composition (e.g., heterogeneity (diversity)/cognitive style), climate (e.g., participative safety, conflict), processes (e.g., information exchange, problem solving style/team participation, conflict management, and minority dissent), leadership (e.g., transformational leadership, participative leadership), and other factors (e.g., information privacy) on creativity (see Anderson, et al., 2014).

Moreover, some of the researchers even started to analyze creativity as a multilevel phenomenon from team structure (Hirst, Van Knippenberg, Chen, & Sacramento, 2011), team climate (Černe, et al., 2014; Pirola-Merlo & Mann, 2004), team composition (Van Knippenberg, & Zhou, 2009; Shin, et al., 2012), transformational leadership (Shin, et al., 2012; Wang & Rode, 2010), and leader-member exchange (Liao, Liu, & Loi, 2010). Although the research on creativity in an organizational context is quite spread out, the foundation of creativity still remains the same and thus has been mostly researched from the perspective of three different theories: componential theory of organizational creativity (Amabile, 1997), interactionist theory of organizational creativity (Woodman, et al., 1993), and theory of individual creative action (Ford, 1996).

As such, in Table 6 and Table 7, I provide a summary of the definitions of creativity from the main authors in the field from an organizational context, the level of analysis or base for the conceptualization of creativity, and some of the most relevant authors in the field of creativity at work who adopted those definitions. The brief summary of the research in the creativity field above and Table 6 and Table 7 provided foundations for my bibliometric co-citation analysis of the creativity field that I conduct in the next chapter.

Table 6: A brief summary of definition and level of analysis or base for conceptualization of creativity filed

Authors	Definition	Level of analysis	Adopted by some of the most relevant author in the field of creativity at work
Shin & Zhou (2007, p. 1715)	"… the production of novel and useful ideas concerning products, services, processes, and procedures by a team of employees working together."	Team creativity	Farh, Lee & Farh (2010)
Zhou & Shalley (2003)	As the production of novel and useful ideas concerning products, services, processes, and procedures by an employee.	Individual level	Shin et al. (2012); Madjar (2005);
Ford (1996, p. 1115)	"… as a domain-specific, subjective judgment of the novelty and value of an outcome of a particular action."	Individual level	Zhou, Shin, Brass, Choi, & Zhang (2009): Shalley & Gilson (2004); Tierney & Farmer (2004);
Amabile (1996)	"… generation of novel and useful ideas, processes, or solutions."	Individual level	Bear (2012); Bear, Leenders, Oldham & Vadera (2010); Bear (2010); Gong, Huang & Farh (2009); Zhou, Shin, Brass, Choi, & Zhang (2009); Shin & Zhou (2007); Madjar (2005); Bear, Oldham & Cummings (2003); Drazin, Glynn & Kazanjian (1999); Tierney, Farmer & Graen (1999); Peryy-Smith & Shalley (2003); Zhou & Shalley (2003); Shalley & Gilson (2004); Gilson & Shalley (2004); Tierney & Farmer (2004).
Amabile, Conti, Coon, Lazenby & Herron (1996, p. 1155)	"… as the production of novel and useful ideas in any domain."	Individual level	(S. J. Shin & Zhou, 2003); Shin & Zhou (2007);

Table 7*: A brief summary of definition and level of analysis or base for conceptualization of creativity field*

Authors	**Definition**	**Level of analysis**	**Adopted by some of the most relevant author in the field of creativity at work**
Oldham & Cummings (1996, p. 608)	"… as production, ideas, or procedures that satisfy two conditions: (1) they are novel or original, and (2) they are potentially relevant for, or useful to, an organization	Individual level	Bear (2012); De Stobbeleir et al. (2011); Bear, Leenders, Oldham & Vadera (2010); Bear (2010); Zhou, Shin, Brass, Choi, & Zhang (2009); Hirst, van Knippenberg & Zhou (2009); George & Zhou (2007); Shin & Zhou (2007); Shalley & Gilson (2004); Bear, Oldham & Cummings (2003); Zhou & Shalley (2003); Madjar & Oldham (2002).
Woodman, Sawyer & Griffin (1993, p. 293)	"… is the creation of a valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social system."	Organizational level	Jia, Shaw, Tsui & Park (2014); Shin & Zhou (2007); Gilson & Shalley (2004); Tierney & Farmer (2004); Zhou & George (2001).
Mumford & Gustafson (1988, p. 28)	"… as a syndrome involving a number of elements: (a) the processes underlying the individual's capacity to generate new ideas or understandings, (b) the characteristics of the individual facilitating process operation, (c) the characteristics of the individual facilitating the translation of these ideas into action, (d) the attributes of the situation conditioning the individual's willingness to engage in creative behavior, and (e) the attributes of the situation influencing evaluation of the individual's productive efforts."		Unsworth (2001)
Koestler (1964)	Creativity involves a "bisociative process"—the connecting of two previously unrelated "matrices of thought" to produce a new insight or invention.	Creativity as a process	
Guilford (1950, p. 444)	"… creativity refers to the abilities that are most characteristic of creative people."	Individual level	

1.2.1 Bibliometric co-citation analysis of the creativity field

As in the cultural intelligence field, I used ISI Web of Science in order to obtain secondary data for bibliometric co-citation analysis since the majority of researchers in bibliometric studies (e.g., Nerur et al., 2008) use this database. I searched all citation databases offered by ISI: SCI-EXPANDED (Science Citation Index Expanded), SSCI (Social Sciences Citation Index), and A&HCI (Arts & Humanities Citation Index) using the search term "OR." The following keywords were used: "creativity" or "creative." At this point, I would like to stress that I intentionally did not put "innovation" or "innovative" or "idea implementation" or "idea generation" as keywords in the research since, as already explained, creativity differs from innovation. I obtained a database containing 51,685 units of literature (documents) in September 2015.

In the second stage of the search, I refined the search by key areas (Web of Science categories): Management or Psychology multidisciplinary or Business or Psychology Applied. From this search, I obtained a database containing 8016 units of literature (documents). As the database of the documents was quite large and I was only interested in the creativity in organizational behavior domain, I restricted for papers published in the most relevant journals in the management field where papers was published: Creativity Research Journal or Harvard Business Review, or Journal of Product Innovation Management or Research Technology Management or R D Management or Creativity and Innovation Management or Journal of Applied Psychology or Leadership Quarterly or Academy of Management Journal or International journal of Technology Management or Organization studies or Journal of Organizational Behavioral or Journal of Business Research or Management Decision or Organization Science or Journal of Organizational change Management or Journal of Management Studies or Research Management or Journal of Management or Organizational Behavior and Human Decision Processes or Intentional Journal of human Resource Management or Small Group Research or Organization or Journal of Occupational and Organizational Psychology or California Management Review or Management Science or African journal of Business Management or Academy of Management review or Technology Analysis Strategic Management or Journal of Management Inquiry or Innovation Management Policy Practices or Administrative Science Quarterly or Industry and Innovation or European Journal of Work and Organizational Psychology or Business Horizons or Strategic Management Journal or MIS Quarterly or Group Organization management.

This search generated 2,435 units of documents. The 2,435 articles were altogether cited 61987 times, and the average number of citations per article was 25.46 (Web of Science, 2015). Figure 6 presents the distribution of the primary published items per year during the 1994-2015 period. As we can see from Figure 7 (next page), the articles published on the topic of creativity exponentially increased throughout the years. The highest number of articles published in the field of creativity was in the years 2014 and 2010.

Figure 7*: Distribution of primary published items per year during 1994-2015 period in creativity field*

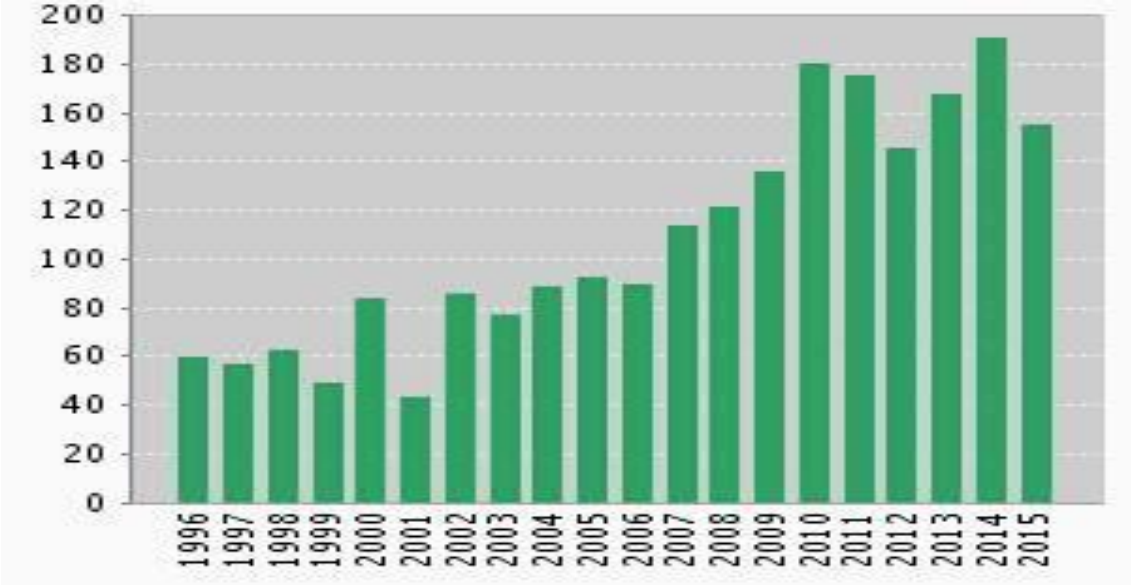
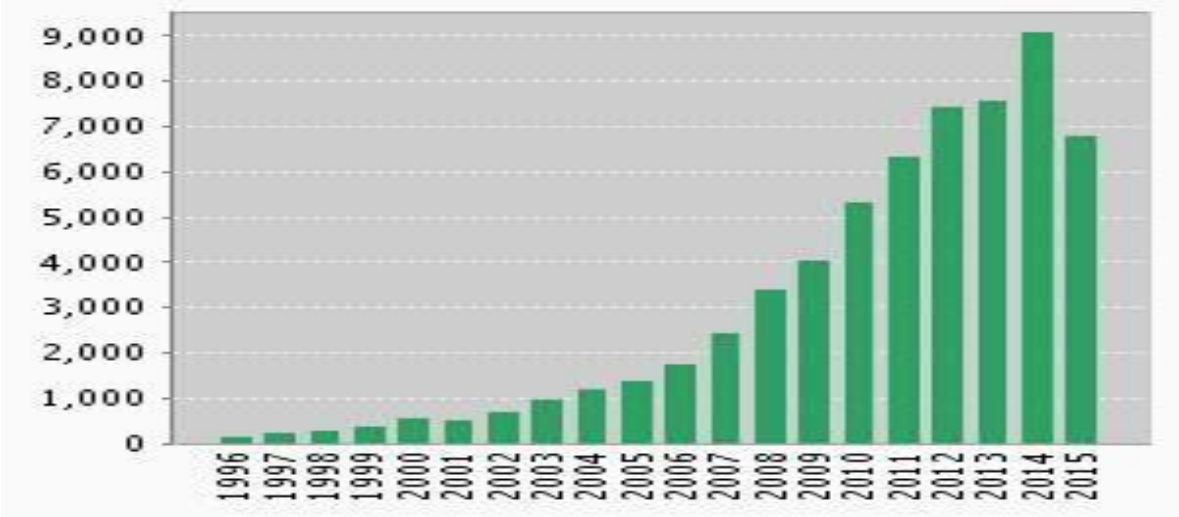


Figure 8 reveals the citations in each year (period 1996–2015) for 2,435 units of documents that Web of Science generated. In line with the publication of documents, the citations also exponentially increased throughout the years. The highest number of citations of documents in the field of creativity was in the years 2014 and 2013.

Figure 8*: Number of citations of creativity documents in each year during 1996-2015 period*



Afterward, I manually reviewed the abstracts and excluded the articles that were not relevant for my topic, even if they had passed the first filtering by keywords. Moreover, I only included in my research articles that Web of Science showed were cited more than 10 times. In this way, I reduced the number of articles to 500 units. As such, the sample of primary articles (citations of these primary articles are used in the analyses) included 500

documents from the ISI Web of Knowledge from the 1900–2015 period that fit the keywords relevant for creativity or the creative field. Sum of the times cited of chosen articles is 336695 papers (average citations per article: 67.39). Figure 9 demonstrates when the primary articles were published in terms of the actual publication dates within the period of 1994–2013, and Figure 10 demonstrates the number of citations of creativity documents within the period of 1996–2015.

Figure 9*: Distribution of primary published items per year during 1994-2013 period in creativity field*

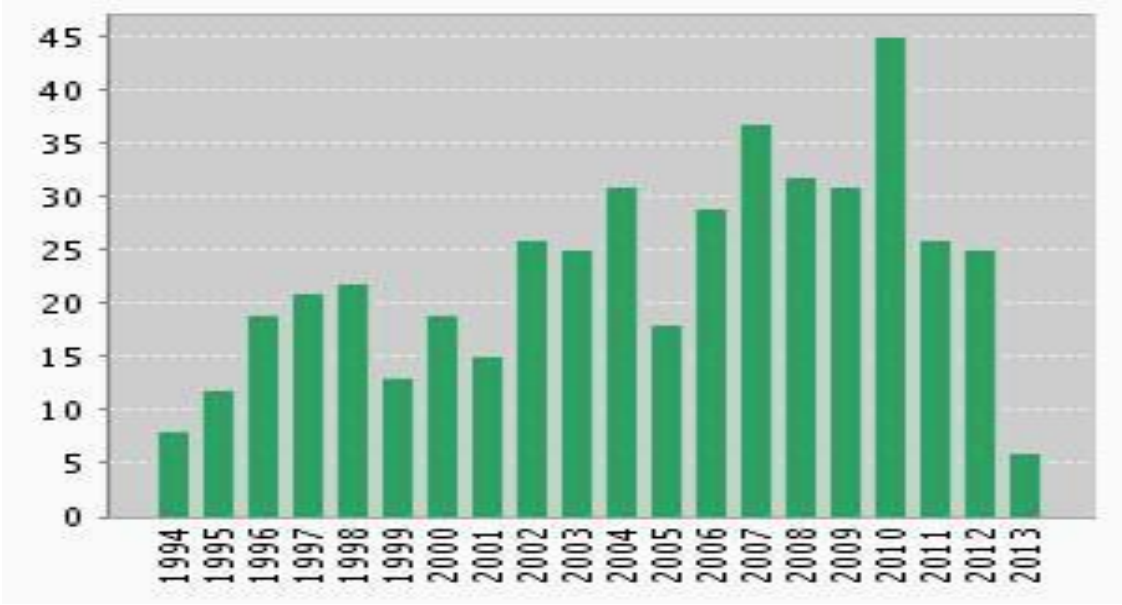
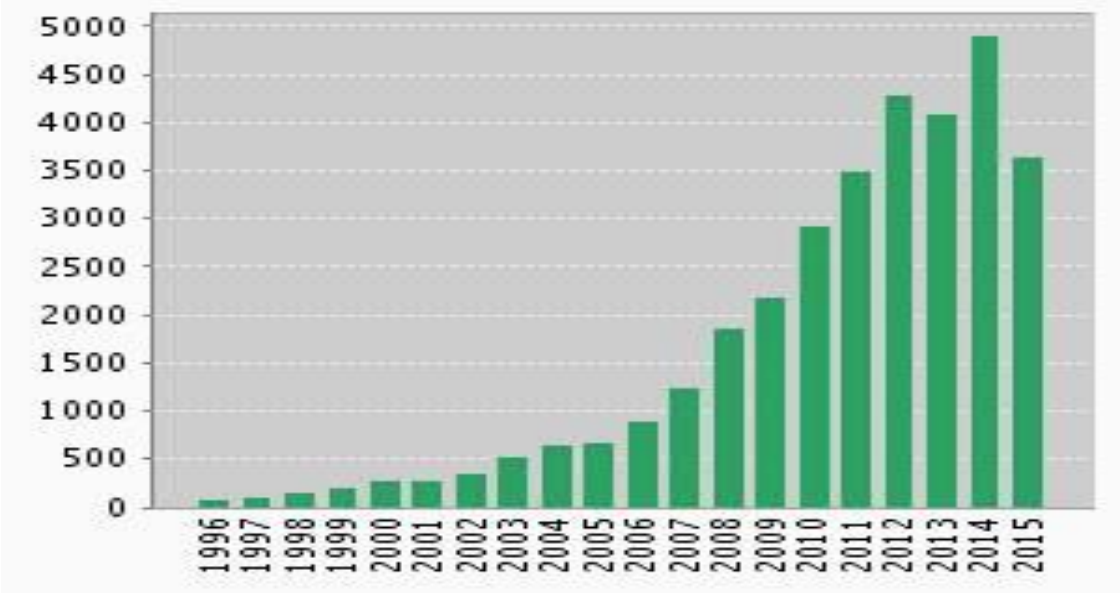


Figure 10*: Number of citations of creativity documents in each year during period 1996-2016*



From Figure 9, we can see that a relatively low number of papers were published in the years 2013 and 2004 and the highest numbers of papers were published in the years 2010

and 2007. Figure 10 reveals when these primary articles were later on cited and how often the citation occurred, indicating their influence. Interestingly, the number of citations was the highest in the years 2012 and 2014, and we can see that it slightly decreased in the year 2013. However, the findings in Figure 7, Figure 8, Figure 9, and Figure 10, are preliminary findings; while they provide basic information about 2,435 documents generated from Web of Science and the selected 500 documents, they do not provide any insight about the structure and origins in the creativity field. Therefore, I continued my research and exported the database of the chosen articles into Bibexcel (Persson, et al., 2009) in order to conduct co-citation bibliometric analysis. Furthermore, I used Pajek software for network analysis (De Nooy, et al., 2005) in order to visually present different thresholds for the creativity field.

1.2.2 Co-citation analysis results of the creativity field

I continued my research and exported the database of the chosen articles into Bibexcel (Persson, et al., 2009) in order to conduct co-citation bibliometric analysis. First, I will present some descriptive statistics for the 500 documents in the creativity field that, as already mentioned, I chose according to their relevance in the field by reweaving the abstracts and choosing those that Web of Science showed were cited more than 10 times. As such, Table 8 presents the articles that are most frequently cited (more than 50 times) in the target articles in the field of creativity. As we can see from Table 8, the article by Oldham & Cummings (1996) was the most cited document, as it was cited 129 times in the 500 articles that constitute the database of primary articles**.**

Table 8: Target articles with the highest citation frequencies in the creativity field

Citation frequency	First author, year, volume, page and publication
129	Oldham G, 1996, V39, P607, Acad Manage J,
119	Woodman R, 1993, V18, P293, Acad Manage Rev,
114	Amabile T, 1988, V10, P123, Res Organ Behav
96	Amabile T, 1996, V39, P1154, Acad Manage J,
93	Mumford M, 1988, V103, P27, Psychol Bull,
85	Amabile T, 1996, Creativity Context
83	Scott S, 1994, V37, P580, Acad Manage J
77	Amabile T, 1983, Social Psychol Creat
71	Tierney P, 1999, V52, P591, Pers Psychol
66	Barron F, 1981, V32, P439, Annu Rev Psychol
56	Shalley C, 2004, V30, P933, J Manage
54	Ford C, 1996, V21, P1112, Acad Manage Rev
53	Redmond M, 1993, V55, P120, Organ Behav Hum Dec
53	Drazin R, 1999, V24, P286, Acad Manage Rev
51	Amabile T, 1983, V45, P357, J Pers Soc Psychol
51	Zhou J, 2001, V44, P682, Acad Manage J

The second most cited article was Woodman et al. (119), with 119 citations in the 500 papers that constitute the database of primary articles in the field of creativity. Amabile's (1988) article was cited 114 times in the 500 papers, and hence, it is the third most cited article. The rest of the articles were cited less than 100 times in the 500 papers. The articles that are presented in Table 8 (cited references more than 50) I used for further co-citation analysis in the creativity field. Before portraying different networks of co-citations for creativity in the organizational science field, I also present the articles that were most often cited together (co-occurrence) in the creativity field in Table 9. As we can see from Table 9, articles by Oldham & Cummings (1996) and Woodman et al. (1993) were most often cited together in 500 primary articles, 73 times, followed by the articles Oldham & Cummings (1996) and Scott & Bruce (1994), which were co-cited 68 times, and Amabile (1988) and Oldham & Cummings (1996), which were co-cited 67 times. The other articles were cited together less than 65 times in the target articles (that were in the references of the primary articles). As previously, to portray a network of co-citations for creativity in the organizational science field, I used network analysis in Pajek.

Table 9: Target articles with the highest co-citation frequencies in the creativity field

Number of co-citations	**Citation 1 (First author, year, and publication)**	**Citation 2 (First author, year, and publication)**
73	Oldham G, 1996, V39, P607, Acad Manage J	Woodman R, 1993, V18, P293, Acad Manage Rev
68	Oldham G, 1996, V39, P607, Acad Manage J	Scott S, 1994, V37, P580, Acad Manage J
67	Amabile T, 1988, V10, P123, Res Organ Behav	Oldham G, 1996, V39, P607, Acad Manage J
62	Amabile T, 1996, V39, P1154, Acad Manage J	Oldham G, 1996, V39, P607, Acad Manage J
61	Amabile T, 1988, V10, P123, Res Organ Behav	Woodman R, 1993, V18, P293, Acad Manage Rev
56	Oldham G, 1996, V39, P607, Acad Manage J	Tierney P, 1999, V52, P591, Pers Psychol
53	Amabile T, 1996, Creativity Context	Oldham G, 1996, V39, P607, Acad Manage J
53	Amabile T, 1996, V39, P1154, Acad Manage J	Woodman R, 1993, V18, P293, Acad Manage Rev
50	Scott S, 1994, V37, P580, Acad Manage J	Woodman R, 1993, V18, P293, Acad Manage Rev

I chose to use only the top 16 references (see Table 8) in the creativity field for the network of co-citations, as otherwise, the network would become too complex for seeing connections clearly. I portray networks of co-citations for creativity in the organizational field in four different figures (see below, Figure 11, Figure 12 and Figure 13). As previously, in each network, each node represents one author, with additional information about the cited paper (i.e., year of publication, volume, and journal).

First, in Figure 11, I portray the most important authors in the creativity field and the relationships among them. At this point, I would like to stress that in order to clear out the picture of the field of cultural intelligence, lines with a value lower than 3 were removed. As we can see in co-citation network of the creativity field, in the middle, we can find authors like Oldham & Cummings (1996), Woodman et al. (1993), Amabile (1988; 1996), Scott & Bruce (1994), and Tierney, Farmer, & Graen (1999). On the other hand, authors such as Redmond, Mumford, & Teach (1993), Amabile (Amabile, 1983; 1983), Drazin et al. (1999), and Barron & Harrington (1981) are more outside of the network. Then, to get even clearer insight into the creativity field, I portray a network of circles that correspond to the number of citations for authors in the creativity field (see Figure 11), a network of co-citations with the main authors as islands in the field of creativity discipline (see Figure 12), and a chronological representation of the creativity field (see Figure 13).

Figure 11 presents circles that correspond to the number of citations for authors in the creativity field, and thus, the size of the node represents the number of citations (i.e., the larger the node, the more popular/cited the article is). Thus, as expected, the article by Oldham & Cummings (1996) is the biggest node in the creativity field, followed by articles by Woodman et al. (1993) and Amabile (1988). The network portrayed in Figure 11 is, as such, in line with Table 8. Then, I wanted to show which authors are on the periphery of the network and which are at the core in the in co-citation network of the creativity field.

From Figure 12, we can see that in the creativity field, there are two main islands that are very well connected with each other. As previously, yellow nodes represent the main authors and light blue nodes represent more categorical core/periphery partition of the cultural intelligence network (see Figure 12). Thus, the results establish five core authors who dominate in the creativity field. Therefore, the works of Oldham & Cummings (1996), Wodman et al. (1993), Amabile (1988), Amabile et al. (1996), and Scott & Bruce (1994) are central to the network, and as such, these studies are the most important in the creativity field. The rest of the authors that have light blue nodes represent the periphery of the creativity network presented in Figure 12. In Figure 13, we can see which authors represent the foundation of the creativity field and how the creativity field evolved through the years. This bibliometric analysis provides us with several important insights about the creativity field. Thus, in the next section, I will discuss in more detail the results of the analysis that are presented in Figure 11, Figure 12 and Figure 13.

Figure 11*: Co-citation network – representation of the circles correspond to n of citations for authors in creativity field*

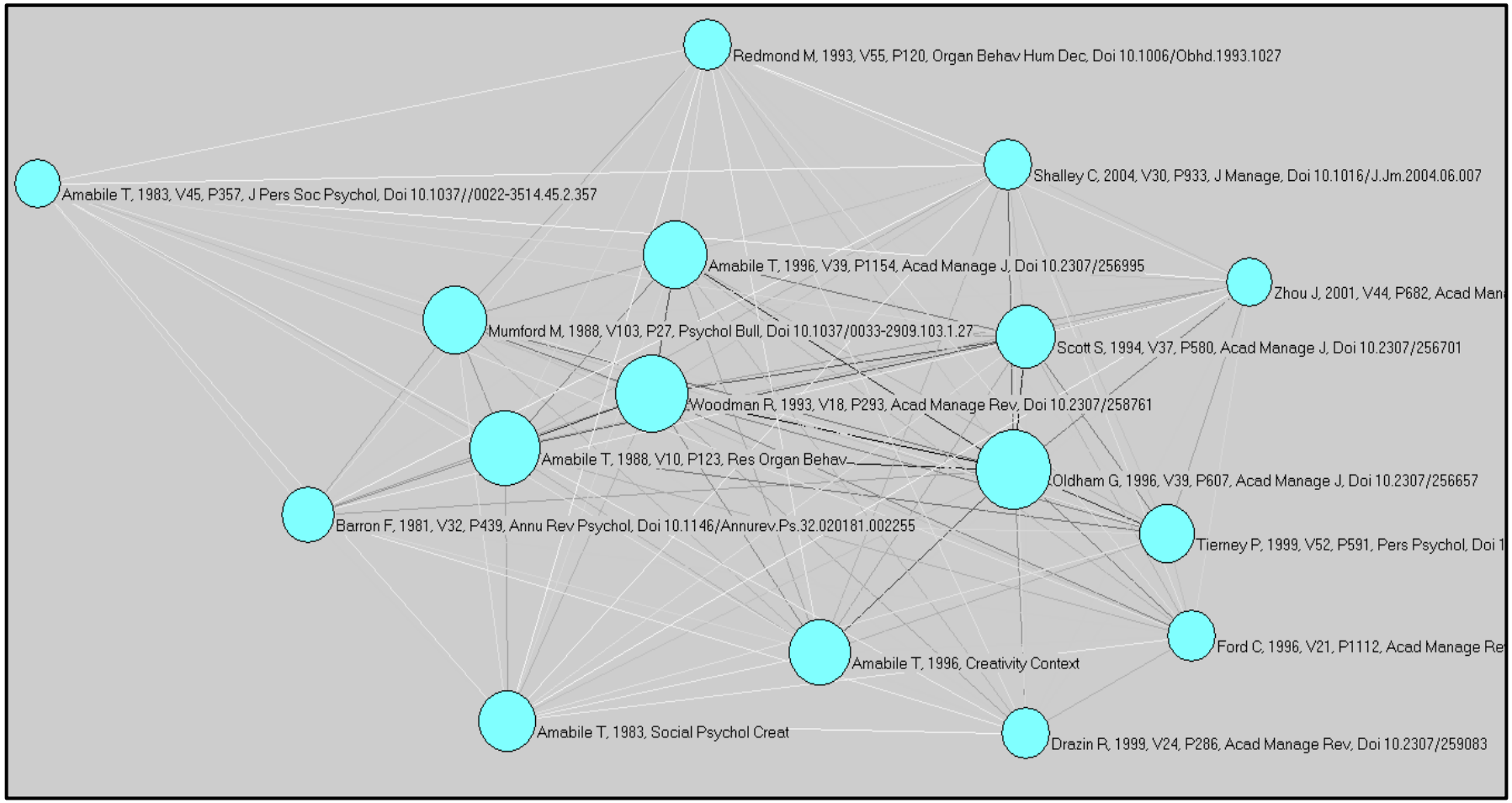


Figure 12*: Co-citation network – representation of the islands in the creativity field*

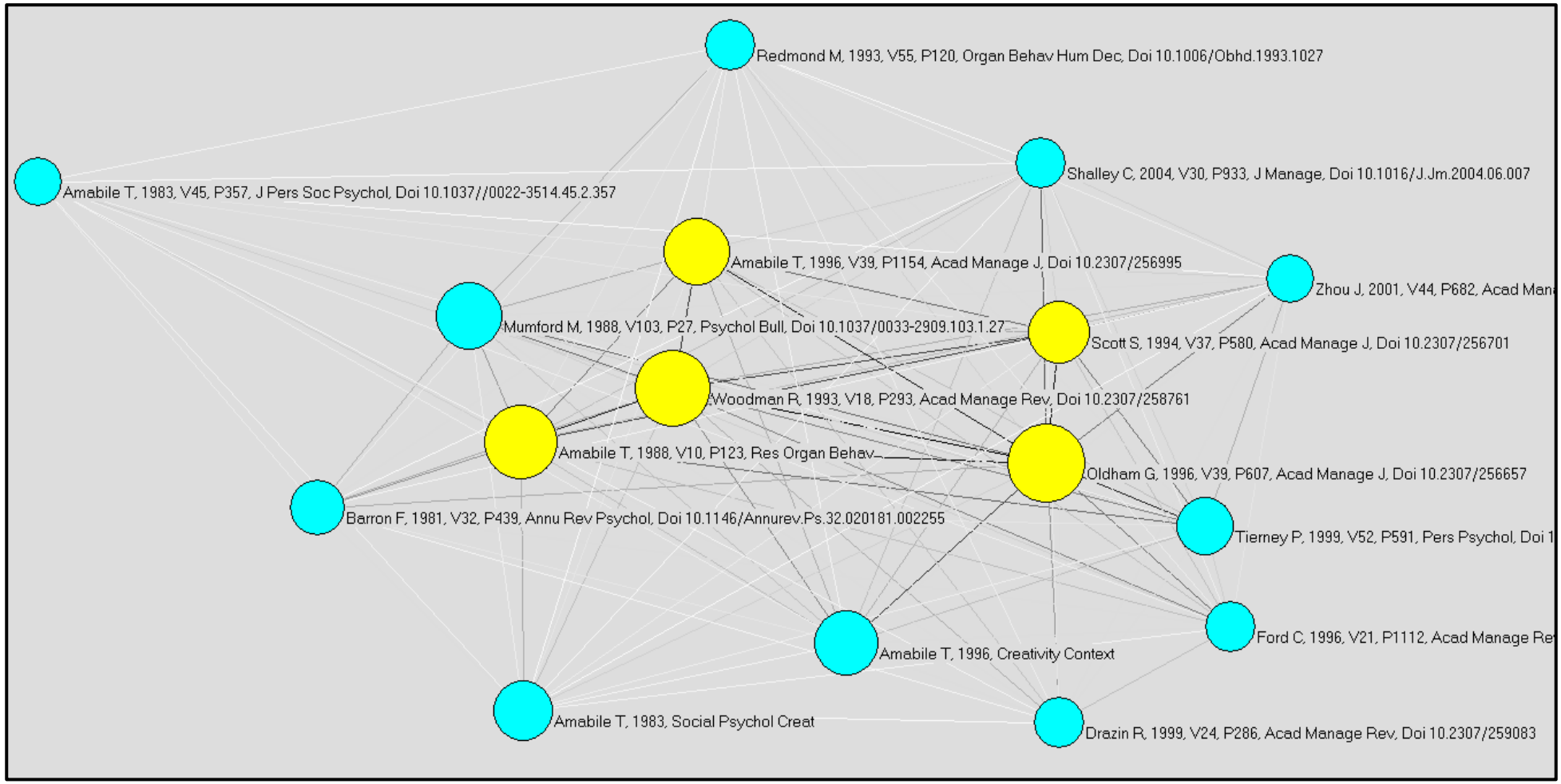
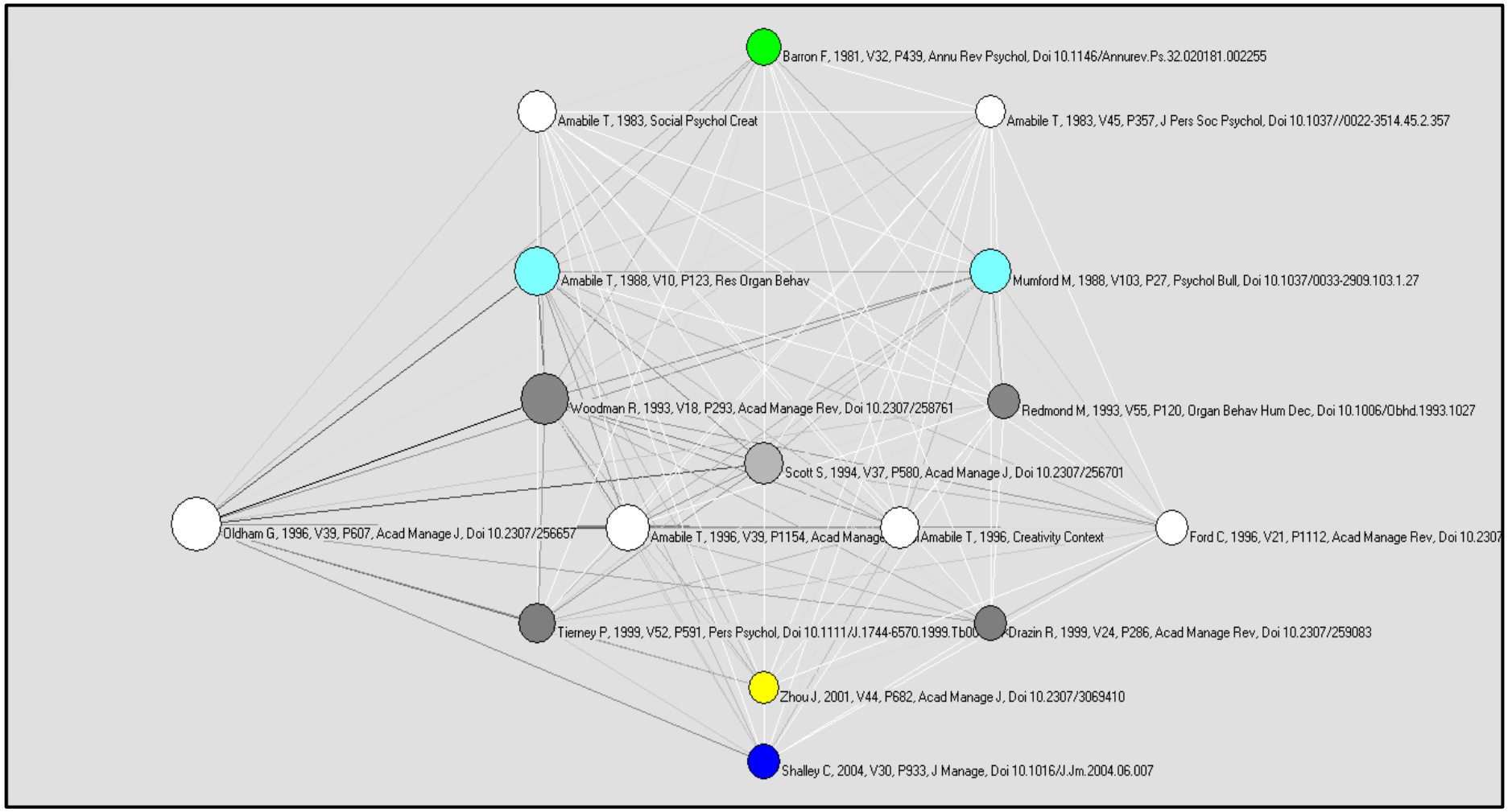


Figure 13: *Co-citation network – chronical representation of the creativity network*



1.2.3 Discussion of the co-citation analysis results of the creativity field

Bibliometric analysis provides us with insights about the origins of creativity and how the field itself has evolved through the years (see Figures 11, 12, and 13). Figure 11 reveals that networks based on co-citation relations among the most-cited authors in the creativity field is not so large regarding the primary articles found and articles that I include in the co-citation analysis. From Figure 12 we can also see that the main authors are well connected to each other, while the rest of the authors are not well connected to each other. Moreover, it is interesting that co-citation revealed only one cluster in the creativity field and as such divided the creativity field on two components.

The first component, as already previously mentioned, comprises the articles of Oldham & Cummings (1996), Woodman et al. (1993), Amabile (1988), Amabile et al. (1996), and Scott & Bruce (1994), which they are central to the network and are part of the main island in the creativity co-citation network (see Figure 11, yellow nodes). From Figure 13, the chronical representation of the creativity network, we can see that Amabile's (1988) article is the foundation for the rest of the article in the first component and is the fourth-most-cited article in the creativity field (Table 8). In her article, Amabile (1988) first examines the factors that impact creativity and innovation that are later foundations for her componential model of organizational innovation. The key contribution of this article in the creativity field is that it integrates individual creativity as part of the organizational innovation and thus stresses creativity. Thus, it is stress factors that influence creativity intersection (i.e., resource, techniques, and motivation), the most accentual parts of the organizational innovation process. As such, this article is one of the most important and influential in the creativity field, especially for emphasizing creativity as an innovative organizational process and creativity intersection and its components' resources, techniques, and motivation.

Although Woodman et al.'s (1993) article evolves from Amabile's (1988) article (see Figure 10, grey node), it builds more on the interactionist model of creative behavior. As such, Woodman and colleagues (1993) in their model elaborate not only factors that influence individual creativity but also group creativity and organizational creativity. Thus, the interactionist model of creativity stresses that: (1) individual creativity conditions with cognitive styles and abilities, personality, motivational factors, and knowledge; (2) group creativity is influenced by individual creativity, group composition (e.g., diversity), group characteristics (e.g., cohesiveness, group size), group processes (e.g., problem-solving strategies, social information processes), and contextual influences; (3) organizational characteristics (e.g., culture, strategy, resources) impact both individuals' and groups' creativity; and (4) organizational creativity is conditioned with previously stead factors. This is one of the first articles that provides a more multilevel approach in the creativity field, thus it is no surprise that it is part of the main island in creativity co-citation network and the second-most-cited piece in the creativity field (see Table 8).

The Scott & Bruce (1994) article is the core of the creativity co-citation network field (see Figure 12); however, it mostly deals with antecedents of innovation to develop and test a model of individual innovative behavior (leadership, individual problem-solving style, and work group relations and their effect on innovative behavior through perceptions of the climate for innovation). Therefore, one might thing their articles should be more on the periphery of the creativity co-citation network. Yet, Scott & Bruce (1994) measure the climate for innovation as part of the support for creativity and thus provide evidence for antecedents to individual creativity. Thus, it is surprising that Scott & Bruce (1994) are well connected with Oldham & Cummings (1996) and are also the second-most pair of articles that are co-cited together in the creativity field (see Table 9), while Oldham & Cummings' (1996) article researched individual and contextual antecedents of individual creativity.

The Oldham & Cummings (1996) article is also part of the main island in the co-citation network of creativity field and is the most cited article in the creativity field (see Table 9). Thus, it is no surprise that the article is well connected to other main articles in the creativity field like, for example, Drazin et al. (1999), Tierney & Grean (1999), and Zhou & Geroge (2001). In the article, the authors explain three indicators of employee creativity (i.e., patents, contributions to a suggestion program, and rated creativity) by exploring personal characteristics (creativity-relevant personal characteristics) and organizational context (job complexity, supportive supervision, and non-controlling supervision). It represents one of the first articles that not only suggest the model but provides empirical proof that contextual and personal factors together can stimulate or decrease employee creativity.

Amabile and colleagues (1996), like Oldham & Cummings (1996), published an article in The Academy of Management Journal in the same volume, and moreover it is the fourth-most-cited article in the creativity field (see Table 8). Thus, Amabile and colleagues' (1996) article is also quite important in the creativity field. In the article, the authors present conceptual categories of work environment factors (e.g., autonomy or freedom, resources, pressures) based on which they present scales for assessing perceptions of the work environment (KEYS Environment Scales) that measure employee creativity. Moreover, in the article they provide construct validity information on KEYS scale and found support for the proposed conceptual model of work environment factors. Taken all together, the articles in the first component have one thing in common, and that is that they all propose research models or introduce scale of creativity based on personal and contextual factors in an organizational context.

The second component I divide based on three diverse groups: (1) reviews of creativity in the organizational context, (2) leader and creativity, and (3) useful feedback from coworkers and creativity. The first group's authors (Amabile, 1983; 1983; 1996; Barron & Harrington, 1981; Ford, 1996; Mumford & Gustafson, 1988; Shalley, et al., 2004) provide

literature reviews of the creativity in the organizational field. From Figure 12, we can see that all authors are on the periphery of the co-citation creativity network except Mumford & Gustafson (1998) and Amabile (1996), who are more central in the co-citation creativity network.

The second group in the second component of the co-citation creativity network can be labeled as leadership and creativity. The article of Redmond and colleagues (1993) that is part of this group identifies that leader behaviors (i.e., problem construction, learning goals, and feelings of self-efficacy) influence subordinate creativity. On the other hand, Tierney and colleagues (1999), who are also part of this group, focus more on the motivational creativity theory and leadership. The research shows that the interactions between employee-intrinsic motivation and leader-intrinsic motivation and between LMX and employee cognitive style is related to overall employee creative performance (Tierney et al., 1999). Nevertheless, both of the articles are on the periphery of the co-citation creativity network expected (see Figure 12).

The third and last group in the second component of the co-citation creativity network can be labeled as useful feedback from coworkers, and includes only one article from Zhou and George (2001) that is also on the periphery of the co-citation creativity network (see Figure 12). Their research indicates that employees with high job dissatisfaction exhibited the highest creativity only when continued commitment was high and when useful feedback from coworkers, coworker help and support, and perceived organizational support for creativity was high (Zhou & George, 2001).

Altogether, there are two components in the creativity co-citation network. In the first competent of the creativity co-citation network, authors stress that in order to get a clear picture of employees' creativity, we have to simultaneously research personal and contextual factors in organizational contexts. In the second component in the creativity co-citation network, authors provide literature reviews of organizational creativity and provide research on leaders, and useful feedback that might be valuable for creativity.

1.2.4 Limitations and conclusion

Based on the above bibliometric co-citation findings, qualitative literature review, and discussion, the aim of this chapter was to offer a deeper understanding of the creativity field in the organizational context and valuable insight on how the field itself has involved through the years. Thus, I first provide a short introduction of the organizational creativity field and provide a brief summary of definitions, levels of analysis, and a short summary of the most relevant authors that adopted proposed definitions in the field of organizational creativity. I then conduct a bibliometric co-citation analysis of the creativity field and provide insights about the distribution of primary published items per year from 1996 to 2015, the number of citations of selected creativity documents in each year, the most-cited

primary articles in the creativity field, and co-citation networks (i.e., chronological representation, representation of the islands, representation of the circles corresponding to number of citations).

In the last section, I provide an in-depth discussion based on bibliometric co-citation findings. My research identifies that creativity co-citation networks were consistent on two distinctive components. On the one hand, the articles in the first component propose research models or introduce a scale of creativity based on personal and contextual factors in organizational contexts. On the other hand, articles in the second comment I divide based on three diverse groups: (1) reviews of creativity in the organizational context, (2) leader and creativity, and (3) useful feedback from coworkers and creativity.

However, these contributions should be interpreted in light of limitations. First, like for cultural intelligence, co-citation network is also the interpretation of the results of creativity co-citation networks and to some degree subjective. Thus, I proposed that future bibliometric co-citation findings should be interpreted with the help of experts in the organizational creativity field in order for more objectively results. Second, limitation of my co-citation analysis for creativity field deals with the foundation of analysis itself. While number of citations is not the most appropriate representation of the articles' influence on the whole research field, I nevertheless use citation in my analysis since have also have some advantages (Kim, Morse, & Zingales, 2006) such as being widely used in the academic research field.

1.3 Co-citation analysis of cultural intelligence and creativity fields

The aim of this dissertation is to connect cultural intelligence and creativity fields in order to get a more clear insight into how a culturally diverse environment can stimulate creativity with the help of cultural intelligence. Thus, in this chapter, I will do a co-citation analysis by linking creativity and cultural intelligence fields, as well as use ISI Web of Science in order to obtain secondary data for co-citation analysis, since the majority of researchers in bibliometric studies (e.g., Nerur et al., 2008) use this database.

I searched all citation databases from 1990–2015 offered by ISI: SCI-EXPANDED (Science Citation Index Expanded), SSCI (Social Sciences Citation Index), and A&HCI (Arts & Humanities Citation Index) using the search term "AND." The following keywords were used: "cultural intelligence," "creativity," and "creative." At this point, I would like to stress that I intentionally did not put "innovation," "innovative," "idea implementation," or "idea generation" as keywords in the research since, as already explained, creativity differs from innovation. Thus, I obtained a database containing only 19 units of literature (documents) in November 2015.

Altogether, the 19 articles were cited 157 times, and the average number of citations per article was 8.26 (Web of Science, 2015). Figure 14 presents the distribution of the primary

published items per year during the 2001–2015 period. As we can see from Figure 14, the articles published that connect cultural intelligence and creativity fields increased throughout the years. The highest number of articles published in the field of creativity was four per year, in the years 2012 and 2013.

Figure 14*: Distribution of primary published items per year during 1994-2015 period of cultural intelligence and creativity field*

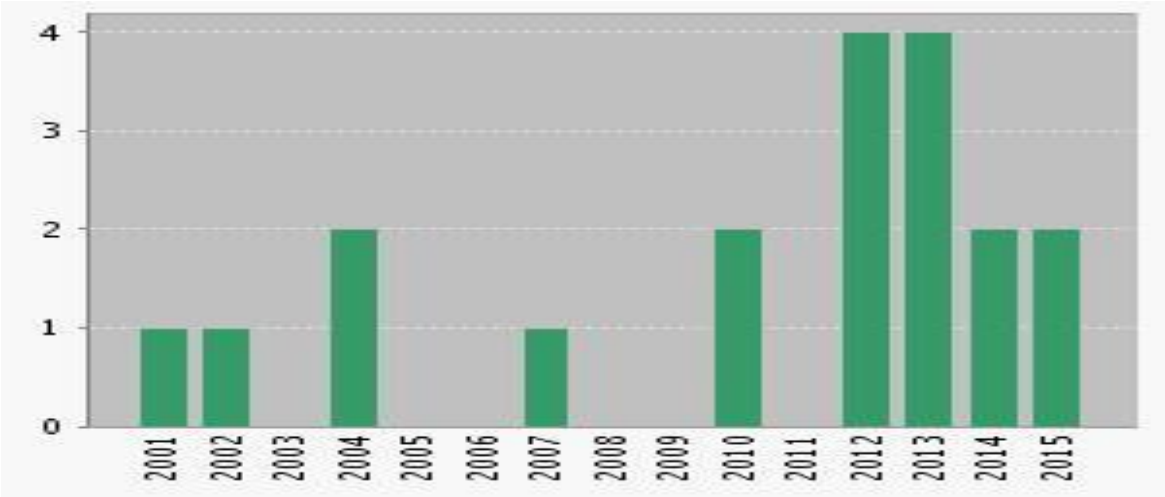
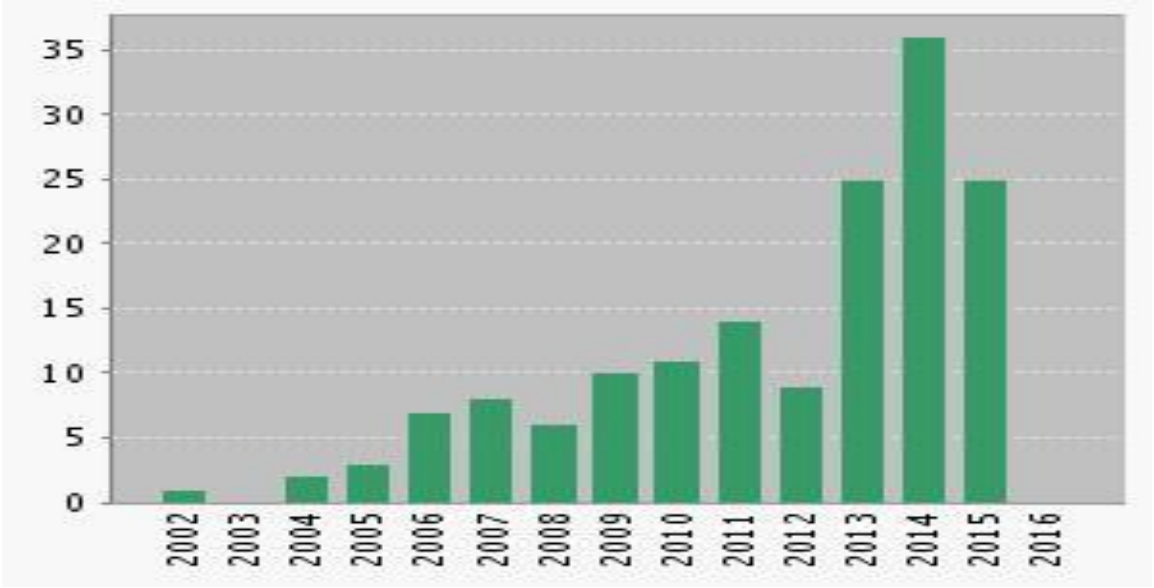


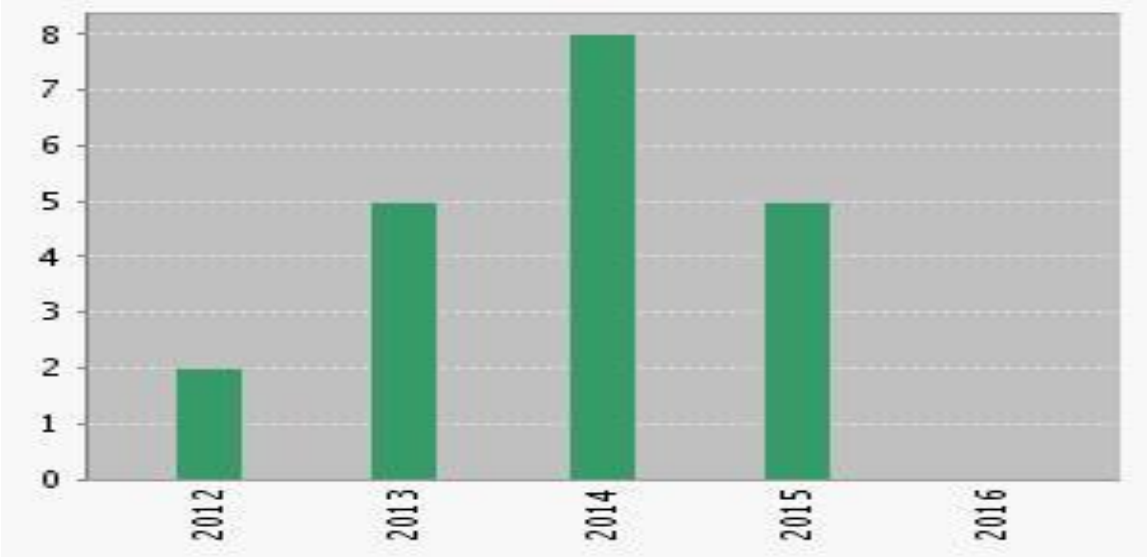
Figure 15 reveals the citations in each year (period 2002–2015) for 19 units of documents that the Web of Science generated. In line with the publication of documents, the citations also exponentially increased throughout the years. The highest numbers of citations of documents connecting cultural intelligence and creativity were in the years 2014, 2015, and 2013.

Figure 15*: Number of citations of cultural intelligence and creativity documents in each year*



Afterward, I manually reviewed the articles and excluded the articles that were not relevant for my topic, even if they had passed the first filtering by keywords while the articles in the first search mostly analyzed the impact of cross-cultural studies (e.g., individualism compared with collectivism; comparing countries; collective intelligence) on creativity. Moreover, this research of articles on the Web of Science showed that the only article that connects cultural intelligence and creativity is Chua et al. (2012), which were published in the *Organizational Behavior and Human Decision Processes* journal. From Figure 16, we can see that the article was cited 20 times, and was cited most in one year at eight times in 2014.

Figure 16*: Number of citations of article that connects cultural intelligence and creativity in each year*



This research indicates that there is a gap in theorizing and empirical researching of cultural intelligence and creativity together in the organizational field. Therefore, the main aim of my doctoral dissertation is to respond to this gap by providing a deeper understating about how cultural intelligence stimulates creativity at the individual and team levels in a culturally diverse environment. Thus, through all of the chapters, I address three questions: Is cultural intelligence a valuable individual capability that can stimulate creativity?; Can cultural intelligence help with the negative aspect of cultural diversity, such as knowledge hiding and task conflict?; and, Can cultural intelligence help to resolve inconsistent empirical evidence in the relationship between cultural diversity and creativity?

CHAPTER TWO: RELATIONSHIP BETWEEN CULTURAL INTELLIGENCE AND CREATIVITY

This chapter aims to extend previous findings on cultural intelligence performance outcomes by examining the role of cultural intelligence in creativity. More precisely, I contribute to cultural intelligence and creativity literature by investigating cultural intelligence as a whole and each dimension relates to creativity at the individual and team levels. I predict that cultural intelligence increases creativity in a culturally diverse environment. In addition, Chapter 2 contributes to diversity literature by exploring the cultural intelligence-creativity relationship in a culturally diverse environment.

Using a sample of 621 employees in 20 small and medium-sized enterprises (SME) multicultural companies from eight countries in the Adriatic region, I chose hierarchical linear modeling (HLM) to explain how cultural intelligence predicts creative performance at an individual level. To investigate the same cultural intelligence-creativity relationship at a team level, I conducted a linear regressions on the same sample using 73 teams. Furthermore, to strengthen causal inferences, I conducted a laboratory experiment in which participants were part of the design-thinking workshop, during which students generated creative ideas and prototyped them to solve a given business problem. The result from the field and lab data links cultural intelligence to creativity at the individual and team level. Also metacognitive and motivational cultural intelligence are related to creativity at the individual and team level. Behavioral cultural intelligence has positive impact on creativity only on individual level. However, cognitive cultural intelligence has no significant direct effect on creativity at the individual and team level.

2.1 Introduction

Creativity, defined as the production of ideas that are both novel and useful (Amabile, 1996), is the first step towards innovation (Amabile, Conti, Coon, Lazenby, & Herron, 1996) and a cornerstone of organizational change (Gilson, Mathieu, Shalley, & Ruddy, 2005; Zhou & Hoever, 2014). Therefore, it is not surprising that scholars and practitioners have shown a strong interest in identifying factors that could enhance employees' creativity (Shalley & Gilson, 2004; Zhou & Shalley, 2011). In the past, scholars have mostly examined the antecedents or specific subsets of antecedents, such as personal and contextual factors that facilitate or inhibit creativity (Shalley & Gilson, 2004; Shalley, Zhou, & Oldham, 2004; Zhou & Hoever, 2014). However, little research has been conducted to explore the influence of a culturally diverse environment on creativity.

A culturally diverse environment is an everyday fact in the workplace (Homan et al., 2008) as organizations are increasingly operating internationally (MacNab & Worthley, 2011). Moreover, the workforce is becoming more diverse due to globalization (Shin, Kim, Lee, & Bian, 2012). However, the empirical evidence of linking diversity and creativity has yielded mixed results about whether a culturally diverse environment enhances creativity (Anderson, Potočnik, & Zhou, 2014). Thus, based on the value in perspective, diversity literature proposes that a diverse work environment extends the ranges of different problem-solving styles, knowledge, perspectives, and skills (Pelled, Eisenhardt, & Xin, 1999; Williams & O'Reilly, 1998), which in turn stimulate individuals and lead them to create new ideas (Cox & Blake, 1991). Therefore, cultural diversity may be a valuable source for employees' creativity (Amabile, 1996).

On the other hand, the similarity attraction argument (Pfeffer, 1983) suggests that cultural diversity may indirectly decrease employees' creativity due to a social categorization process. Evidence indicates that the social categorization process (Tajfel & Turner, 1986), in which individuals start to categorize colleagues as in-group/out-group members based on cultural differences, hinders the use of the available information (Van Knippenberg, De Dreu, & Homan, 2004) and talk less with their coworkers (Hoffman, 1985; Watson, et al., 1993). Moreover, the possibility of emotional and relational conflicts in a culturally diverse group is much higher (Northcraft & Neale, 1999; Mannix & Neale, 2005). Cultural diversity may therefore relate negatively to individual and team creativity. Considering all of the above, broader concepts of the factors and conditions that allow people from different cultures to collaborate creatively are needed (De Dreu, & Nijstad, 2004; Leung, Maddux, Galinsky, & Chiu, 2008).

The main objective in this chapter is to explain and resolve the inconsistent relationship between a culturally diverse environment and creativity. In order to do so, I propose that cultural intelligence can provide a more in-depth insight on how to minimize the negative influences of social categorization processes due to the cultural diversity in order to

stimulate individual and team creativity. Cultural intelligence is defined as an individual's capability to function effectively in a culturally diverse environment and with people from a culturally diverse environment (Ang & Van Dyne, 2008a). Furthermore, cultural intelligence increases individual understanding of similarities differences (Earley & Ang, 2003) between culturally diverse colleagues from the East and colleagues from the West. Also, recent research indicates that cultural intelligence is one of the highly relevant predictors of effective performance outcome in a culturally diverse environment (Chua & Morris, 2009; Imai & Gelfand, 2010) and positively influences communication effectiveness cross-cultural interactions (Bücker, et al., 2014). Therefore, cultural intelligence can help to decreases social categorization processes in a culturally diverse environment. Thus, I predict that cultural intelligence can enhance individual and team creativity in a culturally diverse environment.

I begin this chapter by summarizing the existing literature of creativity in a culturally diverse environment; then, I provide a theoretical background on how cultural intelligence in each dimension and as a whole can help employees decrease social categorization processes in a culturally diverse environment, and in turn stimulate their creativity (e.g., individual and team). The multilevel hypotheses were tested in two studies. In Chapter 1, I first carried out a field study in eight different countries as part of the Pacinno project (Pacinno, 2015). Second, I conducted a laboratory experiment among 80 international students at FELU in an elective course. The aim of this chapter is to contribute to the creativity research by extending the previous cross-cultural creativity research while simultaneously considering individual capabilities (such as cultural intelligence) and contextual factors (such as a culturally diverse environment). Thus, I provide a significant contribution to the relationship between creativity and cultural diversity by answering repeated calls for greater research on creativity and cultural differences (Anderson, De Dreu, & Nijstad, 2004; Anderson et al., 2014; Shalley et al., 2004; Zhou & Su, 2010). I also advance the cultural intelligence theory and answer recent calls by Van Dyne and colleagues (2012) by providing a more in-depth examination of cultural intelligence not only as a whole construct but also in regard to how each dimension of cultural intelligence can stimulate creativity in a culturally diverse environment by decreasing social categorization processes at individual and team levels. I conclude this chapter with a discussion of the practical implications, the limitations of the study used, and suggestions for future research.

2.2 Creativity in a culturally diverse environment

Social exchange, more precisely information/decision elaboration with teammates and/or coworkers, as already mentioned, is valuable for creative individual and team processes. Thus, creativity literature suggests that different groups (e.g., leaders, teammates, coworkers and non-work-related others) may stimulate individual and/or team creativity differently (Anderson, et al., 2014; Zhou & Hoever, 2014; Madjar, 2005; Madjar, et al., 2002). According to the process perspective of creativity, employees at different stages of

the creative process need to have different informational and knowledge inputs (De Stobbeleir, & De Clippeleer, 2014). For example, Caniels and colleagues' study implies that employees' idea generation mainly requires access to information and knowledge, while during idea promotion; employees need more political intelligence, that is, knowledge of the playing field. Moreover, they propose that if organizations want to stimulate idea generation as part of the creative process among their employees, they "need to stimulate interpersonal contacts as much as possible such that cross-fertilization between different departments and/or domains of expertise is enhanced" (Caniels, et al., 2014, p. 103). As such creativity is often stimulated by teammates' knowledge exchange (Chua, et al., 2012; Černe, et al., 2014), communication and elaboration on task-relevant information and perspectives (Giambatista & Bhappu, 2010; Jia, et al., 2014; Van Knippenberg, et al., 2004).

Therefore is no surprise, that diversity literature suggests that culturally diverse coworkers are valuable source of organizational creativity (Amabile, 1996); while as already noted above, the value-in-diversity argument suggests that individual exposure to the diverse knowledge, skills, and perspectives (Pelled, et al., 1999; Williams & O'Reilly, 1998) available from diverse colleagues enhances the generation of individual ideas (Perry-Smith & Shalley, 2003). There are many diversity-based individual or team attributes that can stimulate creativity, yet the benefit of culturally diverse colleagues is usually not recognized (O'Reilly, Williams, & Barsade, 1998). Moreover, as Chua (2013, p. 1545) explains, a culturally diverse work environment "provides for the confluence of disparate ideas from different cultures; the appropriate combination of ideas and perspectives from different cultures potentiates creative solutions." Therefore, my emphasis is to provide an insight on how social interaction and exchange with culturally diverse colleagues can promote creativity.

Although researchers (Chua, 2013; Chua, et al., 2012; Cox, Lobel, & McLeod, 1991; Giambatista & Bhappu, 2010; McLeod, Lobel, & Cox, 1996; Stahl, Maznevski, Voigt, & Jonsen, 2010) have started to investigate the role of culturally diverse environments in the creativity process, I note that empirical studies have yielded mixed and often confusing results. Some studies have demonstrated that cultural diversity is positively related to creativity (Chatman, Polzer, Barsade, & Neale, 1998; Stahl et al., 2010), whereas others have found non-significant associations or negative influences of cultural diversity on creativity (Giambatista & Bhappu, 2010; Shin et al., 2012). In light of these conflicting findings in recent reviews of creativity literature, scholars have repeatedly called for further studies of the conditions under which cultural differences will stimulate creativity (Anderson et al., 2004; Anderson et al., 2014; Shalley et al., 2004; Zhou & Shalley, 2003). Thus, in this Chapter I focus on answering these calls by exploring how cultural diversity, as a salient contingency, can enhance individual creativity.

Drawing on social categorization theory (Tajfel & Turner, 1986), I argue that a culturally diverse environment can have a negative impact on creativity, but when properly managed, it can stimulate individual and team creativity. Thus, I go even further by proposing that cultural intelligence can decrease the social categorization process and, in turn, enhance creativity at booth individual and team levels. The social categorization process usually emerges when cultural diversity increases at the work environment (Richard, Barnett, Dwyer, & Chadwick, 2004) and employees start to compare themselves, based on similarities to and differences from their colleagues, to reduce uncertainty (Tajfel & Turner, 1986; Van Knippenberg et al., 2004). More precisely, working with culturally diverse teammates actually motivates employees to generate new subgroups in the work environment based on cultural dissimilarities among in-group members and dissimilar out-group members (Van Knippenberg & Schippers, 2007).

A recent research has indicated that the social categorization process in culturally diverse environments is negatively related to work performance (Pelled et al., 1999), group processes (Guillaume, Dawson, Woods, Sacramento, & West, 2013), and interactions among culturally diverse colleagues, such as sharing and elaborating creative ideas (Van Knippenberg et al., 2004), because employees are more likely to favor and interact with similar than dissimilar colleagues (Williams & O'Reilly, 1998). To summarize, the categorizing process of in- and out-groups may decrease creativity in a culturally diverse environment. However, I expect that cultural intelligence can reduce these potentially negative consequences of the social categorization process and, in turn, trigger creativity among culturally diverse coworkers. Thus, I first explain how individual high cultural intelligence, as a whole construct and as each dimension, can reduce the social categorization process among culturally diverse teammates. Then, I articulate how cultural intelligence can, by reducing the social categorization process, stimulates creativity at team level.

2.3 Role of cultural intelligence on creativity in a culturally diverse environment

Cultural intelligence is "operationalized as a specific form of intelligence" (Erez et al., 2013, p. 335) that indicates whether individuals can manage situations that are characterized by culturally diverse settings and involve individuals from a culturally diverse environment effectively (Earley & Ang, 2003). It includes four related but different dimensions: cognitive, metacognitive, motivational, and behavioral (Earley & Ang, 2003). Based on diversity theory, I propose that cultural intelligence as a whole can decrease the negative aspects of the social categorization process (e.g., lack of communication and information/decision elaboration with teammates) among culturally diverse coworkers and in turn boost individual and team creativity.

According to social categorization arguments in diversity literature, employees usually prefer to work and cooperate more willingly with similar co-workers as opposed to

dissimilar co-workers (Brewer & Brown, 1998; Tajfel & Turner, 1986). Van Knippenberg et al. (2004) proposed that social categorization and information-elaboration processes operate simultaneously, while subgrouping based on cultural differences can disrupt a team's exchange and integration of information, which may be critical for nonroutine work such as creativity. A recent meta-analysis also showed (Guillaume, et al., 2012, p. 100) that there is a negative relationship between deep-level dissimilarity (e.g., personality, attitudes, beliefs, and values) and social integration; while "individuals prefer similar others, they find interactions with dissimilar others more difficult and less reinforcing, which in return leads to lower levels of social integration." Furthermore, interactions with culturally dissimilar teammates can also decrease creativity, while during cross-cultural interactions, employees often stereotype dissimilar others (Van Knippenberg & Schippers, 2007). More precisely, social categorization processes undermine employees' motivation to contribute to the effectiveness of work groups (Chattopadhyay, et al., 2004), individual efforts toward work group identification, and the exchange and integration of information in diverse work groups (Guillaume, et al., 2014) and, in turn, have a negative impact on creativity.

However, I predict that cultural intelligence may minimize the negative impact of the social categorization processes (e.g., undermining efforts of group identification and the exchange and integration of information) based on cultural diversity and maximize the positive impact (e.g., providing various ideas, knowledge, and perspectives) of cultural diversity on creativity. While cultural intelligence provides individuals with meaningful capabilities that can help them cope with problems based on multicultural situations and can help with more effective engagement in cross-cultural interactions (Ang & Van Dyne, 2008b). Employees with high cultural intelligence are more motivated for cross-cultural interactions, behave appropriately in cross-cultural interactions, and have better cultural awareness during cross-cultural interactions (Erez et al., 2013; Rosenblatt, et al., 2013). As such, culturally intelligent employees will more likely develop collective optimism, efficacy, and identification within culturally diverse colleagues by overcoming the negative aspects of culturally diverse work environments (Earley, et al., 2006) at the individual and team level.

Empirical research indicates that indeed individuals with high cultural intelligence can foster increased fusion in multicultural teams increase (Crotty & Brett, 2012), increase team knowledge sharing (Chen & Lin, 2013; Moon, 2013), and help with intercultural disputes (Salmon et al., 2013). Furthermore, Bücker and colleagues' (2014) recent study shows that high cultural intelligence of Chinese managers working for foreign multinational enterprises plays a crucial role in reducing anxiety and influencing communication effectiveness. More specifically, cultural intelligence will indeed decrease the negative aspects of the social categorization process, while recent research has indicated that a higher level of team cultural intelligence will weaken the negative effect of cultural diversity on initial multicultural team performance (Moon, 2013). Moreover, cultural intelligence can help employees to reduce their tendency to see their colleagues as

and out-group members — a socialization categorization process that is based on cultural diversity (Rockstuhl & Ng, 2008). Therefore, in the context of a culturally diverse environment, culturally intelligent individuals will be driven to overcome the challenges of the social categorization processes because their cultural intelligence capability helps them to have a shared understanding of team member status, team processes, role expectations, and communication in culturally diverse interactions (e.g., Ang, et al., 2006; Ang, et al., 2007; Earley & Ang, 2003). Also, a recent study indicates that employees who strongly identified with both their host and their home cultures were more creative then employees who strongly identified with either their home or host cultures alone (Tadmor, Galinsky, & Maddux, 2012). Taken all together, I predict that by decreasing the social categorization process, individual and team level cultural intelligence will be positively related to individual and team creativity in a culturally diverse environment. Hence, I propose the following hypotheses:

H1a: Cultural intelligence is positively related to creativity at individual level.

H1b: Cultural intelligence is positively related to creativity at team level.

I further propose that not only cultural intelligence as a whole is positively associated to creativity, but also each dimension of cultural intelligence is positively related to individual and team creativity in a culturally diverse environment. As Ang et al. (2007) explains, different dimensions of cultural intelligence are different individual capabilities and, as such, may have different effects on the individual and team creative performance outcome. First, I predict that the metacognitive dimension of cultural intelligence in positively related to individual and team creativity while already Feldhusen and Goh (1995) explained that metacognitive individual skills can trigger employees' creative thinking. The metacognitive dimension of cultural intelligence reflects individual mental consciousness and awareness during intercultural interactions. More precisely, metacognitive cultural intelligence relates to the way individuals plan their behavior before interacting with culturally diverse colleges, the way they monitor their assumptions during actual multicultural interactions and, then, the way they make mental adjustments if expectations differ from their experiences with multicultural interactions (Ang, et al., 2007).

At individual level, according to Rockstuhl and Ng (2008, p. 210), metacognitive cultural intelligence is based on employees conscious awareness of cultural differences during interactions, thus individuals with high metacognitive cultural intelligence "are less likely to make superficial and inaccurate judgments based on salient ethnic differences," which increases the social interaction between culturally diverse colleagues. Therefore metacognitive cultural intelligence can decrease lack of information elaboration because social categorization based on culturally dissimilarity. At in turn it can be positively related to individual creativity, while I already mentioned that social interactions and communication with culturally diverse teammates are relevant to creativity as they can

enhance individual creativity due to the receipt of new information (Amabile, 1996; Woodman, Sawyer, & Griffin, 1993).

Furthermore, a study of 246 individual members of 37 multicultural teams indicated that creativity was actually higher when the team members were more metacognitive culturally intelligent (Crotty & Brett, 2012). In their study, Crotty and Brett (2012) also found that individuals with high metacognitive cultural intelligence are more likely to start to create a fusion culture in the work environment and blend diverse cultural values into one culture. In line with this result, Adair et al. (2013) obtained similar results by demonstrating that metacognitive cultural intelligence indeed has a positive effect on shared values in culturally heterogeneous teams. If culturally diverse teammates have common values, they see themselves more as in-group members, which will, on one hand, increase the social interaction (e.g., sharing information and engaging in communication) and, on the other, decrease social categorization processes. That is why I predicted that individuals with high culturally metacognitive intelligence would be more creative in a culturally diverse environment at individual and team. Hence, I hypothesize:

H2a: Metacognitive cultural intelligence is positively related to creativity at individual level.

H2b: Metacognitive cultural intelligence is positively related to creativity at team level.

Cognitive cultural intelligence encompasses individual knowledge about particular cultures, which includes norms, practices, conventions, language, and religious beliefs, as well as economic, legal, and social systems (Erez, et al., 2013). Therefore, at the individual level, highly cognitive culturally intelligent individuals anticipate and understand better, particularly about the similarities and differences between themselves and colleagues from different cultural backgrounds (Ng, Van Dyne, & Ang, 2009; Van Dyne, et al., 2012). Moreover, the cognitive skills that cognitive cultural intelligence is based on can help individuals to dampen the social categorization processes (Rockstuhl & Ng, 2008) while they provide individuals with important behavioral guidelines on how to engage culturally diverse interpersonal interactions (Blasco, Feldt, & Jakobsen, 2012). Moreover, Moon (2013) explains, teams with high cognitive cultural intelligence are going to be more likely to perform better, while cognitive cultural intelligence helps them to overcome prejudices based on superficial cultural characteristics and, in turn, collaborate and effectively share knowledge with out-group members (Ang & Van Dyne, 2008a; Michailova & Hutchings, 2006).

Studies have also demonstrated that cognitive cultural intelligence enhances accuracy of cultural judgment and decision making about cross-cultural interactions (Ang, et al., 2007) and motivates knowledge sharing among multinational teams (Chen & Lin, 2013). Taken together, these studies suggest that employees with high cognitive cultural intelligence can

enhance information/decision-making between culturally diverse coworkers. I propose, because information-elaboration and social categorization processes operate simultaneously in a culturally diverse environment (Van Knippenberg, et al., 2004), that if individual and team cognitive cultural intelligence stimulates information/decision making and, on the other hand, decreases the social categorization process, it in turn stimulates creativity at the individual and team levels. Also, the information-elaboration perspective suggests that diversity, in fact, stimulates creativity, while culturally diverse individuals might have a broader range of task-relevant knowledge (Williams & O'Reilly, 1998). Research also indicates that knowledge and information sharing are an antecedent of creativity (Oldham & Cummings, 1996; Perry-Smith, 2006; Schepers & van den Berg, 2007). For example, Gilson and Shalley (2004) found that teams that report participative decision making have been more engaged in the creative process than teams that reported lower participative decision making. Taken all together, I propose that cognitive cultural intelligence will be positively related to creativity in a culturally diverse environment while it simulates the information-elaboration process on the one hand and thus decreases social categorization processes on the other at the individual and team level.

H3a: Cognitive cultural intelligence is positively related to creativity at individual level.

H3b: Cognitive cultural intelligence is positively related to creativity at team level.

Motivational cultural intelligence as a third dimension reflects individual capability to direct energy and effort towards learning and functioning in cross-cultural situations (Earley & Ang, 2003). As Ang et al. (2007) explained, it is based on individuals' intrinsic motivation (Deci & Ryan, 1985) and self-confidence in their cross-cultural effectiveness in a diverse cultural setting (Bandura, 2002). Motivational cultural intelligence thus stimulates individuals to enjoy and have more confidence when interacting with culturally diverse coworkers, and to tend to persist when cross-cultural interactions are challenging (Bandura, 1997; Ng, Van Dyne, & Ang, 2009). Furthermore, individuals with high motivational intelligence may look for opportunities to interact with out-group members as they value the benefits of cross-cultural interactions, tend to be more engaged in intercultural interactions, and are thus more likely to overcome obstacles, setbacks, or failures due to cultural misunderstandings (Ang, Van Dyne, & Koh, 2006; Kim & Van Dyne, 2012; Rockstuhl & Ng, 2008; Van Dyne et al., 2012). According to Ng et al. (2012), the investment theory of intelligence (Cattell, 1971) would suggest that motivational cultural intelligence is a building block to stimulate also metacognitive cultural intelligence.

Therefore, high motivational cultural intelligence can reduce the likelihood of emerging social categorization processes within a culturally diverse at individual and group level (Rockstuhl & Ng, 2008), and in turn trigger creativity in a culturally diverse environment. I thus propose that motivational cultural intelligence can promote a non-routine creative task

performance, which line with Earley and Ang (2003) theorizing that employees with high motivational cultural intelligence should have a more superior task performance in a culturally diverse environment than individuals with low motivational cultural intelligence. Furthermore, empirical studies have indicated that individuals' motivational cultural intelligence is related to the higher job performance (Chen, Lin, & Sawangpattanakul, 2011; Chen, Kirkman, Kim, Farh, & Tangirala, 2010; Chen, Liu, & Portnoy, 2012), knowledge sharing in teams (Chen & Lin, 2013) and beneficial agreements negotiations (Imai & Gelfand, 2010) in a culturally diverse environment. To sum up, I predict that individuals and teams with high motivational cultural intelligence will interact more efficiently with out-group members, and the social categorization process will thus decrease, which will in turn trigger their creative performance at individual and team level.

H4a: Motivational cultural intelligence is positively related to creativity at individual level.

H4b: Motivational cultural intelligence is positively related to creativity at team level.

Behavioral cultural intelligence refers to an individual's flexibility in displaying adequate verbal and nonverbal actions (e.g., words, tones, gestures, and facial expressions) during intercultural interactions (Gudykunst, Ting-Toomey, & Chua, 1988; Ng, et al., 2009). In intercultural encounters, displaying appropriate behaviors is both a necessity and a key to developing meaningful relationships (Bhaskar-Shrinivas, et al., 2005) with colleagues from different cultural backgrounds, while cross-cultural interactions can create feelings of uncertainty and anxiety as a result of unfamiliar cultural codes and wrong predictions about reactions on behavior (Bücker, et al., 2014). In addition, nonverbal behavior is important in cross-cultural interactions because it acts as a "silent language" and can be interpreted as a subtle indicator of sincerity and honesty during intercultural interactions (Hall, 1959).

Verbal and nonverbal behaviors that are appropriate in some cultures would be considered inappropriate in other cultures (Earley & Ang, 2003; Trompenaar & Hampden-Turner, 1998). For example, an open debate between a leader and his or her employees may seem appropriate to an American manager, but a Brazilian manager would probably see this debate "as aggressive and unacceptable behavior" from his or her subordinates (Javidan, Dorfman, De Luque, & House, 2006, p. 76). Therefore, Ang and Inkpen (2008) suggested that behavioral cultural intelligence may be the most critical component of cultural intelligence during interactions with people from different cultural backgrounds.

Employees with high behavioral cultural intelligence in multicultural collaborations use appropriate words, gestures, and facial expressions that, in turn, help them to be more easily accepted by out-group members while interacting with them (Ang, et al., 2006; Lin, Chen, & Song, 2012). Also, when employees have high behavioral cultural intelligence,

they are more likely to engage in high-quality social interactions in cross-cultural collaborations (Ang, et al., 2006) that will enhance the performance of multicultural teams (Shokef & Erez, 2008) and knowledge sharing among cultural diverse employees (Chen & Lin, 2013). It follows that behavioral cultural intelligence can enhance interaction with culturally dissimilar out-group members and therefore decrease social categorization processes.

In turn, frequent, extensive, and high-quality social interactions stimulate creativity in a culturally diverse environment. While the value-in-diversity argument (Williams & O'Reilly, 1998) suggested that frequent interactions with dissimilar others can help employees generate innovative ideas (Perry-Smith & Shalley, 2003) and may combine unique information and knowledge gained from culturally diverse colleagues during interactions that generate new and creative ideas (Cox, 1994; Madjar, 2005). Therefore, it is crucial to stimulate colleagues to interact with each other, especially when culturally diverse colleagues can contribute different points of view. In addition, several studies suggest that employees who received inaccurate information from their coworkers exhibited the lowest level of creativity (George & Zhou, 2001) and that team-member exchange quality has a positive indirect effect on creativity through creative self-efficacy (Liao, et al., 2010). Thus, behavioral cultural intelligence can help individuals and teams increase their creativity while enhancing effective interactions and collaborations with culturally diverse colleagues. Hence, I predict the following:

H5a: Behavioral cultural intelligence is positively related to creativity at individual level.

H5b: Behavioral cultural intelligence is positively related to creativity at team level.

To test proposed hypothesis that cultural intelligence and its dimension are positively related to creativity in a culturally diverse environment at individual and team level, I first carried out a field study as part of the Pacinno project (Pacinno, 2015) on 621 employees nested within 73 groups in eight countries. Furthermore, I also conducted an experimental study with 80 international undergraduates in an elective course at a Slovenian university to explore in more detail cultural intelligence – creativity relationship at the individual level.

2.4 Study 1: Methods

2.4.1 Sample and procedures

Empirical data was collected in October and November 2014 as part of the Pacinno project (Pacinno, 2015) from the Adriatic countries (i.e. Albania, Bosnia and Herzegovina, Croatia, Greece, Italy, Montenegro, Serbia, and Slovenia) in order to get a culturally diverse sample. The Pacinno sample consisted of 787 employees nested within 73 groups from 20 diverse, innovative SMEs. A translation and back-translation procedure was used

to translate the questionnaire from English to the languages of the analyzed countries and then back to English. In the Pacinno project, we used a company-provided list of all employees in 20 different companies and invited employees to complete a survey either online or in hard copy during or outside their working hours. During the date collection, we provided confidentiality to employees that participated in the survey by identifying them with code names instead of their real names. Data was collected from the employees on the individual level and on the basis of the group/team work unit the employees are a part of.

The companies that we used in the sample are from different industries (pharmaceutical, IT, automobile, biotechnology, food and beverage) yet they all are trans-national companies that deal with multicultural collaborations daily. For example one of the company is a biotechnology manufacturer that employs about 70 people. Their motto is to "be the world leader in innovative biotechnology manufacturer, and supplying our customer with the best possible biotechnological solutions, and providing advanced laboratory measurements". The other example is the company from automotive industry that employs 200 people. The company tradition is in highly specialized industrial production, yet they also vested into producing innovative solutions to the technological challenges of the future. With almost 50 years of experience, they have evolved and become a trans-national company connecting almost 30 companies in Europe, in the USA and in Asia. As such, all of the companies in the sample are international innovative SMEs. Thus they employees need to be highly creative and collaborate daily with individuals form different cultural backgrounds.

The participants represented at least eight different nationalities from different countries. (Bosnia and Hercegovina = 13.9%, Croatia = 16.5%, Albania = 12.6%, Italy = 14.4%, Serbia = 8.5%, Greece = 9.4%, Slovenia = 12.7%, Montenegro = 12.1%). In my sample, 61.4% of the participants were male and their average age was 35.86 (SD = 9 years). Of the 787 participants, 34.6% (SD = 0.8) were undergraduates or had a bachelor's degree, and 92.8% of the respondents were fully employed in their organizations (SD = 0.26). The employees have been working at their current place of employment for an average of 6.5 years (SD = 6.64) and have been working with their current supervisor for an average of 4.2 years (SD = 4.05). In the sample, 52.1% (SD = 0.52) of the employees performed managerial duties.

2.4.2 Measures

Unless otherwise noted, seven-point Likert-type scales ranging from 1 ("strongly disagree") to 7 ("strongly agree") were used in the study and were all self-reported by employees.

Cultural intelligence was assessed with a 16-item shortened scale of Ang and Van Dyne (2008b), and the overall cultural intelligence reliability score was – $\alpha = .95$. I measured

cultural intelligence by calculating the sum of a four-item scale for metacognitive, cognitive, behavioral, and motivational cultural intelligence. The overall cultural intelligence was then divided by 16, as I used 16 items in the scale. The questionnaire included items such as "I check the accuracy of my cultural knowledge as I interact with people from different cultures" and "I am sure I can deal with the stresses of adjusting to a culture that is new to me."

Metacognitive cultural intelligence was measured according 4-items shortened scale of by Ang and Van Dyne (2008b). I aggregated all fore metacognitive cultural intelligence items into a single score and the overall metacognitive cultural intelligence reliability score was – α = .92. The questionnaire included items such as "I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds" and "I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me."

Cognitive cultural intelligence was measured with a 4-items shortened scale of Ang and Van Dyne (2008b) fore-items metacognitive cultural intelligence scale. The overall cognitive cultural intelligence was aggregated into a single score and the reliability score was – α = .87. The questionnaire included items such as "I know the rules (e.g., vocabulary, grammar) of other languages" and "I know the cultural values and religious beliefs of other cultures."

Motivational cultural intelligence was assessed with a 4-item shortened scale of Ang and Van Dyne (2008b), I then aggregated all four motivational CQ items into a single score and the overall motivational cultural intelligence reliability score was – α = .91. The questionnaire included items such as "I enjoy interacting with people from different cultures" and "I am sure I can deal with the stresses of adjusting to a culture that is new to me."

Behavioral cultural intelligence was also measured shortened scale of Ang and Van Dyne (2008b). Behavioral cultural intelligence was also aggregated from four items and the overall behavioral cultural intelligence reliability score was – α = .89. The questionnaire included items such as "I change my nonverbal behavior when a cross-cultural situation requires it" and "I alter my facial expressions when a cross-cultural situation requires it."

Creativity was measured according to a 13-item questionnaire developed by Zhou and George (2001) – α = .95. The employees were asked to assess their behavior and actions within the firm with regard to their ability to come up with new ideas. Questionnaire included items such as "I am a good source of creative ideas" and "I come up with creative solutions to problems." Although employees innovative or creative behavior in one organizational context may in other be perceived as undesirable or disruptive in another (Agars, Kaufman, & Locke, 2008), self-measurement were used because they enable

subjective assessments about domain-specific individual creativity behavior in which organizational context the creative process is taking place.

Control variables. I included several control measures to remove the influences of other variables related to cultural intelligence - creativity relationship in a culturally diverse environment. First, I controlled for *knowledge hiding* with 8-item shortened scale of Connelly et al. (2012) – $\alpha = .95$ since knowledge hiding can emerge due to cultural diverse environment and can decrease individual creativity (Černe, et al., 2014). Second, I followed other researchers (e.g., Amabile, 1996; Shin, et al., 2012; Shin & Zhou, 2003) and controlled for *education* level of the employees while the education might be associated with level individual creativity. Third, I also controlled for the *age*, *gender,* and *work experience.*. All control variables besides company were self-reported.

I collected the date using a large-scale questionnaire; therefore, it is important to stress in the design of the questionnaire that I try to avoid the common method bias by applying several recommendations from Podsakoff and colleagues (2003). First, I tried to create a psychological separation by using a cover story that the Pacinno project is interested in detecting the intra-organizational processes that help initiate and advance innovation within SME companies in eight countries of the Adriatic region. Moreover, while designing the questionnaire, I carefully placed different question types and answer modes. Thus, the items used in this study are part of a large-scale questionnaire, and as such, I predict that the respondents probably will not be able to guess the purpose of the study and manipulate their answers to be consistent. Second, as already mentioned, I ensured participants that their answers will be anonymous. Third, I used different response formats in the survey, for example different Likert scales and media (e.g., online or paper and pencil). I also used negatively worded items in an attempt to avoid the common method bias. Nevertheless, I first assessed the probability of the common method bias in the sample.

I tested for the possibility of common method bias using Harman's single-factor test, which indicated that 42.96% of the variance was explained, and thus, the one-factor solution had an average variance extracted lower than 50% (see Appendix A). Furthermore, I also conducted a marker-variable test (Lindell & Whitney, 2001; Simmering, Fuller, Richardson, Ocal, & Atinc, 2014) to further examine the threat of the common method bias in the sample (see Appendix B). I selected one item from the time perspectives construct (Zimbardo & Boyd, 1999), which was a part of the survey that was completely unrelated to the items used in this study: "I think about the bad things that have happened to me in the past." Then, I calculated the Pearson's correlations between time-perspective item and all items used in this study. The correlations between the chosen item and cultural intelligence and creativity items were non-significant and lower than 0.1. However, time-perspective item did have some significant correlations with my control variable knowledge hiding. Yet, the previous investigations of the effect of the common

method bias are inconsistent. On one hand, Doty and Glick (1998) indicated that common method bias is problematic; Crampton and Wagner (1994) and Spector (1987), on the other hand, found little evidence of problematic common method bias. The recent research (Meade, Watson, & Kroustalis, 2007) indicates that the extent of common method bias in organizational research often has a minor effect on the research results.

2.4.3 Results and discussion

2.4.3.1 Descriptive statistics, validity, and reliability at individual level

Table 10 presents means, standard deviations, and correlations for the key study variables. I began by observing the factor structure of the focal variables at the individual level and thus conducted a confirmatory factor analysis using Mplus 7 software with maximum likelihood estimation procedures (see Table 11). First, I assessed four cultural intelligence factors to creativity in order to assess the best model fit (Model A). The expected four-factor solution (creativity and metacognitive, cognitive, motivational, and behavioral cultural intelligence) fit reasonably with the data (χ^2 [367] = 1909.134, CFI = 0.917, TLI = 0.908, SRMR = 0.050, RMSEA = 0.073). The factor loadings ranged from 0.81 to 0.92 for metacognitive cultural intelligence items, 0.74 to 0.86 for cognitive cultural intelligence items, 0.75 to 0.91 for motivational cultural intelligence, 0.68 to 0.91 for behavioral cultural intelligence, and 0.67 to 0.83 for creativity items.

Second, like in previous research (Ang, et al., 2006) I compared this five-factor model with alternative two-factor models (e.g., Model B: metacognition and cognition cultural intelligence combined on creativity; Model C: motivational and behavioral cultural intelligence combined on creativity; Model D: metacognitive, cognitive, and motivational combined on creativity) in order to assess the best fit. The results provided in Table 11 show that the four-factor solution (Model A, albeit not characterized by extremely high fit indices) was superior to other, more parsimonious two-factor model solutions. To further examine the proposed hypothesis, I conducted a multilevel analysis using HLM.

Table 10: Study 1 - means, standard deviation, and correlations of variables used in analyzing direct effect of cultural intelligence on creativity at individual level

	Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11
1	Education	2.06	0.85	1										
2	Gender	1.64	0.49	0.04	1									
3	Age	35.86	9.69	-0.05	0.03	1								
4	Work experience	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	Metacognitive cultural intelligence	4.78	1.49	0.26**	-0.03	0.03	0.00	-0.52**	1					
7	Cognitive cultural intelligence	4.33	1.33	0.21**	0.05	0.04	0.04	-0.26**	0.66**	1				
8	Motivational cultural intelligence	4.71	1.48	0.23**	-0.00	-0.04	-0.04	-0.45**	0.78**	0.64**	1			
9	Behavioral cultural intelligence	4.34	1.41	0.10**	0.00	0.03	0.02	-0.26**	0.66**	0.61**	0.68**	1		
10	Cultural intelligence	4.55	1.24	0.22**	-0.00	0.02	0.02	-0.43**	0.89**	0.83**	0.90**	0.84**	1	
11	Creativity	4.67	1.33	0.22**	0.08*	0.03	0.02	-0.40**	0.53**	0.39**	0.49**	0.42**	0.52**	1

[a] n=787. [b] Coefficient alphas are on the diagonal in parentheses. [c] For education 1 = "High school diploma", 2 = "Associate's degree", 3 = "Master's degree", 4= "Doctorate degree". [d] For gender, 1= "female," 2= "male. [e] For age and work experience were measured in years. * p<.05, **p<.01, ***p<.001.

Table 11: Study 1 - comparing the fit of alternative models for cultural intelligence and creativity

Model		χ^2	df	CFI	TLI	SRMR	RMSEA
A	four-factor model on creativity	1909.134	367	0.917	0.908	0.050	0.073
B	metacognition and cognition cultural intelligence combined on creativity	7346.027	382	0.626	0.602	0.295	0.152
C	motivational and behavioral cultural intelligence combined on creativity	7345.192	382	0.626	0.623	0.296	0.152
D	metacognition, cognition and motivational cultural intelligence combined on creativity	4414.534	375	0.783	0.765	0.210	0.117
E	cognition, motivational and behavioral cultural intelligence combined on creativity	5370.359	375	0.732	0.710	0.243	0.130

CFI = (Bentler's) Comparative fit index; TLI = Tucker–Lewis index; SRMR = Standardized root mean square residual; RMSEA = Root mean square error of approximation.

2.4.3.2 Multilevel analysis results at individual level

The dataset consisted of two hierarchically nested levels: 787 employees (level-1) nested within 73 groups (level-2), with each group having their own supervisor. I followed maximum likelihood estimation procedures for the treatment of missing values in the Pacinno dataset as such the final analysis was conducted on 621 employees (level-1) nested within 70 groups (level-2). Accordingly, in each model there is the same sample size of employees and groups. I used hierarchical linear modeling to test the following aspects of our multilevel model: (1) the existence of a multilevel structure, (2) control variables on creativity, (3) individual cultural intelligence effect on individual creativity, and (3) individual metacognitive, cognitive, motivational, and behavioral cultural intelligence effect on individual creativity in a culturally diverse environment. I developed a set of multilevel models based on our theoretical predictions by using Hox's (2010) procedure for incremental improvement. Thus, all variables were grand-mean centered in the models. The results of all four models are presented in Table 12. I started my analyses with the intercept-only model by putting individual employee creativity as the dependent variable (Model 1).

Table 12: Study 1 - multilevel results in analyzing direct effect of cultural intelligence on creativity at individual level

	Model 1	Model 2	Model 3	Model 4
Intercept	4.39*** (0.11)	4.63*** (0.42)	2.39*** (0.47)	2.26*** (0.48)
Gender		0.12 (0.12)	0.16 (0.11)	0.19 (0.11)
Age		0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Education		0.16* (0.06)	0.12* (0.05)	0.13** (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)	-0.15*** (0.03)
Cultural intelligence			**0.44*** (0.04)**	
Metacognitive cultural intelligence				**0.18* (0.07)**
Cognitive cultural intelligence				**0.01 (0.05)**
Motivational cultural intelligence				**0.11* (0.05)**
Behavioral cultural intelligence				**0.12** (0.04)**
Pseudo R2		-0.08	0.12	0.12
Deviance	1980.17	1927.94	1813.22	1808.62
n (level 1)	621	621	621	621
n (level 2)	70	70	70	70
χ^2		52.22099***	114.71158***	119.31466***
Degrees of freedom		5	1	4

Values in bold are relevant to tests of hypotheses. * p<.05, ** p<.01, *** p<.001.

The results show (supporting Hypothesis 1a) that cultural intelligence is positively and significantly related to individual creativity (Model 3: $\gamma = 0.44$, $SE = 0.04$, $p < 0.001$). Out of the control variables, only education (Model 3: $\gamma = 0.12$, $SE = 0.05$, $p < 0.05$) and knowledge hiding (Model 3: $\gamma = -0.17$, $SE = 0.03$, $p < 0.001$) significantly related to individual creativity. Furthermore, to test different dimensions of cultural intelligence, I split cultural intelligence on four dimensions and test them separately in Model 4. The results reveal that metacognitive cultural intelligence (Model 4: $\gamma = 0.18$, $SE = 0.07$, $p < 0.05$), motivational cultural intelligence (Model 4: $\gamma = 0.11$, $SE = 0.05$, $p < 0.05$), and behavioral cultural intelligence (Model 4: $\gamma = 0.12$, $SE = 0.04$, $p < 0.01$) were also positively and significant related to individual creativity, supporting Hypotheses 2a, 4a and 5a. On the other hand the results revealed that cognitive cultural intelligence (Model 4: $\gamma =$

0.01, *SE* = 0.05, *p* < nsg.) was positively yet non-significaly related to individual creativity, rejecting Hypotheses 3a. Also in Model 4, the control variables, knowledge hiding (Model 4: γ = -0.15, *SE* = 0.03, *p* < 0.001) was negatively and significantly related to individual creativity, yet education (Model 4: γ = 0.13, *SE* = 0.05, *p* < 0.01) was positively and significantly related to individual creativity.

The results of Study 1 supported my argument that cultural intelligence as a whole and dimensions metacognitive, motivational, and behavioral cultural intelligence can decrease the social categorization process and lead to increased individual creativity. The results furthermore imply that metacognitive cultural intelligence is more positively related to creativity than motivational and behavioral cultural intelligence at individual level. However, the results reveled that cognitive is not associated to creativity at individual level. In order to test my hypothesis on team level I used bottom up approach and aggregate the individual-level measures of the cultural intelligence and creativity on group level.

2.4.3.3 Descriptive statistics, validity, and reliability at team level

As mentioned, the dataset consisted of two hierarchically nested levels: 787 employees (level-1) nested within 73 groups (level-2), with each group having its own supervisor. Thus, I tested the multi-item within-group agreement (rwg(J)) and interclass correlations (ICCs) in order to validate the aggregation of individual-level measures of cultural intelligence, metacognitive cultural intelligence, motivational cultural intelligence, behavioral cultural intelligence, and creativity on the group level. For creativity, the average rwg(j) was 0.86, ranging from 0.22 to 0.97, whereas ICC(1) was 0.60 and ICC(2) was 0.94 (F = 17.45, p = 0.000). For cultural intelligence, the average rwg(8) was .86, ranging from 0.37 to 0.93 with ICC(1) at 0.62 and ICC(2) at 0.95 (F = 18.34, p = 0.000). For metacognitive cultural intelligence, the average rwg(8) was 0.78, ranging from 0.35 to 0.95 with ICC(1) at 0.62 and ICC(2) at 0.95 (F = 18.86, p = 0.000).

For cognitive cultural intelligence, the average rwg(8) was .72, ranging from .31 to .96 with ICC(1) at 0.57 and ICC(2) at 0.94 (F = 15.58, p = 0.000). For motivational cultural intelligence, the average rwg(8) was 0.75, ranging from 0.40 to 0.97 with ICC(1) at 0.61 and ICC(2) at 0.94 (F = 17.77, p = .000). For behavioral cultural intelligence, the average rwg(8) was 0.71, ranging from 0.29 to 0.96 with ICC(1) at 0.57 and ICC(2) at 0.94 (F = 15.44, p = 0.000). Thus, these statistics justify the level found in prior research dealing with aggregating individual response to the group level (Campion, Medsker, & Higgs, 1993; Gong, et al., 2013; Kirkman, Chen, Farh, Chen, & Lowe, 2009) and are in line with the principles of construct validation by Chen et al. (2004). Therefore, I aggregated individual cultural intelligence, all four cultural intelligence dimensions, and creativity into the group response. Table 13 presents means, standard deviations, and correlations for variables creativity, cultural intelligence, and each cultural intelligence dimension at the team level.

Table 13: Study 1 - means, standard deviation, and correlations of variables used in analyzing direct effect of cultural intelligence and its dimensions on creativity at team level

Variable		Mean	s.d.	1	2	3	4	5	6	7
1	Team	37.00	21.21	1						
2	Metacognitive cultural intelligence	4.32	1.25	-0.47**	1					
3	Cognitive cultural intelligence	3.94	0.89	-0.32**	0.67**	1				
4	Motivational cultural intelligence	4.31	1.16	-0.43**	0.90**	0.63**	1			
5	Behavioral cultural intelligence	4.05	0.95	-0.39**	0.77**	0.69**	0.84**	1		
6	Cultural intelligence	4.15	0.97	-0.46**	0.95**	0.80**	0.94**	0.90**	1	
7	Creativity	4.40	1.05	-0.51**	0.78**	0.49**	0.77**	0.69**	0.76**	1

[a]n = 73. *p < .05, **p<. 01, ***p < .001.

2.4.3.4 Regression analysis results at team level

To test hypotheses whether cultural intelligence as a whole and each dimension is related to creativity on the team level, I conducted hierarchical linear regression in SPSS on 73 teams (see Table 14). First, I separately tested cultural intelligence as a whole and then divided on four cultural intelligence dimensions. In the Model A I was interested if cultural intelligence was a predictor of team creativity. As predicted, Hypothesis 1b is supported while team cultural intelligence is positively and significantly related to team creativity (ß = 0.67, $p < 0.000$). Then, in Model B, I put each dimension of cultural intelligence as a predictor of team creativity. Yet, the collinearity diagnostic reveled that variables motivational cultural intelligence (VIF = 8.089) and behavioral cultural intelligence (VIF = 4.069) have high variance inflation factors were high and there was multicollinearity in the model. Thus, I first conducted a linear regression in analyzing direct effect of metacognitive and cognitive cultural intelligence on creativity at team level (see Table 14, Model B). Team metacognitive cultural intelligence (ß = 0.63, $p < 0.001$) is positively and significantly related to team creativity. Thus, results support Hypothesis 2b. However, Hypothesis 3b is not supported, while team cognitive cultural intelligence (ß = -0.08, $p <$ *nsg*.) is negatively and statistically non-significant related to creativity at team level (see Table 14, Model B).

Second, I conducted another linear regression in analyzing direct effect of motivational and behavioral cultural intelligence on creativity at team level (see Table 14, Model C). The results reveled that motivational cultural intelligence (ß = 0.53, $p < 0.001$) is positively and significantly related to team creativity. Thus, results support Hypothesis 4b. Yet, Hypothesis 5b is not supported, while team behavioral cultural intelligence (ß = 0.12, $p <$ *nsg*.) is negatively and statistically non-significant related to creativity at team level (see Table 14, Model B). To summarize, the results in Study 1 revealed that cultural intelligence as a whole is positively related to creativity at the individual and team levels. Also, metacognitive and motivational cultural intelligence dimensions can significantly increase creativity at the individual and team levels. Moreover, behavioral cultural intelligence dimension stimulates creativity yet only at the individual level. Thus, in interpreting the results in Study 1, there are a couple of factors that need to be taken into account. Although I carried out the study in different industries, all of the variables I analyzed were self-reported; therefore, there are potential problems regarding the reliability of the results and common-method bias. To address this issue, I carried out the laboratory experiment.

Table 14: Study 1 - linear regression analyses results for direct effect of cultural intelligence and its dimensions on creativity at team level

Variable	Model A				Model B				Model C			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	1.73	0.70		3.67***	2.34	0.44		5.22***	1.98	0.44		4.48***
Team	-0.01	0.00	-0.19	-2.31*	-0.00	0.00	-0.17	-2.19*	-0.01	0.00	-0.20	-2.58*
Team cultural intelligence	**0.72**	**0.09**	**0.67**	**8.09*** **								
Team metacognitive cultural intelligence					**0.63**	**0.08**	**0.75**	**7.23*** **				
Team cognitive cultural intelligence					**-0.08**	**0.11**	**-0.07**	**-0.74**				
Team motivational cultural intelligence									**0.53**	**0.12**	**0.58**	**4.31*** **
Team behavioral cultural intelligence									**0.12**	**0.14**	**0.11**	**0.85**
R^2				0.618***				0.648***				0.640***
F (df)				56.555 (2, 70)				42.406 (3, 69)				40.945 (3,69)
ΔR^2				0.618***				0.648***				0.640***

[a]n = 73. Values in bold are relevant to tests of hypotheses. *p < .05, **p<. 01, ***p < .001.

2.5 Study 2: Methods

2.5.1 Participants and design

To address above mentioned issues and to strengthen my hypothesis, I conducted an experiment as part of a class exercise on eighty undergrads students at Faculty of Economies. The study employed one between-persons factor: high individual cultural intelligence vs. low individual cultural intelligence. Students were based on their cultural intelligence assigned to one the total of 21 teams of three or four members each from different cultural background. The average age of the participants ranged from 19 to 25 years and 64% were female students in the sample. The majority of the students were from Slovenia (42%). The remaining students were from Macedonia (12%), Republic of Korea (12%), Germany (4%), Portugal (4%), Spain (2.5%), Kosovo (2.5%), Serbia (2.5%), Russia (2.5%), Bulgaria (2.5%), and Mexico (2.5%). The minority individuals were from other countries, including Austria, Check Republic, Lithuania, Hungary, Netherlands, Peru, Tajikistan, and Turkey. Thus, students that were part of this experimental task were from different cultural background; as such I can say I had a culturally diverse sample. Moreover, all participants worked in multicultural teams that consisted of "three or more people who had different nationalities" (Crotty & Brett, 2012). Therefore, the sample justifies my main goal to analyze the relationship between cultural intelligence and creativity in a culturally diverse environment. The main task of the multicultural teams was to design a prototype of a new coffee shop in a foreign country.

2.5.2 Procedure

The week prior to the experimental task, the students filled out the questionnaire in which they reported their cultural intelligence, dimensions of national culture, cultural origin and gender. All participants were ensured that their answers will be anonymous. Based on results about their perception of their individual cultural intelligence, I divide them in two groups. At this point I would like to stress that individual score on cultural intelligence scale was my manipulation in the experimental task. More precisely, participants that reported high cultural intelligence represented experimental group and participants the reported low cultural intelligence represented control group. Students were based on cultural intelligence score assigned to teams with high or low cultural intelligence. Because cultural intelligence (e.g. individual and team) was my manipulation, thus the students were not aware of their own cultural intelligence and also whether they are doing the task within the high or low cultural intelligence team.

However, all teams were given the same instructions regarding the experimental task. Their main task was to design the most creative prototype of a new coffee shop in a foreign country. This experimental task was part of the design thinking training for students with intention to enhance students' creative self-confidence and ability for problem-solving (Ulibarri, Cravens, Cornelius, Royalty, & Nabergoj, 2014). As Ulibarri et al. (2014)

explained design thinking method provides values for any process that involves creative or innovation processes. I adopted five distinct stages of the design thinking innovation process from Brown (2008) and Ulibarri et al (2014). Participants were given one hour and went thru all of five stages of design thinking method. Moreover, during the whole experimental task the four independent raters also observed the students. In order to stimulate participants' creativity as much as possible, we also provided materials that included plastic cups, wrapping papers, stickers, markers, and crayons for teams' prototypes.

Participants started experimental task with the "empathize" stage in which they investigate the nature of a given problem. More precisely, students had to discuss by interviewing each other about their underlying emotions regarding their coffee drinking habits and needs. They had to report their conversations on the papers that I provide them. In the second "define" stage, I explained to them that core of the problem is to redesign their favorite coffee shop or coffee experience. In addition, members of teams in the low-cultural intelligence condition and in teams in the high-cultural intelligence condition had to choose one forging country in which they were planning to implement their coffee shop. Ang and Van Dyne (2008a) explained that people with high level of cultural intelligence have greater knowledge about different cultures and now what is an appropriate behavior in different cultures. Accordingly, I expected that students with high cultural intelligence will have more appropriate and creative ideas for the coffee shop in the chosen forging country then students with lower level of cultural intelligence. Third, in "ideate" stage students first brainstormed different ideas and possible solutions to the given task, and write down on a paper (I collected those papers when the experimental task was finished and two independently raters rated these ideas). After fifteen minutes of brainstorming, participants were asked to choose one idea in order to implement as a final product. Participants completed their experimental task with "prototype" and "test" stages in which they had to build and present their coffee shop prototypes as a team. The team's prototypes and presentations were videotaped and were then assessed by two independent raters (experts in the field of creativity and innovation).

2.5.3 Measures

Cultural intelligence was self-report on seven-point Likert-type scales ranging from 1 ("strongly disagree") to 7 ("strongly agree") one week prior to the study by participants. It was assessed with a 20-item scale of Ang and Van Dyne (2008b), and the overall cultural intelligence reliability score was – $\alpha = .86$. Furthermore, I also controlled by using three items for the *vertical individualism* (– $\alpha = .66$) *and horizontal collectivism* (– $\alpha = .78$) *dimensions of national culture* on scale developed from Dorfman and Howell (1988) and Triandis in Gelfland (1998), and *gender*. These items were collected via paper and pencil questionnaire one week prior to the experimental task.

In line with Grand and Berry (2011) to prevent biases in creativity rating, I asked independent rater to asses' creativity. Moreover, the raters were blind to all students' individual characteristics and were not aware of my experimental manipulations, and hypotheses in this study. As such c*reativity* was 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 ideate stage of the experiment. The two raters' reliability for individual creativity (ICC2 = .96). In the "prototype" and "test" stage the independent raters also assessed team creativity (ICC2 = .97). The raters' reliability for individual and team creativity was within conventional guidelines (LeBreton & Senter, 2008). I then averaged their scores into a single measure of individual creativity – $\alpha = .98$.

2.5.4 Results

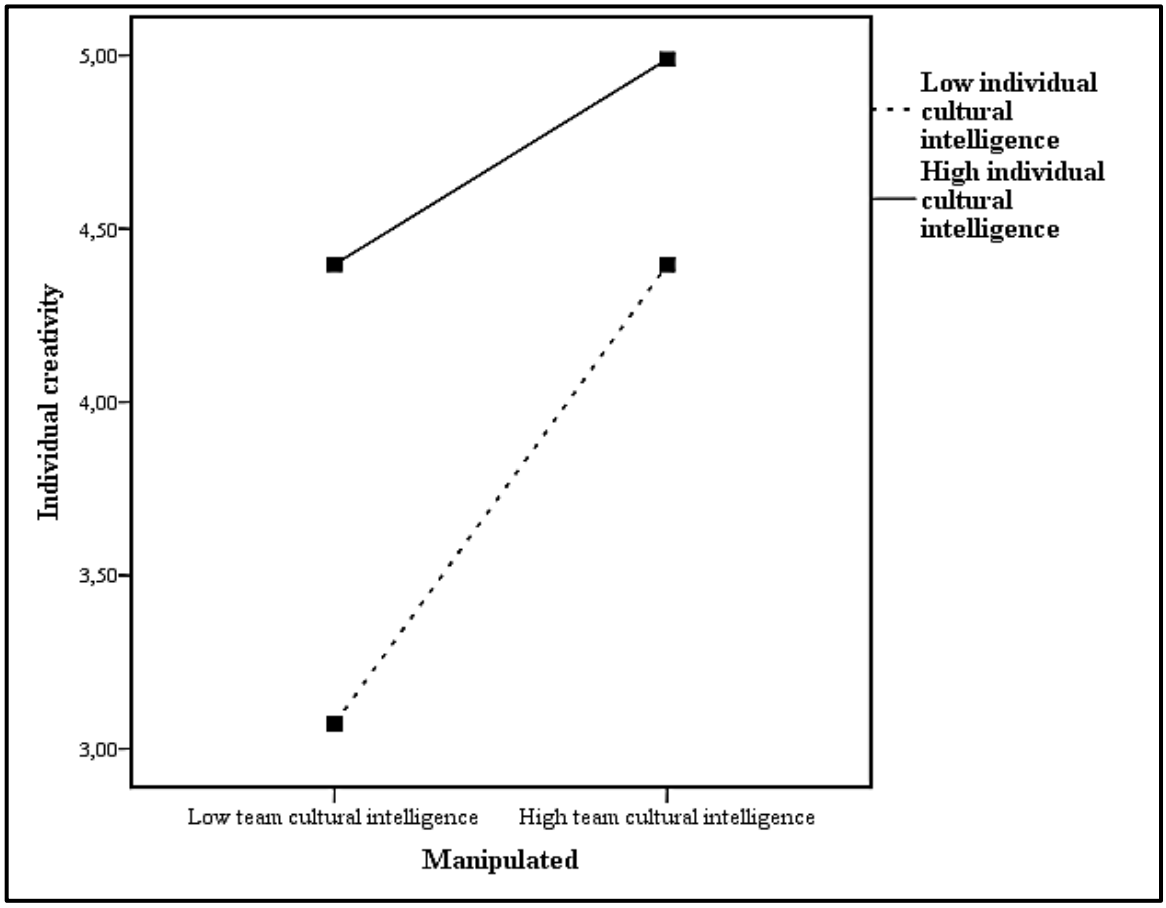
First, I examining whether manipulations in this experimental study were effective. In keeping with my manipulation individuals with high cultural intelligence rated themselves more cultural intelligence (mean = 5.33, s.d. = 0.67) that participants with lower cultural intelligence (mean = 4.99, s.d. = 0.66). These individuals' ratings of their cultural intelligence were consistent with first manipulation check ($F[1,77] = 4.80$, $p < .05$, Figure 16). In Table 15, I provide means and standard deviations for each condition (low cultural intelligence and high cultural intelligence) are displayed for individual. Next, I examined individual creativity in a culturally diverse environment. To do so, I used ANOVA which revealed that significant relationship between cultural intelligence and creativity at individual level ($F[1,71] = 4.17$, $p < .05$, Figure 17). This finding supports Hypothesis 1a.

Table 15: Study 2 - means and standard deviations by condition

Condition	Individual Creativity
Low Cultural intelligence (*n = 30*)	4.34 (1.86)
High Cultural intelligence (*n = 46*)	4.57 (1.33)

[a] Standard deviations are in parentheses, [b] n = 80.

Figure 17*: Study 2 - relationship between cultural intelligence and creativity at individual level*



More precisely, as we can see in Figure 17, individual creativity was the highest when individuals that have high cultural intelligence collaborate together with culturally diverse teammates that also have high level of cultural intelligence. On the other hand, creativity was lowest when individuals had low cultural intelligence and coworker with teammates that also had lower levels of cultural intelligence. Thus, this finding of experimental study are in line with study 1 and our theoretical predictions that cultural intelligence indeed is positively related to individual creativity in a culturally diverse environment.

Moreover, I also observed participants as they implemented their creative ideas in the prototypes and found that different dimensions of cultural intelligence influence individual cross-cultural collaborations. Specifically, the results from observing the participants during the experimental task also replicated my indication that individuals with high motivational, behavioral and metacognitive cultural intelligence will adapt their enthusiasm and communicate better with their culturally diverse team members, which will decrease social categorization and consequently individual will implement the best idea in their prototype. For example, participants mostly communicated in English, yet for most of them English is a foreign language. Therefore, second-language English participants had some problems sharing their ideas to their team members. Yet, through the observation I

saw that in groups where individual cultural intelligence of the members was high, individuals changed their behavior and started to speak more slowly, used short sentences, and use visual representations (drawings, tables, etc.) so second-language English participants would understand their ideas. This is a textbook example of how individuals with high behavioral and metacognitive cultural intelligence and metacognitive cultural intelligence observe and adapt their behavior to culturally diverse team members (D. Livermore, 2009) to enhance communication and sharing of ideas, which in turn did stimulate idea implementation. The control group did not show this adaptation.

During the observation of the experimental task I also noticed that those with high motivational cultural intelligence were more engaged, had more intense efforts and persisted longer. Those who lacked motivational, behavioral and metacognitive cultural intelligence more often appeared being struggled to explain and share ideas about the task to their team members. Furthermore, suggests cognitive and motivational cultural intelligence can stimulate idea implementation among culturally diverse individuals. Specifically, I notice that individual those with high cognitive cultural intelligence showed more knowledge of the symbols, history, and costumes of a particular country. For example, the team that decided to represent the coffee shop in Spain used the sign of the bull and red and yellow stripes in their coffee shop prototype. Moreover, the team that decided to represent coffee shop in Tajikistan, based on their knowledge about the country, redesigned their coffee shop as a tea shop. Thus, they showed in their presentation of their prototype that in Tajikistan people drink more tea than coffee, so they presented a typical Tajikistan tea shop. These evidences points that indeed individuals that have high cognitive cultural intelligence (knowledge about the country's history, and customs) implement ideas that is more creative and appropriate.

2.6 Discussion

The results of two studies provided consistent evidence in support of my arguments. Specifically, Study 1 demonstrated that cultural intelligence is positively related to individual creativity in a culturally diverse environment. Multilevel analysis provided support for my argument based on social categorization theory (Turner, et al., 1987) that cultural intelligence as a whole as well as the metacognitive, motivational, and behavioral dimensions of cultural intelligence can decrease the social categorization process and are, in turn, positively related to creativity at individual level. Moreover, this finding suggests that metacognitive cultural intelligence has a greater association with creativity than motivational or behavioral cultural intelligence at individual level. Study 2 replicated these findings and further demonstrated that level of cultural intelligence indeed is a building block for creativity in a culturally diverse environment at an individual level. Individuals who had higher levels of cultural intelligence and collaborated with teammates who also had high cultural intelligence were more creative than were individuals who had low levels of cultural intelligence and collaborated with low-cultural-intelligence teammates.

However, Study 1 also revealed that cognitive intelligence does not simulate creativity at an individual level.

The results from Study 1 also indicated that cultural intelligence is positively related to creativity at a team level. Furthermore, team metacognitive and motivational cultural intelligence are associated to team creativity in a culturally diverse work environment. Yet, team cognitive, and behavioral cultural intelligence do not predict team creativity in a culturally diverse environment. Nevertheless, these findings complement and extend research on the value-in diversity perceptive and more particularly explore the value of cultural intelligence at the individual and team levels for creativity in a culturally diverse environment. They hold clear implications for managers.

2.6.1 Theoretical contributions

These findings highlight five key theoretical contributions to the diversity, creativity, and cultural intelligence literature. First, with this study, I enhanced the field's understanding of whether and when cultural differences can enhance creativity (e.g. individual and team). Based on social categorization theory, I argued that cultural diversity stimulates social categorization processes on out-group and in-group members that may have a negative impact on individual creativity. I went even further by suggesting that individuals and teams with high cultural intelligence can minimize these social categorization processes and will, in turn, be more creative when collaborating with individuals from different cultural backgrounds. In line with the value-in-diversity perspective (O'Reilly, et al., 1998), this study indicates that cultural diversity can stimulate individual and team creativity only when an individual also possesses individual characteristics such as a high level of cultural intelligence. Thus, I answer repeated calls for more in-depth research on the relationship between creativity and cultural diversity (Anderson, De Dreu, & Nijstad, 2004; Anderson, et al., 2014; Shalley, et al., 2004; Zhou & Su, 2010) by providing empirical evidence that cultural diversity indeed stimulates creativity. However, I stress that, for more detailed research on creativity and cultural differences, scholars need to pay attention not only to situational factors (e.g., culturally diverse environment) also individual differences (e.g., cultural intelligence) that can help employees to capitalize the potential benefits of cultural diversity for their own creativity.

The second contribution of this study to creativity literature is to advance research on motivation as an important driver of creativity (Elsbach & Hargadon, 2006) by adding a focus on motivational cultural intelligence. Scholars have long implied that individual motivation can enhance creativity, especially intrinsic motivation (Amabile, 1985; Amabile, Hill, Hennessey, & Tighe, 1994) and prosocial motivation (Grant & Berry, 2011); however, to my knowledge, there is no research that links creativity with motivational cultural intelligence at the individual and team levels. This result complements previous research by highlighting the importance of the motivation

mechanism that triggers individual and team creativity. Yet, at the same time, I take a step forward by capturing this as well as other motivational processes, such as motivational cultural intelligence, which are also relevant for creativity at individual and team level. More precisely, this study indicates that individual and team motivational cultural intelligence predicts individual and team creativity. Moreover, this research deepens knowledge about the motivation and creativity relationship at a team level. Previous research has demonstrated that motivation (e.g., intrinsic, prosocial, and inspirational) has a positive impact on creativity (Anderson, et al., 2014; Grant & Berry, 2011; Hirst, Van Dick, & Van Knippenberg, 2009), this research fills a gap in existing research by revealing that also motivational cultural intelligence has positive impact on creativity at a team level. Thus, I answer Shalley et al.'s (2004) call for new theoretical perspectives and empirical investigations in order to provide a more in-depth understanding of the motivational processes that stimulate creativity at both individual and team level. Thus, the present study theoretically and empirically demonstrated that motivational cultural intelligence is positively related to creativity in a culturally diverse environment at individual and team level.

Third, I contribute to the cultural intelligence literature by not only theoretically explaining how cultural intelligence can deaminize the social categorization process in order to positively influence a culturally diverse environment but also empirically demonstrating that cultural intelligence is positively related to and, moreover, triggers creativity in culturally diverse collaborations. In addition, on the individual level I provide evidence that not only cultural intelligence but also metacognitive, motivational and behavioral cultural intelligence are positively related to creativity at individual level. Furthermore, on the team level this study indicates that cultural intelligence as a whole, including metacognitive, and motivational cultural intelligence dimension, is also positively related to creativity. Thus, by providing evidence that metacognitive and motivational cultural intelligences has the same impact on creativity as the entire cultural intelligence construct on the individual and team level, I answer the call from Van Dyne et al. (2012) for more in-depth research on cultural intelligence. Furthermore, I add to previous empirical investigations that cultural intelligence has a positive impact on job performance (Chen, et al., 2011; Chen, Kirkman, Kim, Farh, & Tangirala, 2010), specifically on individual and team nonroutine creativity performance.

Fourth, this research is in the line with Chua and colleagues (2012) by showing that individuals with high metacognitive cultural intelligence are not just more effective in intercultural creative collaborations but that this characteristic is also directly related to their individual creativity. I also add to their research (Chua et al., 20212) by reveling that team metacognitive cultural intelligence not only enhances creative collaboration by meditation of affect-based trust but can also directly enhance team creativity. As such, this study replicates the results of Crotty and Brett (2012): that team metacognitive cultural intelligence predicts team creativity.

Fifth, this study for the first to have examined cognitive cultural intelligence with creativity; thus, the results indicated that this proposed relationship is non-significant on the individual and team level. These are an interesting finding given that Elenkov and Manev (2009) have proven that cognitive cultural intelligence has the strongest moderating effect on innovation. Although creativity and innovation are not the same processes in organizations (Anderson, et al., 2014), creativity is part of the innovation process as the first step toward organizational innovation (Amabile, et al., 1996). Thus, I predicted cognitive cultural intelligence would also be positively related to creativity on the individual and team level. These results indicated it is possible that cultural intelligence is not directly related to creative or innovative outcomes, yet it simulates creativity and innovation only through a moderating effect. To obtain a clearer picture of the relationship between cognitive cultural intelligence and creativity, I suggest future research should consider cognitive cultural intelligence as a possible moderator variable in creative processes in a culturally diverse environment. In addition, by identifying that individuals can—with a little help from their own cultural intelligence—manage negative aspects of cultural diversity, especially the negative effects of social categorization processes, this research is an important theoretical and practical step forward by empirically showing cultural intelligence is an important driver for individual and team creativity in a culturally diverse environment.

2.6.2 Practical implications

These findings offer important practical implications for managers and their employees because they indicate that, in today's globalized work environment, managers should be highly motivated to understand how to develop employees' cultural intelligence potential in order to stimulate employees' creativity (Elenkov & Manev, 2009; D. Livermore, 2009). My research indicates that employees with high cultural intelligence tend to be more creative than their colleagues with low cultural intelligence when collaborating with teammates from different cultural backgrounds. Livemore (2011) implies that, although high individual cultural intelligence doesn't come automatically, individuals can improve and develop their cultural intelligence (Erez, et al., 2013). As such, I propose that managers who are interested in stimulating creativity in a culturally diverse environment should create conditions that would support employees' improvement of their cultural intelligence. For example, recent research (Erez, et al., 2013; Rosenblatt, et al., 2013) indicated that MBA students developed and increased their cultural intelligence by being exposed to a cross-cultural interaction or having an optimal cross-cultural contact. Also, Li et al. (2013) have shown not only that overseas work experience is positively related to the level of individual cultural intelligence, but also that the length of overseas experience is important. More precisely, they found that the longer employees remain in foreign countries, the more individual cultural intelligence they may develop. Thus, managers should provide real working experiences that maximize intercultural interactions to their employees, during which they will gain information about points of cultural differences and will develop their cultural intelligence in order to be more creative.

2.6.3 Limitations and suggestions for future research

I note that this research is subject to several limitations that need to be taken into consideration when interpreting results. I collected data from two different sources and diverse industries with the intention of avoiding potential common method biases. However, in both studies, I relied heavily on self-reported data, especially for individual perceptions of cultural intelligence. I chose to have participants in both studies self-report their cultural intelligence, even though I realize that individuals who do not have a high level of cultural intelligence capability may lack awareness of this (Kruger & Dunning, 1999). Therefore, I propose that, for future research, scholars need to include assessments of employees' cultural intelligence and dimensions of cultural intelligence from different sources (e.g., teammates or leaders). Furthermore, in the experimental study I tried to mitigate the risk of bias by collecting the independent variable – individual creativity – from two different sources, which is commonly used in creativity research (Zhou & Shalley, 2003). Still, in my experimental design, the independent raters did not use any objective measures of creativity. As such, I cannot rule out the possibility of method bias in the research. I hope to see future research address these bias issues, use multiple raters for individual cultural intelligence, and employ more appropriately objective measures in evaluating the cultural intelligence–creativity relationship.

Another potential concern is that, in both studies, I focused only on actual cultural diversity based on individuals' cultural origin and dimensions of national culture. Although in diversity literature scholars usually use perceived diversity in their research (e.g., Harrison, et al., 2002; Jehn, et al., 1999; Shin, et al., 2012) while it may provide more valuable information about individual behavior than actual diversity (Harrison & Klein, 2007). However, it is possible that individuals may fail to accurately assess the perceived cultural diversity; thus, their assessment could be biased (Harrison & Klein, 2007). I hope that future research addresses this issue by simultaneously researching actual and perceived cultural diversity.

Also, in my studies I only theorized on how social categorization processes have negative impact on individual creativity; however, I did not test whether social categorization processes (i.e., on out-group and in-group members) have a direct influence on individual creativity. Yet, to better explain the mechanism of social categorization processes and its relationship to creativity, future research should also include possible mediators such as prototype clarity (Fielding & Hogg, 1997), self-prototypically (Hogg & Hains, 1998), prototype valence (Chattopadhyay, et al., 2004), shared objectives (Anderson & West, 1998), and measures for information elaboration (Kearney, Gebert, & Voelpel, 2009; van Ginkel & van Knippenberg, 2008). Additionally, in focusing on only cultural intelligence and its dimensions, I also neglected other individual capabilities and skills that could decrease the negative aspects of the social categorization process and in turn enhance social exchange and creativity among culturally diverse teammates. For example, highly

prosocial motivated employees could help minorities because they are motivated to help and have a higher desire to benefit other people (Grant, 2007; 2008), which could be beneficial in decreasing social categorization processes based on cultural diversity and, in turn, trigger individual creativity. Thus, future studies should also take other individual abilities that could help decrease social categorization processes.

In addition, in my experimental study, I used a student sample that could pose a potential generalizability problem. I used a study sample that gave us the crucial advantage of enabling us to actually manipulate teams' cultural intelligence by putting individuals with high or low levels of cultural intelligence in the same working groups and asking them to collaborate on the same creative outcome. Also, cultural intelligence and individual creativity are not specific to one demographic or occupational group; thus, use of the student sample is reasonable (Highhouse & Gillespie, 2009). Nevertheless, I encourage scholars in future research to manipulate individuals' cultural intelligence and working environment. Moreover, although I provide some observations (e.g., communication skills, self-monitoring behavior during cross-cultural interactions, high engagement and cultural symbols and costumes) insights during observed participants as they implemented their creative ideas in the prototypes that are in line with my hypothesis, I recommend that future research study code behavioral differences in communication between high and low cultural intelligence teams more systematically by videotaping the whole experiment.

2.7 Conclusion

For more than two decades, diversity literature has suggested that interactions with culturally diverse individuals can stimulate individuals to generate new creative ideas (Perry-Smith & Shalley, 2003; Williams & O'Reilly, 1998), yet "the majority of the studies have shown a nonsignificant, direct relationship between team diversity and performance" (Joshi & Roh, 2009, p. 599). To address these issue, Van Knippenberg et al. (2004) in their categorization-elaboration model suggested that performance can benefit from cultural diversity only if scholars try to identify moderating mechanisms that will stimulate elaboration within culturally diverse individuals and prevent intergroup bias, such as social categorization processes to disrupt elaboration (Pieterse, et al., 2013). This study contributes to diversity literature by presenting cultural intelligence as a mechanism that can minimize the social categorization process and stimulate elaboration among culturally diverse individuals and thus can directly stimulate creativity (e.g., of individuals and teams) in a culturally diverse environment. Moreover, I provide initial evidence that metacognitive and motivational cultural intelligence dimensions are positively related to creativity at individual and team level. Also that behavioral cultural intelligence is positively related to creativity at individual level. As such, I contribute to a more comprehensive multilevel (e.g., individual and team) understanding of the relationship between cultural intelligence and creativity in a culturally diverse environment.

CHAPTER THREE: CULTURALLY DIVERSE KNOWLEDGE EXCHAGNE AND CREATIVITY

Culturally diverse colleagues can be valuable resources for stimulating creativity at work, but only if they decide to share their knowledge. Drawing on social exchange theory, in Chapter 3 I go more in depth and propose that a culturally diverse environment can act as a salient contingency in the relationship between knowledge hiding and creativity (individual and team). Based on the social categorization research and findings in Chapter 2, I further propose that cultural intelligence enhances the likelihood of high-quality social exchange between culturally diverse individuals, and it therefore remedies the otherwise negative relationship between knowledge hiding and creativity (i.e., individual and team). Moreover, I predict that each cultural intelligence dimension will have a moderate effect on the knowledge hiding–creativity relationship at both at individual and a team levels.

Two studies, using both field and experimental data, offer consistent support for some of my proposed arguments. I used the sample provided in Chapter 2 and conducted hierarchical linear modeling (HLM) on 621 employees in 20 multicultural SME companies from eight countries in the Adriatic region. First, HLM analysis revealed that knowledge hiding has a direct negative effect on creativity at individual level. Second, the results indicated that cultural intelligence as a whole model buffers the relationship between knowledge hiding and creativity at individual level. Moreover, the results revealed that metacognitive, and behavioral cultural intelligence dimensions also decrease negative effect of knowledge-hiding behavior on creativity at an individual level.

However, cognitive and motivational cultural intelligence do not decrease the negative effect of knowledge-hiding behavior on creativity at the individual level. Third, to investigate the same moderating mechanism of cultural intelligence on the knowledge hiding–creativity relationship at the team level, I conducted hierarchical linear regression on the same sample as in Chapter 2 using 73 teams. The results indicated that knowledge hiding is negatively related to creativity also at team level. Yet, surprisingly, the results revealed that cultural intelligence as a whole as well as each cultural intelligence dimension do not have a moderating effect on the relationship between knowledge hiding and creativity at the team level.

An experimental study of 104 international students replicated and extended these findings by implying that individual knowledge hiding is negatively related to individual creativity and that cultural intelligence moderates the relationship between knowledge hiding and creativity at individual level. Moreover, an experimental study extended these findings by implying that individual knowledge hiding is also negatively related to team creativity. Thus, I contribute to the cultural intelligence, creativity and knowledge-hiding literatures by investigating cultural intelligence as a whole and through each dimension as a moderation mechanism in the knowledge hiding–creativity relationship at both the

individual and team level and found that higher individual cultural intelligence results in higher individual creativity. In addition, Chapter 3 contributes to diversity literature by exploring whether cultural intelligence can minimize negative aspects of cultural diversity (knowledge hiding) to enhance creativity at both the individual and team levels.

3.1 Introduction

Innovations are crucial for organizations, as the work environment is rapidly changing and becoming increasingly uncertain (George, 2007; Lopez-Cabrales, Pérez-Luño, & Cabrera, 2009). Driven by the assumption that all innovations start with creativity (Amabile, et al., 1996), it is not surprising that scholars and practitioners have shown a strong interest in identifying factors that enhance creativity. Researchers have demonstrated that the information exchange (Gong, et al., 2012) is associated with a higher level of creativity, defined as generation of novel and useful ideas (Amabile, 1983; Shalley, 1991). As Amabile and Khaire (2008) explain, information exchange stimulates creativity and enables cognitive resources, in particular, knowledge exchange. Therefore, it is no surprise that empirical evidence has shown that knowledge exchange stimulates enhanced innovation (i.e., the generation and implementation of creative ideas; (Kanter, 1988; Smith, Collins, & Clark, 2005).

Diversity literature, based on the value in perspective, suggests that the diverse work environment enlarges the ranges of different knowledge available within individuals (Pelled, et al., 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 who are not motivated to share their knowledge with colleagues may hide their knowledge. Knowledge hiding is defined as intentional withholding or concealing of knowledge that has been requested by another person (Connelly, et al., 2012). Yet at its core, creativity involves social interaction (Perry-Smith & Shalley, 2003) because interaction with different individuals may invoke new information and knowledge, which in turn increases creativity (Madjar, 2005). This indicates that employees' knowledge hiding might decrease creativity.

I note that although researchers (Černe, et al., 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 unclear whether knowledge hiding will have any effect on creativity when individuals interact with people from different cultural backgrounds. Therefore, the main purpose of Chapter 3 is to explore the relationship between knowledge hiding and creativity (both individual and team) in a culturally diverse environment. To do so, I build upon social exchange theory (Blau, 1964) and social categorization theory (Tajfel & Turner, 1979). Based on social exchange theory (Blau, 1964), I predict that employees in diverse work environments are most likely going to hide knowledge from culturally different colleagues, because they "struggle to understand one

another and consequently fail to share information" (Gilson, et al., 2013, p. 206). Furthermore, based on social categorization (Turner, 1985), I predict that employees in diverse work environments are most likely going to hide knowledge from culturally different colleagues, because "people tend to favor in-group members over out-group members" (Van Knippenberg & Schippers, 2007, p. 518). Namely, when an employee intentionally hides knowledge from team members from different cultural backgrounds, he or she might diminish individual and team creativity at work.

To advance theory, research, and practice on how mangers can mitigate the effects of knowledge hiding, it is critical to know how to reduce the likelihood of knowledge hiding in a culturally diverse environment. I suggest that individuals' cultural intelligence can affect the social exchange pattern between the knowledge hider and seeker (Poortvliet & Giebels, 2012) and can reduce in-group/out-group perception while it's defined as an individual's capability to function effectively in a culturally diverse environment (Ang & Van Dyne, 2008b). In particular, research has shown that cultural intelligence is one of the highly relevant predictor of affective performance outcome in a culturally diverse environment (Imai & Gelfand, 2010). 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. Yet, I can assume 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. I, therefore, propose that cultural intelligence as a whole and each dimension can reduce the otherwise negative consequences of employee knowledge hiding and in turn enhances individual creativity.

Thus, in this chapter, I will investigate how individual cultural intelligence moderates the relationship between individual knowledge hiding and individual creativity. I go even further by suggesting that cultural intelligence, as a whole and in each dimension, will have the same moderating mechanism on the relationship between knowledge hiding and creativity at the team and individual levels. To do so, I use a multilevel approach. While recent research shows that team information exchange can enhance team creativity (Gong, et al., 2012; Gong, et al., 2013), none of the studies has examined the relationship between knowledge hiding and creativity and cultural intelligence as a potential moderating mechanism at the team level. Therefore, with this research, I aim to investigate how cultural intelligence moderates the relationship between knowledge hiding and creativity at individual and team level. I test hypotheses by conducting both a field study and an experimental study.

With this chapter I aim to contribute to the literature on creativity and knowledge hiding. First, this research contributes to the creativity literature by exploring cross-level relationships between knowledge hiding and creativity both at the individual and team

levels. Thus, I 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, and do so in a culturally diverse environment. Second, I extend previous cross-cultural creativity research by simultaneously considering individuals' behaviors (knowledge hiding) and contextual factors (culturally diverse environment) as antecedents of team and individual creativity. Third, I aim to answer the call to identify boundary conditions of knowledge hiding (Connelly, et al., 2012) by introducing cultural intelligence as a potentially salient contingency in the knowledge hiding-creativity relationship at individual and team level. To the best of my knowledge, there are no studies that have examined how knowledge hiding behavior influences creativity when individuals or team have high levels of cultural intelligence.

This study is therefore an important start in terms of providing insight into how individuals and teams can, with the help of cultural intelligence, decrease their own knowledge hiding behavior within a culturally diverse environment in order to boost their own creativity at work. Using social exchange and social categorization viewpoints, I reveal that individual knowledge hiding does not contribute to lower levels of individual creativity only when fueled by an individual's cultural intelligence. Thus, my research shows how knowledge hiding interacts with cultural intelligence to enhance creativity at individual level. In this chapter, I also show how team knowledge hiding is negatively related to individual and team creativity at team level.

3.2 Knowledge hiding and creativity

Although 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, it has been proposed (Perry-Smith & Shalley, 2003) that the key social characteristics that stimulate the creative processes are social interactions between individuals. 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, et al., 2012; Perry-Smith, 2006; Unsworth, et al., 2005).

Building on this notion, scholars have suggested that the social exchange relationship between coworkers is a valuable source for creativity, as it triggers knowledge sharing among them (Wang & Noe, 2010). When coworkers share their knowledge it is more likely that will enhance the creative problem-solving capacity of individuals (Carmeli, Gelbard, & Reiter-Palmon, 2013), which will, in turn, assist the employee's own idea generation (Paulus, Larey, & Dzindolet, 2001). Nevertheless, recent research (Connelly, et al., 2012; Černe, et al., 2014) suggests that examining only the prosocial or positive knowledge-sharing behavior of employees is insufficient, since not all employees are motivated to share their knowledge. For a richer understanding of social exchange

relationships, we also need to shed light on knowledge-hiding behavior. 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 counter-productive work behavior, it is rarely self-reported and has unanticipated consequences that organizations and mangers need to address.

Knowledge hiding involves three related behaviors: playing dumb, evasive hiding and rationalized hiding (Connelly, et al., 2012). Playing dumb occurs when an individual pretends that he or she does not know the specific information that was requested by a knowledge seeker. Rationalized hiding involves an accurate explanation from the knowledge hider about why he or she is hiding information. Evasive hiding occurs when an individual pretends that he or she will disclose information with the knowledge seeker, even though he or she 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. At this point, I would like to stress that it is important to not to confuse this type of knowledge with counterproductive workplace knowledge-exchange behaviors, such as employee silence (Pinder & Harlos, 2001; Van Dyne, Ang, & Botero, 2003) or with a lack of knowledge sharing (Cummings, 2004).

Employee silence is defined as intentionally hiding knowledge from others, and it involves different types of behaviors (i.e., acquiescent silence, defensive silence, opportunistic silence and prosocial silence that is based on quiescent silence) (for details see Van Dyne, Ang, & Botero, 2003; Knoll & van Dick, 2013; Pinder & Harlos, 2001). Although employees silence and knowledge hiding are to some degree the same concepts, I propose in line with Knoll and van Dick (2013, p. 359) that knowledge hiding is based on "different motives and that manifests itself in different kinds of behavior" then employee silence. Moreover, in next section I theorize that knowledge hiding is a broader concept than employee silence.

For example, acquiescent silence involves individual rationalization, which is part of knowledge hiding, but the main reason for an employee to use acquiescent silence is that he or she believes that sharing knowledge is unlikely to make any difference (Van Dyne, et al., 2003). Defensive employee silence is also part of knowledge hiding, more precisely rationalized hiding, but it involves only individual self-protection motivations based on the individual fear. In addition, prosocial silence is related only to hiding information based on altruism or cooperative motives. Rationalized hiding as part of the knowledge hiding construct is not necessarily related to helplessness, achieve advantages, self-protection or cooperative motives; however, it may be related to other motives. An individual can decide to rationalize his or hers hiding behavior because he or she is simply not supposed to tell some information to colleagues (Connelly, et al., 2012). This is why I suggest that

rationalized hiding is a broader form of individual counterproductive workplace knowledge-exchange behavior then any of acquiescent, defensive, prosocial and opportunistic employee silence. Furthermore, when an individual is playing dumb and hides evasively he or she not only hides work-related knowledge but also uses pretending behavior to hide his or hers knowledge. Thus, knowledge hiding differs from employee silence mainly because it is based on different motives and it is a broader concept then employee silence.

On the other hand, knowledge sharing refers to collaborating and sharing information with others in order to solve problems or develop new ideas (Cummings, 2004; Wang & Noe, 2010). Yet, the employees' motivations for knowledge hiding differ from their motivations for not sharing knowledge among colleagues. If an individual does not share knowledge, that means that he or she does not possess the knowledge, which means this individual is "simply unable to engage in the sharing behavior" (Connelly, et al., 2012, p. 67). However, if an individual hides his or her knowledge, this individual has intentionally decided not be engage in the sharing process for one of several (e.g., prosocial, instrumental, or fear-based) reasons. Therefore, in line with Connelly (2012), I predict that knowledge hiding differs from a lack of sharing. Thus, in this chapter, my main focus will be on individual and team knowledge hiding.

Intentional employee knowledge hiding is more likely than lack of knowledge sharing to threaten beneficial outcomes (Connelly, et al., 2012). More precisely, it can enhance workers' intentions to withhold knowledge in the future (Connelly & Zweig, 2015) and can harm creativity (Černe, et al., 2014). 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 that this is because of the negative reciprocal mechanism of the distrust loop. When employee A intentionally hides knowledge from employee B, since knowledge hiding is intentional behavior. 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.

The focus of the present Chapter is to examine the relationship between knowledge hiding and creativity in a diverse cultural environment. I predict that knowledge hiding will diminish both individual and team creativity in a diverse cultural work environment, 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 that they considered to be an "out-group" member. Therefore, based on social exchange theory (Blau, 1964), I argue that employees in a culturally diverse work environment 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 and team creativity.

I go even further by highlighting the importance of team knowledge hiding on team creativity. Although Connelly (2012) suggests that it is best to study knowledge hiding in dyads, and most knowledge is transferred in dyad collaboration (Hislop, 2002; Lane & Wegner, 1995). However, I suggest, based on social categorization theory (Tajfel, 1982), that in a culturally diverse environment, team members can agree to hide their knowledge from individuals who they perceived (based on cultural characteristics) as out-group members in order to protect themselves (Tajfel, 1982). Peng (2013) research shows that if an employee feels that his or her knowledge is personal property, it is more likely that this employee will hide his or her knowledge. Moreover, the study demonstrates that territoriality plays an important role in the relationship between knowledge-based psychological ownership and knowledge hiding. As such, I predict that not only individuals but also teams will decide to hide their knowledge based on in-group perceptions of personal property and the territoriality of knowledge in culturally homogenous teams. Knowledge hiding also harms team performance; more precisely, it may impair the stimulation of new ideas (Peng, 2013). Thus, I propose that knowledge hiding may inhibit creativity at the team level.

Team creativity is not just the average of individual creativity (Gong, et al., 2013); it is a result of individual creative behavior, interaction between group members, group characteristics, team processes, and contextual influences (Anderson, et al., 2014). Thus, in this Chapter, I examine social interactions between team members (team knowledge hiding behavior) and contextual influences (a culturally diverse work environment) that influences team creativity. Social exchanges (Liao, et al., 2010; Perry-Smith & Shalley, 2003) and especially knowledge exchange with fellow team members is 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 team is not motivated to share their knowledge and the team intentionally withholds knowledge, this can enable other team members to channel new knowledge toward producing new ideas and solutions, therefore inhibiting team creativity.

Contextual influences such as a culturally diverse work environment can also have a negative influence on social exchange and therefore on team creativity. Shin and colleagues (2012, p. 199) stress the need "to examine the conditions under which diversity delivers the intended benefits to employee creativity". I address this call by predicting that

a culturally diverse work environment will stimulate individual and team knowledge hiding behavior in culturally diverse work environment while, as already mentioned, culturally diverse colleagues categorize themselves by their cultural similarities and differences within groups (Hogg & Terry, 2000). I propose that knowledge hiding will be negatively related to creativity in a culturally diverse environment at individual and team level. Thus, I hypothesize:

Hypothesis 6a: Individual knowledge hiding is negatively related to individual creativity.

Hypothesis 6b: Individual knowledge hiding is negatively related to team creativity.

Hypothesis 6c: Team knowledge hiding is negatively related to team creativity.

3.3 Moderating role of cultural intelligence

Drawing on social categorization theory (Tajfel & Turner, 1979), I propose that when employees in a culturally diverse environment are highly culturally intelligent, that will result in reducing individual social categorization and knowledge hiding and in turn enhances creativity. According to the diversity literature, when cultural diversity increases in the work environment, a social categorization process emerges (Richard, Barnett, Dwyer, & Chadwick, 2004). Thus, individuals start to compare themselves based on similarities and differences between other team members to reduce uncertainty (Tajfel & Turner, 1986; Van Knippenberg, et al., 2004). It follows that culturally diverse environments motivate employees to generate new subgroups in the work environment 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), and interactions in the diverse work group such as sharing and elaborating creative ideas (Van Knippenberg, et al., 2004), while individuals tend to favor similar colleagues more than dissimilar colleagues (Williams & OReilly, 1998). For example, Makela and colleagues (Makela, Kalla, & Piekkari, 2007) discovered that dissimilarities based on national-cultural background and different language background decrease knowledge sharing within multinational corporations. As a result, the social categorization process into in- and out-groups can increase reciprocal knowledge hiding and have negative consequences on creativity (Erez, et al., 2013; Milliken, et al., 2003).

I propose that cultural intelligence can reduce these potentially negative consequences of the social categorization process and in turn enhance the social exchange pattern between knowledge hiders and seekers who are from different cultural backgrounds. This is because cultural intelligence represents an individual ability to deal effectively with situations

characterized by culturally diverse settings and with people from a culturally diverse environment (Earley & Ang, 2003; Li, et al., 2013). Thus, I predict that cultural intelligence may enhance the pattern of social exchange between knowledge hiders and seekers who are 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 that they will decrease the social categorization process. In turn, the social exchange between culturally diverse colleagues will be enhanced, decreasing individual knowledge-hiding behavior and triggering individual creativity.

Empirical evidence has demonstrated that 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) and communication effectiveness of local host country managers in foreign multinationals (Bücker, et al., 2014). And, as already 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 their knowledge. Therefore, taken together, I predict that a combination of cultural intelligence dimensions can reduce the individual tendency to categorize colleagues from different cultural backgrounds as out-group members and thus enhance social exchange, and in turn buffering the negative relationship between knowledge hiding and individual creativity. Thus, I predict:

Hypothesis 7a: Cultural intelligence moderates the relationship between knowledge hiding and creativity at individual level. The higher the cultural intelligence, the less negative the relationship.

Team cultural intelligence has important applications for multicultural teams' performance in organizations (Ng & Earley, 2006; Shokef & Erez, 2008). For example, Silberstang and London (2009, p. 332) proposed that teams that have low levels of cultural intelligence will probably have high levels of misunderstandings during communications, and moreover, "stilted interactions may alienate others." On the other hand if a multicultural team has high cultural intelligence, communication with culturally diverse employees will enhance common understanding and minimize misunderstandings. Also, research from Chen and Lin (2013) shows that team cultural intelligence is directly related to team knowledge sharing, such as if multicultural teams had higher levels of cultural intelligence, their knowledge sharing was also higher. Although this indicates that cultural intelligence is relevant team capability for social knowledge exchange in multicultural teams, I go even further by proposing that cultural intelligence can decrease knowledge-hiding behavior in order to also simulate creativity at the team level. According to recent research, knowledge hiding will most likely occur if employees feel distrust against their coworkers (Connelly et al., 2012; Černe et al., 2014).

However, cultural intelligence can eliminate distrust among team members while empirical evidence indicates that high level of cultural intelligence will lead to more interpersonal trust in dyads within multicultural teams (Rockstuhl & Ng, 2008). Moreover, Chua and Morris's (2009) study also shows that cultural intelligence can increase affect-based trust among culturally diverse members of multicultural professional networks. Therefore, I predict that cultural intelligence will stimulate trustworthiness in multicultural teams, and that will in turn buffer the negative relationship between knowledge hiding and creativity at team level. Hence, I hypothesize:

Hypothesis 7b: Cultural intelligence moderates the relationship between knowledge hiding and creativity at team level. The higher the cultural intelligence, the less negative the relationship.

I suggest that also each cultural intelligence dimensions can reduce the individual tendency to categorize colleagues from different cultural backgrounds as out-group members hiding while enhancing social exchange between them and in turn decreasing the negative effect of knowledge-hiding behavior on creativity at individual and team level. The metacognitive cultural intelligence dimension reflects mental consciousness and awareness of culturally diverse situations during intercultural interactions. It includes individual capabilities like planning for upcoming intercultural situations, monitoring during intercultural interactions, and revising mental models of the past intercultural situations (Ang, et al., 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). As such, individuals with high metacognitive cultural intelligence are more likely to decrease negative aspects of the social categorization processes in diverse teams (Rockstuhl & Ng, 2008), while metacognitive cultural intelligence helps individuals to create a fusion culture in the work environment and blend diverse cultural values into one culture (Crotty & Brett, 2012).

Moreover, high metacognitive cultural intelligence has positive effect on team shared values in culturally heterogeneous teams (Adair, et al., 2013). If employees have common culture and values, they perceive themselves more as in-group members rather than out-group members, and that will trigger knowledge sharing among them and in turn decrease intentional knowledge-hiding behavior. In line with my proposition, Chen and Lin (2013) found that metacognitive cultural intelligence is the most valuable factor in simulating knowledge sharing in culturally diverse teams while triggering knowledge sharing directly and indirectly effects through perceived team efficacy. Thus, I go even further by suggesting high metacognitive culturally intelligent individuals and teams will minimize intentionally withholding behavior among culturally diverse individuals and teams while Adair et al. (2013, p. 947) explains that "metacognitive CQ captures a higher level awareness and thinking about the influence of culture on the self and others in interaction,

then team members with high metacognitive CQ may engage in more broad, divergent thinking while trying to connect team members' thinking styles." Therefore, I hypothesize:

Hypothesis 8a: Metacognitive cultural intelligence moderates the relationship between knowledge hiding and creativity at individual level. The higher the metacognitive cultural intelligence, the less negative the relationship.

Hypothesis 8b: Metacognitive cultural intelligence moderates the relationship between knowledge hiding and creativity at team level. The higher the metacognitive cultural intelligence, the less negative the relationship.

Cognitive cultural intelligence, as a second dimension, is likely to be similarly useful in decreasing the social categorization processes (Rockstuhl & Ng, 2008) and the outcomes knowledge hiding behavior, while it reflects the knowledge that 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 to anticipate and understand similarities and differences among themselves and colleagues from different cultural backgrounds (Ng, et al., 2009). Thus, individuals with high cognitive cultural intelligence understand key similarities with out-group members and therefore overcome prejudices based on superficial cultural characteristics and in turn collaborate and effectively share knowledge with out-group members (Ang & Van Dyne, 2008b; Michailova & Hutchings, 2006) in order to generate creative ideas.. As such, there is no surprise that research have shown that high team cognitive cultural intelligence directly triggers team knowledge sharing in multicultural teams (Chen & Lin, 2013). Moreover, Rockstuhl and Ng (2008) found that in dyads within multicultural teams interpersonal trust was much higher if focal persons had higher cognitive cultural intelligence. Thus, I predict that cognitive cultural intelligence will stimulate individuals and teams to social exchange their knowledge and decrease distrust, which will in turn minimize the negative effect of individual and team knowledge-hiding behavior on individual and team creativity. Therefore, the following hypotheses are:

Hypothesis 9a: Cognitive cultural intelligence moderates the relationship between knowledge hiding and creativity at individual level. The higher the cognitive cultural intelligence, the less negative the relationship.

Hypothesis 9b: Cognitive cultural intelligence moderates the relationship between knowledge hiding and creativity at team level. The higher the cognitive cultural intelligence, the less negative the relationship.

The third dimension, motivational cultural intelligence, is defined as an individual's intrinsic willingness, energy, and direct attention to learn about and deal with challenges of

cross-cultural interactions (Ang & Van Dyne, 2008b). 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 that employees with a high motivational cultural intelligence may look for opportunities to interact with out-group members.

In line with this theorizing, empirical studies have shown that employees with higher cultural intelligence had higher cooperative motives with culturally unfamiliar others (Imai & Gelfand, 2010) and also stimulated knowledge sharing in a culturally diverse environments (Chen & Lin, 2013) and general, interaction, and work adjustment (Huff, Song, & Gresch, 2014). Moreover, study has indicated (Templer, et al., 2006) that motivational cultural intelligence is positively related to interaction adjustment, which involves comfort in interacting with culturally diverse employees in work-related situations (Black, Gregersen, Mendenhall, & Stroh, 1999). By applying these findings to knowledge hiding–creativity relationships, I can expect that individuals with high motivational cultural intelligence will, due to comfort and intrinsic cross-cultural interests, interact more with out-group members, and thus the negative outcomes of knowledge-hiding behavior of individuals will decrease and in turn stimulate creativity at individual and team levels. Hence, I propose:

Hypothesis 10a: Motivational cultural intelligence moderates the relationship between knowledge hiding and creativity at individual level. The higher the motivational cultural intelligence, the less negative the relationship.

Hypothesis 10b: Motivational cultural intelligence moderates the relationship between knowledge hiding and creativity at team level. The higher the motivational cultural intelligence, the less negative the relationship.

The behavioral cultural intelligence, as a fourth dimension, refers to using appropriate verbal and nonverbal behavior (e.g., words, tones, gestures, facial expressions) when interacting with people from culturally diverse environments (Gudykunst, et al., 1988; Ng, et al., 2009). With appropriate verbal and nonverbal behavior, individuals may be more easily accepted by out-group members while interacting with them (Lin, et al., 2012) and can develop better interpersonal relationships with culturally-diverse colleagues (Ang, et al., 2007). As Adair and colleagues (2013) summarize, employees with high behavioral cultural intelligence interpret indirect messages and adjust their own communications to culturally diverse colleagues.

Empirical research indeed have demonstrated that behavioral cultural intelligence can stimulate knowledge sharing through the mediation of perceived team efficacy (Chen & Lin, 2013). As such, high levels of behavioral cultural intelligence can stimulate knowledge sharing, help communication with culturally diverse individuals, and decrease knowledge hiding in a culturally diverse environment. Moreover, empirical research (Elenkov & Manev, 2009) has shown that behavioral demission of cultural intelligence has a strong moderating effect on organizational innovation (e.g., idea generation and implementation). Thus, I predict that high levels of behavioral cultural intelligence can enhance interaction with dissimilar out-group members and will in turn minimize negative effect of knowledge-hiding behavior on creativity at individual and team levels. Therefore, I propose the following hypotheses:

Hypothesis 11a: Behavioral cultural intelligence moderates the relationship between knowledge hiding and creativity at individual level. The higher the behavioral cultural intelligence, the less negative the relationship.

Hypothesis 11b: Behavioral cultural intelligence moderates the relationship between knowledge hiding and creativity at team level. The higher the behavioral cultural intelligence, the less negative the relationship.

I have tested these hypotheses in two studies. First, in Study 1 I tested Hypothesis 6 (a,c), 7 (a,b), 8 (a,b), 9 (a,b), 10 (a,b), and 11 (a,b) on the same date as in Chapter 2, more precisely on field dates that was collected as part of the Pacinno project (Pacinno, 2015) on 621 employees nested within 73 groups in eight countries already the same date as in Chapter 2. In Study 2, I conducted an experimental study with 104 international undergraduates in an elective course at a Slovenian university to explore in more detail the moderating effect of the cultural intelligence on the knowledge hiding and creativity relationship at the individual level.

3.4. Study 1: Methods

3.4.1. Sample, procedures and measures

The procedure of the data collecting and sample structure is the same as in Study 1 in Chapter 2 (see page 63-65), and I used the same sample in Chapter 2. Thus, the item measures for cultural intelligence and creativity were all the same as in Study 1 in Chapter 2 (see page 63-65). In this study, I used knowledge hiding as a predictor of creativity and not as a control variable. As such, knowledge hiding was measured with an eight-item scale developed by Connelly et al. (2012) – $\alpha = .95$. In line with Connelly et al. (2012, p. 70) in the instructions, I 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." I also provided them

with specific examples: "you did not show your coworker 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, I asked them to include items such as "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." Thus, the other control variables are the same as in Chapter 2 (see pages 64-65).

3.4.2 Descriptive statistics, validity, and reliability at individual level

Means, standard deviations, and correlations for the all key study variables in this study are presented in Table 10 (see page 68). I began by observing the factor structure of the focal variables at the individual level and thus conducted a confirmatory factor analysis using Mplus 7 software with maximum likelihood estimation procedures while in previous chapter marker-variable test show that knowledge hiding did have some significant correlations with my control test- market variable time-perspective item (see Appendix C).

First, I assessed knowledge hiding, four cultural intelligence factors to creativity in order to assess the best model fit (Model A). The expected six-factor solution (creativity, knowledge hiding, metacognitive, cognitive, motivational, and behavioral cultural intelligence) fit reasonably with the data (χ^2 [614] = 2849.807, CFI = 0.912, TLI = 0.905, SRMR = 0.057, RMSEA = 0.068). The factor loadings ranged from 0.82 to 0.92 for metacognitive cultural intelligence items, 0.74 to 0.85 for cognitive cultural intelligence items, 0.82 to 0.91 for motivational cultural intelligence, 0.68 to 0.84 for behavioral cultural intelligence, 0.72 to 0.89 for knowledge hiding and 0.67 to 0.83 for creativity items.

Table 16*: Study 1 - comparing the fit of alternative models for cultural intelligence, knowledge hiding 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 behavioral cultural intelligence combined on creativity	6389.914	623	0.774	0.758	0.215	0.109

CFI = (Bentler's) Comparative fit index; TLI = Tucker–Lewis index; SRMR = Standardized root mean square residual; RMSEA = Root mean square error of approximation.

Second, while I already compare different model of cultural intelligence with creativity in Chapter 2 like, thus now I only compared this six-factor model with alternative four-factor model (i.e., Model B: knowledge hiding, cognitive, motivational and behavioral cultural intelligence combined on creativity) in order to assess the best fit. The results provided in Table 16 show that the six-factor solution (Model A, albeit not characterized by extremely high fit indices) was superior to more parsimonious four-factor model solutions (see Table 16). To further examine the proposed hypothesis, I conducted a multilevel analysis using HLM.

3.4.3 Multilevel analysis results at individual level

Base on my theoretical predictions, I develop a set of multilevel models by using Hox's (2010) procedure for incremental improvement. All variables were grand-mean centered. I started analysis with the intercept-only model by putting individual employee creativity as the dependent variable (see Table 17 and Table 18 in Model 1). In each model there is the same sample size of employees on level-1 (individual level) and level-2 (group level) while I used maximum likelihood estimation procedures for the treatment of missing values in the Pacinno dataset in HLM. Thus, the whole 787 sample size dropped and the final analysis was conducted on 621 employees (level-1) nested within 70 groups (level-2).

I conducted hierarchical linear modeling to test the following aspects of my multilevel model: (1) the existence of a multilevel structure, (2) control variables and knowledge hiding effect on creativity, (3) cultural intelligence and knowledge hiding effect on creativity, (4) moderating effect of cultural intelligence on the association between knowledge hiding and creativity at individual level (see Table 17). Multilevel analyses showed that knowledge hiding (supporting Hypothesis 6a) is negatively and statistically significant related to individual creativity (Model 2: $\gamma = -0.17$, $SE = 0.04$, $p < 0.001$).

Moreover, individual knowledge hiding is also negatively related to individual creativity (Model 3: $\gamma = -0.11$, $SE = 0.04$, $p < 0.001$), although in Model 3 I put individual cultural intelligence as a predictor of individual creativity. Supporting hypothesis 7a, cultural intelligence had a moderating effect on the knowledge hiding and creativity relationship at the individual level (Model 4: $\gamma = 0.06$, $SE = 0.02$, $p < 0.05$). In Model 4, when I added the moderating effect of cultural intelligence on the knowledge hiding-creativity relationship at the individual level, the direct effect of knowledge hiding on creativity was reduced to non-significant. The partial product of cultural intelligence and knowledge hiding has a positive impact on creativity at the individual level. In order to interpret the results of the interaction more precisely, I plotted the simple slopes for the relationship between cultural intelligence and knowledge hiding on creativity at the individual level.

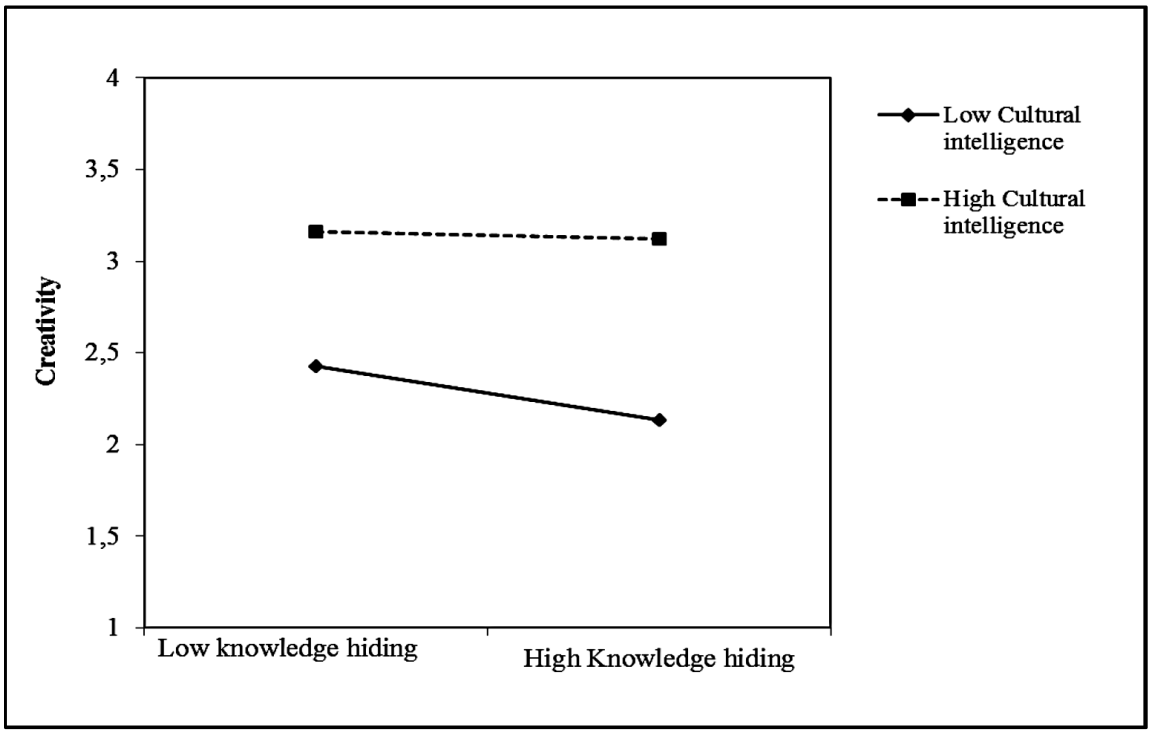
Table 17: Study 1 - multilevel analysis results of moderating effect of cultural intelligence on knowledge hiding - creativity relationship at individual level

	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 R2		-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		52.22099***	114.71158***	324.43315***
Degrees of freedom		5	1	8

Values in bold are relevant to tests of hypotheses. $^{*}p < .05$, $^{**}p<. 01$, $^{***}p < .001$.

I followed the procedure recommended by Aiken and West (1991) and plotted the simple slopes for the relationship between knowledge hiding and creativity at one standard deviation above and below the mean cultural intelligence at the individual level. The results of the simple slopes are presented in Figure 18 and are in line with my Hypothesis 7a, that cultural intelligence reduces the negative association between knowledge hiding and creativity at the individual level. As expected, when cultural intelligence was high, knowledge hiding predicted a higher level of creativity (slope: b = 0.25, t = 7.93, $p < 0.001$); when cultural intelligence was low, knowledge hiding predicted an almost insignificantly higher level of creativity (slope: b = 0.11, t = 3.59, $p < 0.001$).

Figure 18*: Study 1 – simple slopes of moderating effect of cultural intelligence on knowledge hiding – creativity relationship at individual level*



I then tested Hypotheses H8a, H9a, H10a and H11a by splitting cultural intelligence on its dimensions and testing their moderating effects on the relationship between knowledge hiding and creativity separately. I conducted hierarchical linear modeling to test the following aspects of my multilevel model: (1) the existence of a multilevel structure, (2) control variables and knowledge hiding effect on creativity, (3) knowledge hiding, metacognitive, cognitive, motivational and behavioral cultural intelligence effect on creativity and (4) the moderating effect of metacognitive cultural intelligence (5), the moderating effect of cognitive cultural intelligence (6), the moderating effect of motivational cultural intelligence and (7) the moderating effect of behavioral cultural intelligence on the association between knowledge hiding and creativity at individual level (see Table 18).

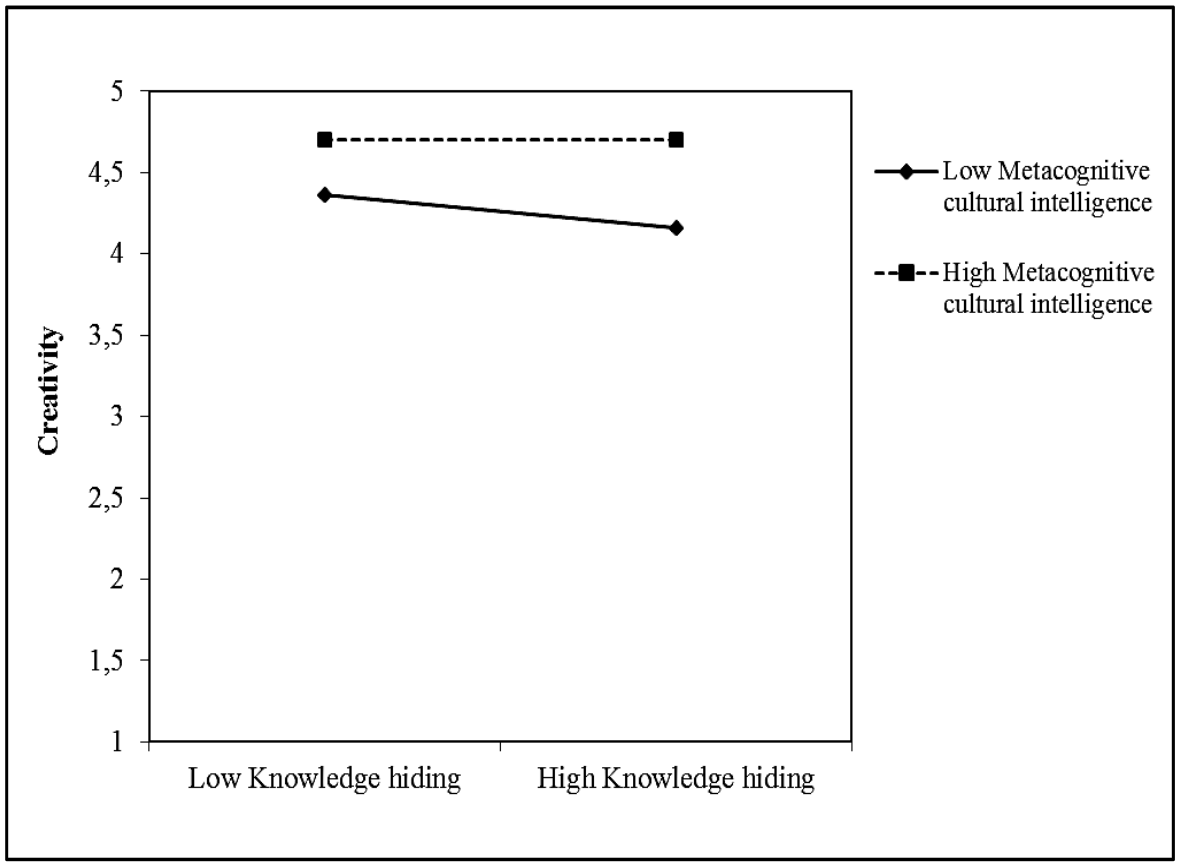
Table 18: Study 1 - multilevel analysis results of moderating effect of cultural intelligence dimensions on knowledge hiding - creativity relationship at individual level

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	4.39*** (0.11)	4.63*** (0.42)	2.26*** (0.48)	2.18*** (0.48)	2.25*** (0.48)	2.24*** (0.48)	2.22*** (0.48)
Gender		0.12 (0.12)	0.19 (0.11)	0.19 (0.11)	0.19 (0.11)	0.18 (0.11)	0.18 (0.11)
Age		0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00
Education		0.16* (0.06)	0.13** (0.05)	0.14** (0.05)	0.13** (0.05)	0.13** (0.05)	0.14** (0.05)
Work experience		0.00 (0.00)	0.00 (0.00	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Knowledge hiding		**-0.29*** (0.03)**	**-0.15*** (0.03)**	**-0.11* (0.03)**	**-0.15*** (0.04)**	**-0.12** (0.04)**	**-0.13** (0.04)**
Metacognitive cultural intelligence			0.18* (0.07)	0.19** (0.07)	0.18* (0.07)	0.18* (0.07)	0.18* (0.07)
Cognitive cultural intelligence			0.01 (0.05)	0.02 (0.05)	0.01 (0.05)	0.02 (0.05)	0.01 (0.05)
Motivational cultural intelligence			0.11* (0.05)	0.11* (0.05)	0.11* (0.05)	0.12* (0.05)	0.11* (0.05)
Behavioral cultural intelligence			0.12** (0.04)	0.12** (0.04)	0.12** (0.04)	0.11** (0.04)	0.13** (0.04)
Knowledge hiding * Metacognitive cultural intelligence				**0.03* (0.01)**			
Knowledge hiding * Cognitive cultural intelligence					**0.00 (0.02)**		
Knowledge hiding * Motivational cultural intelligence						**0.03 (0.01)**	
Knowledge hiding * Behavioral cultural intelligence							**0.03 (0.01) †**
Pseudo R2		-0.08	0.12	0.16	0.16	0.16	0.16
Deviance	1980.17	1927.94	1808.62	1804.70	1808.54	1805.62	1805.76
n (level 1)	621	621	621	621	621	621	621
n (level 2)	70	70	70	70	70	70	70
χ^2		52.22099***	119.31466***	3.91696****	0.07779	2.99555	2.85950
Degrees of freedom		5	4	1	1	1	1

Values in bold are relevant to tests of hypotheses. † < .01, *p < .05, **p<. 01, ***p < .001.

Multilevel analyses in Table 18 show additional support for Hypothesis 6a. When I split cultural intelligence on four different predictors of creativity, knowledge hiding still had negative association with creativity at the individual level (Model 3: γ = -0.09, *SE* = 0.04, $p < 0.05$). Furthermore, the results revealed that metacognitive (Model 3: γ = 0.22, *SE* = 0.04, $p < 0.001$) and motivational (Model 3: γ = 0.10, *SE* = 0.05, $p < 0.05$) cultural intelligence dimensions are positively related to creativity even when I put knowledge hiding as a predictor of creativity at individual level (see Table 18). When I added the moderating effect of metacognitive cultural intelligence on the knowledge hiding-creativity relationship at the individual level, the metacognitive cultural intelligence moderating effect was positive and statistical significant (Model 4: γ = 0.05, *SE* = 0.02, $p < 0.05$). Thus, results support hypothesis 8a. To get more in-depth insight, I again followed procedure recommended by Aiken and West (1991) and plotted the simple for Hypothesis 8a. The results of simple slopes are presented in Figure 19 and are in line with my Hypothesis 8a by reveling that metacognitive cultural intelligence reduced the negative effect of individual knowledge-hiding behavior on individual creativity.

Figure 19*: Study 1 – simple slopes of moderating effect of metacognitive cultural intelligence on knowledge hiding – creativity relationship at individual level*

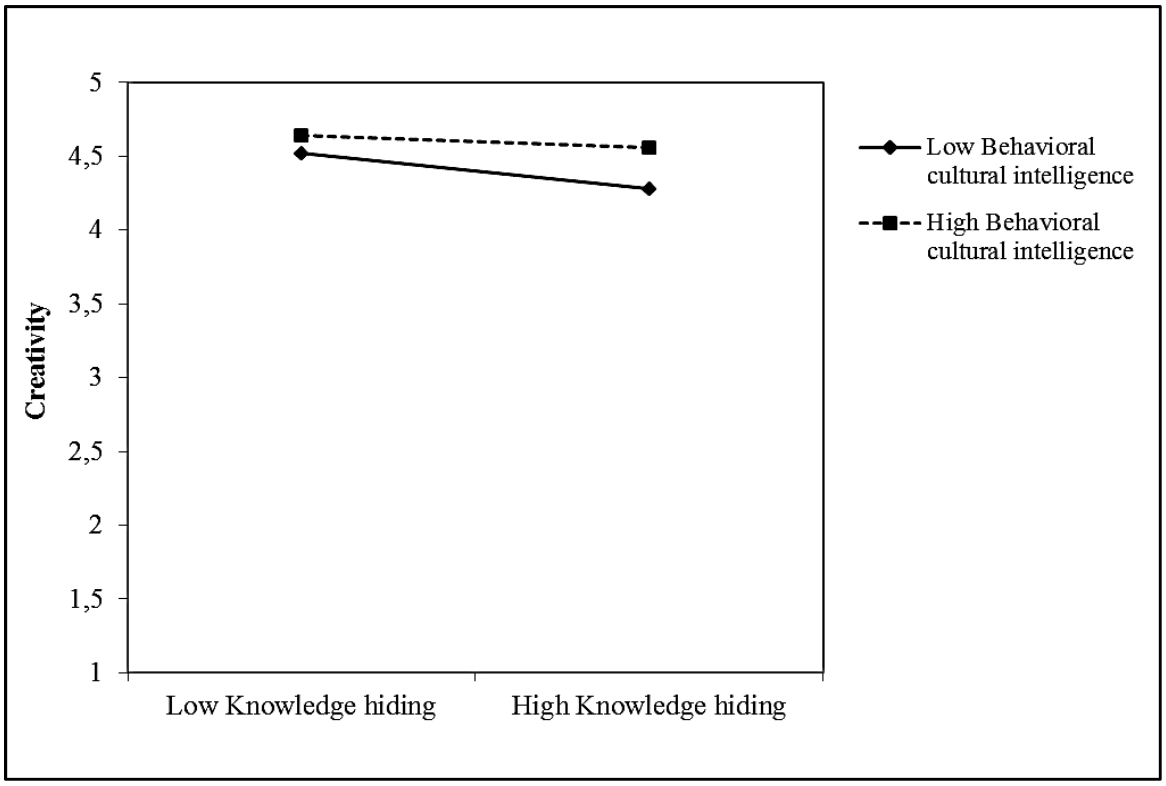


As expected, when metacognitive cultural intelligence was high, knowledge hiding predicted higher level of creativity (slope: b = 0.26, t = 8.34, $p < 0.000$). When cultural intelligence was lower, knowledge hiding predicted almost insignificant higher level of

creativity (slope: b = 0.11, t = 3.63, $p < 0.01$). Thus, metacognitive cultural intelligence reduced the negative effect of knowledge hiding on creativity relationship at individual level. Then, I tested weather cognitive cultural intelligence has moderating effect on the association on the knowledge hiding and creativity relationship at individual level.

The results revealed that cognitive cultural intelligence (Table 18, Model 5: $\gamma = 0.01$, *SE* = 0.02, p < *nsg.*) does not have moderating effect on the proposed main relationship. Hence, Hypothesis 9a is rejected. I then tested the Hypothesis 10a. The results of the multilevel analyses revealed that motivational cultural intelligence has positive, yet statistical non-significant (Table 18, Model 6: $\gamma = 0.03$, *SE* = 0.01, $p <$ *nsg.*) moderating effect on the relationship between At last, I tested weather behavioral cultural intelligence has moderating effect on the association on the knowledge hiding and creativity relationship at individual level. The results support Hypothesis 11a, by reveling that partial product of behavioral cultural intelligence knowledge hiding (Table 18, Model 7: $\gamma = 0.03$, *SE* = 0.01, $p < 0.57$) had positive and partially significant impact on creativity at the individual level. Thus, results partially support Hypothesis 11a. I plotted the simple slopes for the relationship between knowledge hiding and creativity at one standard deviation above and below the mean of behavioral cultural intelligence at individual level (see Figure 20).

Figure 20*: Study 1 – simple slopes of moderating effect of behavioral cultural intelligence on knowledge hiding – creativity relationship at individual level*



The results of simple slopes revealed that when behavioral cultural intelligence was high, knowledge hiding predicted higher level of creativity (slope: b = 0.15, t = 4.75, $p < 0.000$).

When behavioral cultural intelligence was lower, knowledge hiding predicted insignificant level of creativity (slope: b = 0.03, t = 1.17, p < *nsg*). Thus, simple slopes are in line with my Hypothesis 11a, that high behavioral cultural intelligence reduced the negative aspect of knowledge-hiding on creativity at individual level.

Analysis in Study 1 established that knowledge hiding is negatively related to creativity at an individual level. Moreover, the results supported the idea that cultural intelligence as a whole reduces the negative effect of knowledge-hiding behavior on creativity at the individual level. In addition, metacognitive, and behavioral cultural intelligences also have a moderating effect on the association between knowledge hiding and creativity at the individual level. However, cognitive and motivational cultural intelligence did not have a significant moderating impact on the knowledge hiding–creativity relationship at individual level. In order to test my hypothesis at the team level, I used a bottom-up approach and aggregated the individual-level measures of cultural intelligence, knowledge hiding and creativity on the group level.

3.4.4 Descriptive statistics, validity, and reliability at team level

The dataset consisted of two hierarchically nested levels: 787 employees (level-1) nested within 73 groups (level-2), which are the same as I already used in Chapter 2. Thus, I already tested multi-item within-group agreement (rwg(J)) and interclass correlations (ICC) in order to validate the aggregation of individual-level measures of cultural intelligence, metacognitive cultural intelligence, motivational cultural intelligence, behavioral cultural intelligence and creativity on the group level in Chapter 2 (see page 71).

Therefore, at this point I only tested the multi-item within-group agreement (rwg(J)) and interclass correlation (ICC) in order to validate the aggregation of individual-level measures of knowledge hiding on the group level. As such, for knowledge hiding the average rwg(j) was 0.78, ranging from 0.29 to 0.73, whereas ICC(1) was 0.42 and ICC(2) was 0.89 (F = 8.93, p = 0.000). These results justify the level found in prior research dealing with aggregating individual response to the group level (Campion, et al., 1993; Gong, et al., 2013; Kirkman, et al., 2009) and are in line with the principles of construct validation by Chen et al. (2004). Therefore, I aggregated individual knowledge hiding into the group response. Table 19 presents means, standard deviations and correlations for variables using this study at the team level. I used team group member as control variable.

Table 19: Study 1 - means, standard deviation, and correlations of variables used in analyzing moderating effect of cultural intelligence on knowledge hiding - creativity relationship at team level

Variable		Mean	s.d.	1	2	3	4	5	6	7	8
1	Team	37.00	21.21	1							
2	Metacognitive cultural intelligence	4.32	1.25	-0.47**	1						
3	Cognitive cultural intelligence	3.94	0.89	-0.32**	0.67**	1					
4	Motivational cultural intelligence	4.31	1.16	-0.43**	0.90**	0.63**	1				
5	Behavioral cultural intelligence	4.05	0.95	-0.39**	0.77**	0.69**	0.84**	1			
6	Cultural intelligence	4.15	0.97	-0.46**	0.95**	0.80**	0.94**	0.90**	1		
7	Knowledge hiding	2.88	1.83	0.49**	-0.79**	-0.39**	-0.73**	-0.51**	-0.70**	1	
8	Creativity	4.40	1.05	-0.51**	0.78**	0.49**	0.77**	0.69**	0.76**	-0.74**	1

[a]n = 73, *p < .05, **p<. 01, ***p < .001.

3.4.5 Results of hierarchical linear regression at team level

To test hypotheses on whether cultural intelligence as a whole and in each dimension would strengthen the association between knowledge hiding and creativity at team level, I conducted five hierarchical linear regression analyses. First, I tested cultural intelligence as a whole. I first entered control variable team item in Step 1. Team cultural intelligence and team knowledge hiding were entered in Step 2 and interception between team knowledge hiding and team cultural intelligence was put in Step 3 (see Table 20). The results revealed that team knowledge hiding is negatively and significantly related to team creativity (ß = -0.30, $p < 0.05$), which supports Hypothesis 6c (see Table 20, Step 2). However, in Step 3 the results revealed that R-square change is not statistically significant ($R^2 = 0.04$, $F (7, 66) = 26.96$, $p = .06$) and moreover the partial product of knowledge hiding and cultural intelligence (ß = -0.00, *nsg*.) is not statistical significant (see Table 20, Step 3). Thus, Hypothesis 7b is rejected. As such, the results presented in Table 20 indicate that team cultural intelligence and knowledge hiding have direct impact on team creativity. Moreover, partial product of cultural intelligence and knowledge hiding has no impact on creativity at team level. I then conducted four hierarchical linear analyses in order to test whether dimensions of cultural intelligence have a moderating effect on the relationship between knowledge hiding and creativity at the team level.

First, I conducted a hierarchical linear regression analysis in order to reveal the moderating effect of metacognitive cultural intelligence on the knowledge hiding–creativity relationship at the team level (see Table 21). In Step 1, I entered the control variables (team; and cognitive, motivational and behavioral cultural intelligences); in Step 2, I added metacognitive cultural intelligence and knowledge hiding. However, in Step 2 the collinearity diagnostic revealed that my control variables of motivational cultural intelligence (VIF = 8.523) and behavioral cultural intelligence (VIF = 4.385) had high variance inflation factors, and there was multicollinearity in the model.

Thus, I removed motivational and behavioral cultural intelligences as control variables and continued with my analysis. In Step 3, I added the interaction between knowledge hiding and metacognitive cultural intelligence at the team level. Hierarchical liner regression revealed that interaction between metacognitive cultural intelligence and knowledge hiding (ß = -0.02, *nsg*.) was not statistically significantly related to creativity at the team level (see Table 21, Step 3). Thus, Hypothesis 8b is rejected. However, the results indicate that metacognitive cultural intelligence (ß = 0.40, $p < 0.01$) is directly positively related to creativity at the team level (see Table 21, Step 2). Moreover, knowledge hiding (ß = -0.16, $p < 0.05$) is negatively positively related to creativity at the team level (see Table 21, Step 2). Since the interaction between metacognitive cultural intelligence and knowledge hiding was statistically non-significant, I did not plot the simple slopes. Instead, I conducted another hierarchical linear regression in order to reveal the moderating effect of cognitive cultural intelligence on the knowledge hiding–creativity relationship at the team level (see Table 22).

Table 20: Study 1 – hierarchical linear regression analyses results of moderating effect of cultural intelligence on knowledge hiding – creativity relationship at team level

Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	5.33	0.21		24.79***	4.61	0.16		28.65***	4.59	0.19		24.18***
Team	-0.02	0.00	-0.51	-4.99***	-0.00	0.00	-0.11	-1.44	-0.00	0.00	-0.11	-1.38
Team Cultural intelligence					0.48	0.10	0.44	4.65***	0.48	0.10	0.44	4.61***
Team knowledge hiding					**-0.21**	**0.05**	**-0.37**	**-3.86*****	**-0.22**	**0.06**	**-0.38**	**-3.30****
Team cultural intelligence x Team knowledge hiding									**-0.00**	**0.06**	**-0.01**	**-0.15**
R^2				0.260***				0.686***				0.686
F (df)				24.911 (1, 71)				50.215 (3, 69)				37.135 (4,68)
ΔR^2				0.260***				0.426***				0.000

n = 73. Values in bold are relevant to tests of hypotheses. *p < .05, **p<. 01, ***p < .001.

Table 21: Study 1 – hierarchical linear regression analyses results of moderating effect of metacognitive cultural intelligence on knowledge hiding - creativity relationship at team level

Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	5.11	0.20		24.71***	4.64	0.16		28.30***	4.59	0.19		23.71***
Team	-0.01	0.00	-0.38	-3.90***	-0.00	0.00	-0.13	-1.64	-0.00	0.00	-0.12	-1.58
Cognitive cultural intelligence	0.43	0.11	0.37	3.71***	0.00	0.11	0.00	0.05	-0.00	0.11	-0.00	-0.04
Metacognitive cultural intelligence					0.40	0.12	0.48	3.28**	0.41	0.12	0.49	3.30**
Knowledge hiding					**-0.16**	**0.07**	**-0.29**	**-2.42***	**-0.19**	**0.08**	**-0.33**	**-2.30***
Metacognitive cultural intelligence x Knowledge hiding									**-0.02**	**0.04**	**-0.05**	**-0.50**
R^2				0.382***				0.676***				0.677
F (df)				21.609 (2, 70)				35.507 (4, 68)				28.146 (5,67)
ΔR^2				0.382***				0.295***				0.001

n = 73. Values in bold are relevant to tests of hypotheses. * p < .05, ** p<. 01, *** p < .001.

Table 22: Study 1 – hierarchical linear regression analyses results of moderating effect of cognitive cultural intelligence on knowledge hiding - creativity relationship at team level

Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	5.33	0.21		24.79***	4.67	0.17		26.71***	4.73	0.19		24.97***
Team	-0.02	0.00	-0.51	-4.99***	-0.00	0.00	-0.14	-1.74	-0.00	0.00	-0.16	-1.84
Cognitive cultural intelligence					0.25	0.09	0.21	2.62*	0.25	009	0.21	2.65**
Knowledge hiding					**-0.33**	**0.05**	**-0.59**	**-6.68*** **	**-0.32**	**0.05**	**-0.56**	**-5.98*** **
Cognitive cultural intelligence x Knowledge hiding									**0.06**	**0.07**	**0.06**	**0.84**
R^2				0.260***				0.625***				0.629
F (df)				24.911 (1, 71)				38.316 (3, 69)				28.796 (4,68)
ΔR^2				0.260***				0.365***				0.004

n = 73. Values in bold are relevant to tests of hypotheses. *p < .05, **p<. 01, ***p < .001.

I conducted hierarchical linear regression in order to reveal the moderating effect of cognitive cultural intelligence on the knowledge hiding–creativity relationship at the team level (see Table 22) by following procedure. In Step 1, I first enter the control variable (team, metacognitive, motivational and behavioral cultural intelligence); in Step 2, I added cognitive cultural intelligence and knowledge hiding. Yet, in Step 2 the collinearity diagnostic reveled that my control variable metacognitive cultural intelligence (VIF = 8.605), motivational cultural intelligence (VIF = 8.523), and behavioral cultural intelligence (VIF = 4.385) have high variance inflation factors were high and there was multicollinearity in the model. Thus, I removed metacognitive, motivational and behavioral cultural intelligence as control variable and continued with my analyses. In Step 3, I added interaction between cognitive cultural intelligence and knowledge hiding at team level.

Hierarchical linear regression reveled that interaction between cognitive cultural intelligence and knowledge hiding (ß = 0.06, *nsg*.) is not statistical significant associated with creativity at team level (see Table 22, Step 3). Thus, Hypothesis 9b is rejected. Thus, results indicate that cognitive cultural intelligence (ß = 0.25, $p < 0.05$) is directly positively related to creativity at team level (see Table 22, Step 2). Moreover, knowledge hiding (ß = -0.33, $p < 0.001$) is negatively positively related to creativity at team level (see Table 22, Step 2). Since, interaction between cognitive cultural intelligence and knowledge hiding was non-significant, I did not plotted the simple slopes.

I conducted, hierarchical liner regression in order to reveal the moderating effect of motivational cultural intelligence on knowledge hiding – creativity relationship at team level (see Table 23). In Step 1, I first enter the control variable (team, metacognitive, cognitive and behavioral cultural intelligence); in Step 2, I added motivational cultural intelligence and knowledge hiding. Yet, in Step 2 the collinearity diagnostic reveled that my control variable metacognitive cultural intelligence (VIF = 8.605), and behavioral cultural intelligence (VIF = 4.385) have high variance inflation factors were high and there was multicollinearity in the model. Thus, I removed metacognitive and behavioral cultural intelligence as control variable and continued with my analyses. In Step 3, I added interaction between motivational cultural intelligence and knowledge hiding at team level (see Table 23).

Table 23: Study 1 – hierarchical linear regression analyses results of moderating effect of motivational cultural intelligence on knowledge hiding - creativity relationship at team level

	Step 1				Step 2				Step 3			
Variable	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	5.11	0.20		24.71***	4.65	0.16		28.78***	4.61	0.18		24.47***
Team	-0.01	0.00	-0.38	-3.90***	-0.00	0.00	-0.13	-1.73	-0.00	0.00	-0.13	-1.65
Cognitive cultural intelligence	0.43	0.11	0.37	3.71***	0.04	0.10	0.04	0.45	0.03	0.10	0.03	0.34
Motivational cultural intelligence					0.39	0.10	0.43	3.60***	0.40	0.11	0.44	3.57***
Knowledge hiding					**-0.19**	**0.06**	**-0.34**	**-3.23****	**-0.21**	**0.07**	**-0.36**	**-3.00****
Motivational cultural intelligence x Knowledge hiding									**-0.01**	**0.04**	**-0.03**	**-0.40**
R^2				0.382***				0.685***				0.686
F (df)				21.609 (2, 72)				36.970 (4, 68)				29.243 (5, 67)
ΔR^2				0.382***				0.303***				0.001

n = 73. Values in bold are relevant to tests of hypotheses. * p < .05, ** p<. 01, *** p < .001.

The results of hierarchical liner regression reveled that interaction between motivational cultural intelligence and knowledge hiding (ß = -0.01, *nsg*.) is not statistical significant related to creativity at team level (see Table 23, Step 3). Thus, Hypothesis 10b is rejected. However, results indicate that motivational cultural intelligence (ß = 0.39, $p < 0.001$) is directly positively related to creativity at team level (see Table 23, Step 2). Moreover, knowledge hiding (ß = -0.19, $p < 0.01$) is negatively positively related to creativity at team level (see Table 23, Step 2). Since, interaction between motivational cultural intelligence and knowledge hiding was non-significant, I did not plotted the simple slopes. At last, I conducted hierarchical liner regression in order to reveal the moderating effect of behavioral cultural intelligence on relationship between knowledge hiding and creativity at team level.

In Step 1, I first enter the control variable (team, metacognitive, cognitive and motivational cultural intelligence); in Step 2, I added behavioral cultural intelligence and knowledge hiding. However, in Step 2 the collinearity diagnostic reveled that my control variable metacognitive cultural intelligence (VIF = 8.605), and motivational cultural intelligence (VIF = 8.523) have high variance inflation factors were high and there was multicollinearity in the model. Thus, I removed metacognitive, and motivational cultural intelligence as control variable and continued with my analyses. In Step 3, I added interaction between behavioral cultural intelligence and knowledge hiding at team level (see Table 23).

In Table 24 the results of hierarchical liner regression reveled that interaction between behavioral cultural intelligence and knowledge hiding (ß = -0.03, *nsg*.) is non-significant related to creativity at team level (see Table 24, Step 3). Thus, Hypothesis 11b is rejected. However, results indicate that behavioral cultural intelligence (ß = 0.44, $p < 0.001$) is directly positively related to creativity at team level (see Table 24, Step 2). Moreover, knowledge hiding (ß = -0.28, $p < 0.001$) is negatively positively related to creativity at team level (see Table 24, Step 2). Since, interaction between behavioral cultural intelligence and knowledge hiding was statistical non-significant, I did not plotted the simple slopes.

Table 24: Study 1 – hierarchical linear regression analyses results of moderating effect of behavioral cultural intelligence on knowledge hiding as creativity dependent variable at team level

Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	5.11	0.20		24.71***	4.61	0.15		28.94***	4.54	0.18		25.18***
Team	-0.01	0.00	-0.38	-3.90***	-0.00	0.00	-0.11	-1.45	-0.00	0.00	-0.09	-1.20
Cognitive cultural intelligence	0.43	0.11	0.37	3.71***	-0.01	0.11	-0.01	-0.17	-0.03	0.11	-0.03	-0.32
Behavioral cultural intelligence					0.44	0.11	0.40	4.01***	0.47	0.11	0.43	4.03***
Knowledge hiding					**-0.28**	**0.04**	**-0.49**	**-5.87*** **	**-0.29**	**0.05**	**-0.52**	**-5.64*** **
Behavioral cultural intelligence x Knowledge hiding									**-0.03**	**0.05**	**-0.06**	**-0.76**
R^2				0.382***				0.679***				0.700
F (df)				21.609 (2, 70)				39.087 (4, 68)				31.195 (5, 67)
ΔR^2				0.382***				0.315***				0.003

n = 73. Values in bold are relevant to tests of hypotheses. * p < .05, ** p<. 01, *** p < .001.

This analysis established that knowledge hiding is also directly negatively related to creativity at the team level. Moreover, even when I used each cultural intelligence dimension separately as a predictor of team creativity, knowledge hiding was still negatively associated with creativity at the team level (see Table 21, Table 22, Table 23 and Table 24 in Step 2). The results did not support my hypothesis that cultural intelligence as a whole as well as each dimension separately could reduce knowledge-hiding behavior in order to simulate creativity at the team level. Thus, Hypotheses, 8b, 9b, 10b and 11b are rejected. Nevertheless, the findings in Study 1 found some support for my theoretical predictions at the individual level; thus I wanted to constructively replicate these findings with a different method, sample and measurement. Moreover, individuals often underreport their knowledge hiding, and it "is inherently difficult for others to observe accurately" their intentionally withholding behavior. Therefore, I conducted an experimental study in order to manipulate individual knowledge hiding (Connelly & Zweig, 2015, p. 487). I also wanted to get more in-depth insight into the impact of knowledge hiding on creativity and the moderating effect of cultural intelligence on the proposed relationship. In addition, I had to test Hypothesis 6b, that individual knowledge hiding is negatively related to team creativity.

3.5 Study 2: Methods

The experimental study was conducted with international students in an elective course at a Slovenian university. The main aim of the experimental study was to manipulate the individuals' knowledge hiding behavior in creative processes (i.e., individual and team) in a culturally diverse environment. Therefore, I needed to control for the task in order to capture the individuals' knowledge hiding behavior and to use multiple experts to rate the individual and team creative outcomes. The goal of my experimental study was to test the proposed relationships between knowledge hiding and creativity at individual level and team level in a culturally diverse environment, as well as the moderation effect of cultural intelligence in the knowledge hiding-individual creativity relationship at individual level. Thus, I independently manipulated individuals' knowledge hiding in order to capture the effect of underreporting this undesirable behavior, and I used participants' perceptions of their cultural intelligence as a moderator.

3.5.1 Sample, design, and procedures

The sample consisted of 104 international undergraduate (83%) and graduate (16%) students who attended an elective course. These 104 international were nested in 23 teams. The age of the participants ranged from 18 to 33 years, and the mean age was 22.4 years (SD = 2.88). There was 61% of females with average work experience in positions, such student or summer jobs for 2.7 years (SD = 2.26). The majority of the 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. As the cultural backgrounds of the participants in this experimental study were quite diverse, I can say that we had a culturally diverse sample. Therefore, the sample justifies my main goal to analyze the relationship between knowledge hiding and creativity in a culturally diverse environment.

The 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 of four or five, rather than dyads. Previous research examined knowledge hiding within dyadic interactions, but I was interested in determining whether or not individuals' knowledge hiding has the same influence on individual and team creativity. Therefore, I asked students to form groups of four or five.

The participants were then randomly assigned to two different conditions (low/high knowledge hiding). I informed them that I was interested in studying how people solve business problems. Then, I 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 minutes each). I started the experiment by introducing my 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, I 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). I 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, I provided the participants with different pieces of information about their team colleagues' tasks. For example, the sales channels 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 channels manager should consider options of different sales channels which we can market our product. The manager should choose the best ones and also some unconventional ones. What are sales channels? Sales channels examples are internet (in all forms and shapes), phone sales, sales representatives, our own stores, door-to-door sales, or anything else you come up with."

I 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, I 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's 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 (ICC1 = .77) and agreement (single item rwg = .78) for team creativity were also within conventional guidelines. I 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 (2008b), which included all 20 items on a 7-point scale (α = 0.89). This served to rate participants' cultural intelligence, which was my moderating variable. To test the manipulation checks and my hypotheses, I used ANOVA, which is a standard procedure that is used to analyze experimental data that enables comparisons between different conditions and controlling for some variables. Thus, I controlled for the assigned roles of the company's marketing managers (i.e., sales channels, motto development, promotion, strategy, and advertising) in both the individual and team knowledge hiding relationships. In the individual knowledge hiding relationship, participants also reported on control variables, such as performance (7 items, – α = 0.83) and mastery climate (6 items, – α = 0.74) on a scale developed by Nerstand, Roberts, and Richardsen (2013), as well as prosocial motivation (5 items,– α = 0.89) on a scale developed by Grant (2008). I also controlled for gender and work experiences.

3.5.2 Study 2: Results

Table 25 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) for individual level are displayed in Table 26.

I used an Anova to conduct a manipulation check, and I used Ancova to test my hypotheses. 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 ($F[1,103] = 27.83$, $p < 0.000$) was statistically significant at the individual level. Turning to individual creativity as the dependent variable, the Ancova revealed a significant relationship between individual knowledge hiding and individual creativity ($F[1,73] = 13.11$, $p < 0.000$) in a culturally diverse environment. Thus, consistent with Hypothesis 6a, individual knowledge hiding is significantly related to individual creativity.

Table 25*: Study 2 - descriptive statistics and correlations*

Variable	**Mean**	**s.d.**	**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[d]	.17	.38	-.06	-.02	.21*	.05	-.06	.07	-.18	-.00	.19	1				
11 Assigned role 2[d]	.21	.41	-.07	.00	.02	-.23*	.01	-.07	.00	.02	.06	-.23*	1			
12 Assigned role 3[d]	.21	.41	-.04	-.03	-.02	.14	.08	.02	-.11	-.11	-.12	-.23*	-.26**	1		
13 Assigned role 4[d]	.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

[a]n=104. ; [b] Coefficient alphas are on the diagonal in parentheses.; [c] For gender, 1= "female," 2= "male. [d] I created dummy variables for five different assigned roles in the experimental study.
*p < .05, **p<. 01, ***p < .001.

Table 26*: Study 2 - means and standard deviations by condition*

Condition	Individual Creativity	Team Creativity	Individual Cultural Intelligence	Individual Knowledge hiding
Low Knowledge hiding, Low Cultural Intelligence (*n = 25*)	4.75 (1.42)	4.85 (1.38)	4.42 (.32)	1.91 (.98)
Low Knowledge hiding, High Cultural Intelligence (*n = 29*)	4.36 (1.52)	4.48 (1.55)	5.68 (.49)	1.98 (1.10)
High Knowledge hiding, Low Cultural Intelligence (*n = 25*)	3.13 (1.39)	4.78 (1.73)	4.43 (.67)	3.27 (1.54)
High Knowledge hiding, High Cultural Intelligence (*n = 25*)	3.73 (1.52)	3.59 (1.35)	5.64 (.49)	3.37 (1.46)

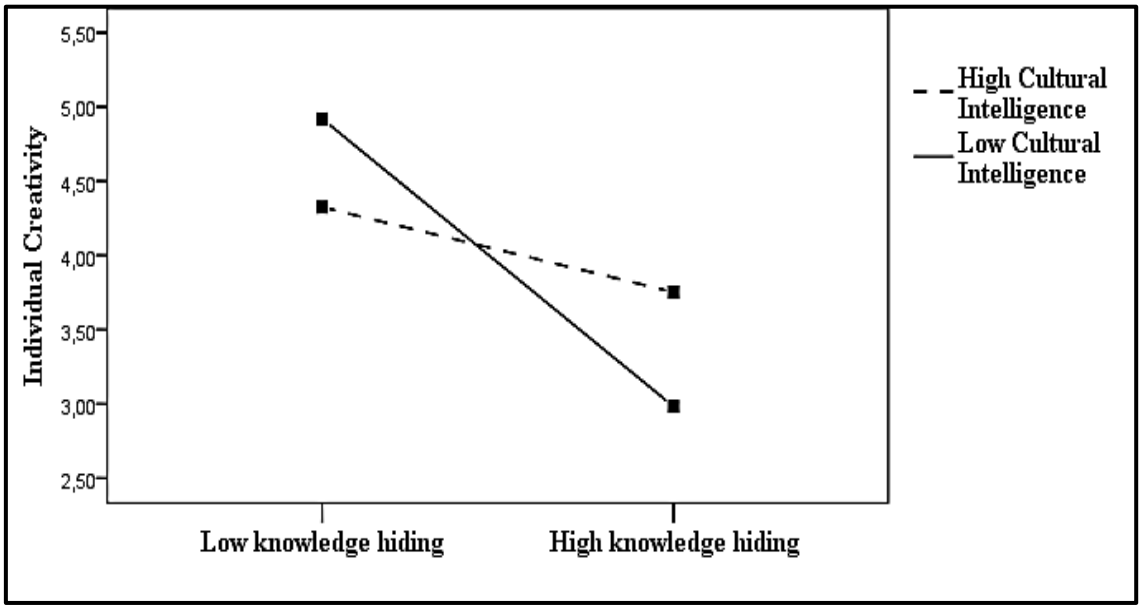
[a] Standard deviations are in parentheses

The results of the Ancova revealed that Hypothesis 6b is also significant, while knowledge hiding is negatively related to team creativity ($F[1,91] = -4.09$, $p < .05$) in a culturally diverse environment. To test whether cultural intelligence moderates the relationship between individual knowledge hiding and individual creativity, I also used Ancova procedures (see Table 11). The Ancova revealed that cultural intelligence moderates the relationship between individual knowledge hiding and individual creativity ($F[1,73] = 4.12$, $p < 0.05$). Therefore, the results supported Hypothesis 7a. The control variables in the Ancova analyses prosocial motivation ($F[1,73] = 0.00$, non.sig.), performance climate ($F[1,73] = 0.00$, non.sig.), mastery climate ($F[1,73] = 0.04$, non.sig.), gender ($F[1,73] = 0.13$, non.sig.), and work experiences ($F[1,73] = 0.01$, non.sig.) were statistical non-significant in the moderating effect of cultural intelligence on the association between individual knowledge hiding and individual creativity.

Ancova did not provide results for the control variables assigned roles since they were dummy variables and the correlated with each other.

The moderating effect of cultural intelligence on the relationship between individual knowledge hiding and individual creativity is shown in Figure 21. A visual inspection of the lines suggests that when individuals have high cultural intelligence, the relationship between individual knowledge hiding and individual creativity is less negative, as I hypothesized (see Figure 21). On the other hand, when individuals have low cultural intelligence, the relationship between knowledge hiding and creativity is more negative. Moreover, the slopes indicate that individual creativity is lower when knowledge hiding is high which is consistent with Hypothesis 7a. Thus, the results from the experiment are in line with my initial proposal and results Study 1.

Figure 21*: Study 2 - the moderating effect of cultural intelligence on the knowledge hiding-creativity relationship at individual level*



3.6 Discussion

I drew from the social exchange theory (Blau, 1964) and the social categorization theory (Tajfel & Turner, 1979) to argue that hiding knowledge from culturally diverse colleagues would impede both the individual's and the team's creativity. The results of two studies using different research paradigms (a field survey and an experiment) provided consistent evidence in support of my suggestion that there is a negative relationship between knowledge hiding and creativity at the individual and team levels. Moreover, the results of Study 2 also revealed that individual knowledge hiding is negatively related to team creativity.

The moderation analyses in both studies provided support for the argument that the relationship between knowledge hiding and creativity in a culturally diverse environment is less negative when it is moderated by cultural intelligence at the individual level. The association between knowledge hiding and creativity was even more negative when individuals had low cultural intelligence at individual level in Study 2. Furthermore, Study 1 provided evidence that metacognitive, and behavioral cultural intelligences moderate the relationship between knowledge hiding and creativity at the individual level. However, the partial product of cognitive and motivational cultural intelligence and knowledge hiding do not have any significant association with creativity at the individual level. In addition, Study 1 provided evidence that cultural intelligence as a whole as well as each dimension separately do not have a moderating effect on the relationship between knowledge hiding and creativity at the team level. Thus, the results suggest that cultural intelligence and metacognitive, motivational and behavioral dimensions can strengthen the association between knowledge hiding and creativity, yet only at the individual level and not at the team level.

3.6.1 Theoretical contributions

This study makes several theoretical and research-based contributions to the literature on creativity. The first theoretical contribution to the creativity literature is a novel perspective on the relationship between knowledge hiding and creativity in a culturally diverse environment. 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 creativity (Amabile, 1983; Zhou, Hirst, & Shipton, 2012). However, limited attention has been given to examining how individual engagement in knowledge hiding behaviors might threaten individual creativity in a culturally diverse environment. The research in this chapter complements that of Černe et al. (2014) by highlighting the knowledge hiding mechanism, which is related to the diminished creativity of the initial knowledge hider. At the same time, my research takes a step forward by demonstrating that a diverse environment plays an important role in triggering the influences of knowledge hiding on creativity at the individual and team levels. I show that individual knowledge hiding is negatively related to individual creativity in a culturally diverse environment. This process is based on social exchange theory (Blau, 1964) and the social categorization process (Turner, 1985) that emerges in a culturally diverse environment.

This chapter's second contribution is its examination of the relationship between individual knowledge hiding and team creativity. Černe et al. (2014) explored the relationship between knowledge hiding and creativity on the dyadic level by examining the relationship between a person's knowledge hiding and his or her creativity via a reciprocal distrust loop. Hence, this research departs from the common scholarly focus of 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), I show that similar patterns of social exchange, which can affect the relationships between knowledge hiding and creativity at the dyadic level, can also be expected within groups. I take the research to the team level by drawing on different emergence patterns as conceptualized in multilevel theory (Kozlowski & Klein, 2001), and I find similar detrimental effects of individual knowledge hiding on team creativity. The present research supports my proposal, suggesting that individual knowledge hiding is also negatively related to team creativity.

Third, this research takes a step toward by offering a novel contribution to the multilevel theory of creativity and knowledge hiding. In this chapter, I theorize and empirically examine, for the first time, the bottom-up process between knowledge hiding and creativity. Specifically, I demonstrated that knowledge hiding is negatively related to creativity at both the individual and team levels. Although researches have begun to study creativity at different levels of analysis (Gong, et al., 2013; Liao, et al., 2010; Liu, Chen, & Yao, 2011; Shin, et al., 2012), according to Anderson et al. (2014, p. 1323), there is still a need for multilevel studies of creativity in order to "move forward the understanding of creativity." Thus, I address their call and show that knowledge hiding has negative impact on creativity at individual and team level. More specifically, the findings in this chapter are in line with those of Gong et al. (2013), demonstrating that creativity is a multilevel phenomenon that involves bottom-up relationships across the individual and team levels. Importantly, this study also offers a novel contribution to the multilevel theory of knowledge hiding by showing that knowledge hiding may also be a multilevel phenomenon that involves bottom-up relationships across levels. This evidence highlights the value of examining how knowledge hiding impacts creativity—not only for individuals but also for teams—in a culturally diverse environment.

Fourth, this research advances our understanding of the cross-cultural research on creativity and cultural intelligence literature by introducing the moderating role of cultural intelligence on the relationship between individual knowledge hiding and individual creativity. My 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 a culturally diverse environment, which helps individuals overcome the lack of a social exchange pattern between culturally diverse colleagues and, in turn, enhances individual creativity. Studies in this chapter contribute to this reasoning by supporting the positive effects of cultural intelligence on the relationship between knowledge hiding and creativity at the individual level. The above-mentioned relationship is less negative when individuals have high cultural intelligence. As such, I introduce cultural intelligence as a new mechanism for minimizing the negative aspects of cultural diversity (e.g., individual knowledge hiding behavior) in order to stimulate creativity at the individual level.

In contrast, I found evidence that cultural intelligence and each dimensions has a non-significant moderating effect on the relationship between knowledge hiding and creativity at the team level and therefore does not strengthen the proposed relationship. This is an interesting finding, as prior research has shown team cultural intelligence is directly related to team knowledge sharing (Chen & Lin, 2013) and exhibit higher rates of team performance improvement (Moon, 2013). Moreover, cross-cultural contact is more efficient in culturally intelligent teams than in less intelligent teams (Ang & Inkpen, 2008).

However, my research suggests that different other-focused team processes may influence the moderating effect of cultural intelligence on the knowledge hiding - creativity relationship at the team level. For example, in culturally diverse teams, one of the reasons diverse coworkers show reduced willingness to share information and knowledge with their colleagues is a lack of trust (Pieterse, et al., 2013). Indeed, scholars have shown that trust has a significant effect on knowledge hiding (Connelly, et al., 2012; Černe, et al., 2014) and team cultural intelligence (Chua & Morris, 2009; Rockstuhl & Ng, 2008). Therefore, I proposed that future studies should investigate the moderating effect of cultural intelligence and each dimensions on the knowledge hiding – creativity relationship at the team level, especially regarding the types of trust (e.g., interpersonal trust, affect-based trust, and cognitive-based trust) in culturally diverse teams.

Finally, I also contribute to cultural intelligence literature by reveling that also metacognitive, and behavioral cultural intelligence have moderating effect on the knowledge hiding-creativity relationship at individual however not at team level. Thus, I contribute to cultural intelligence literature by deepening knowledge about moderating effect of each dimension on the knowledge hiding and creativity relationship at individual and team level. With this research, I add to previous empirical investigations (Elenkov & Manev, 2009) that cultural intelligence as a whole has more impact on individual and team creativity performance even if individuals decide to hide their knowledge then each cultural intelligence dimensions. Moreover, this study extents previous evidence (Chua, et al., 2012; Crotty & Brett, 2012) that not only metacognitive cultural intelligence stimulates creativity in a culturally diverse environment but also cultural intelligence as a whole, and behavioral cultural intelligence dimensions strengthens the relationship between knowledge hiding and creativity at individual level. As such, I answer the call from Van Dyne et al. (2012) for more in-depth research on cultural intelligence.

3.6.2 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 colleagues (2012) noted, "it would be important to inform managers that diversity alone does not guarantee creativity." That study

demonstrated that culturally diverse colleagues, if they decide to hide their knowledge, can have a negative impact on creativity (both individual and team) due to the social categorization process. However, this chapter's findings suggest that if managers are interested in fueling individual creativity in a culturally diverse work environment, they need to ensure conditions in which employees will enhance their levels of cultural intelligence.

This research, on the other hand, demonstrates how cultural intelligence can influence the knowledge hiding/creativity relationship in a culturally diverse environment, at the individual level, by reducing the negative effects of knowledge hiding and enhancing individual creativity. Therefore, for leaders and managers, my results suggest that employees with high cultural intelligence cultural tend to be more valuable than those with low cultural intelligence. Especially individuals with high metacognitive, and behavioral cultural intelligence to be more valuable for creativity if individual decide to hide his knowledge in cultural diverse working environment.

The second practical implication of these findings may be useful for employees in culturally diverse organizations. To reduce knowledge hiding in culturally diverse work environments and enhance their creativity, employees may find it useful to begin to be 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 (Li, et al., 2013; Ng, et al., 2009). Conversely, a high cultural intelligence will help them remain less engaged in knowledge-hiding behavior and will, therefore, trigger their own creative processes in a culturally-diverse environment.

3.6.3 Limitations and suggestions for future research

Despite these contributions, this research must be qualified in light of several limitations that offer possible directions for future research. First, although the results of the 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 (Connelly, et al., 2012; Černe, et al., 2014). Furthermore, research exploring the negative relationship between knowledge hiding and creativity in a culturally-diverse work environment should consider not only the individualistic dimensions of the national culture but also other dimensions such as power distance or collectivism, as well as considering how these cultural values stimulate or

hinder knowledge-hiding behaviors. For instance, in cultures that highly value power, knowledge hiding may be portrayed as a positive individual behavior, as opposed to cultures where collectivism is highly valued.

Second, while this chapter—for the first time—describes team cultural intelligence as a mechanism that can minimize knowledge hiding in culturally diverse teams in order to stimulate team creativity, the sample used in analyzing the proposed relationship at the team level consisted of 73 culturally diverse teams. Hence, the sample's size may have impacted my initial proposal regarding the moderating relation of cultural intelligence, both as a whole and for each dimension of the knowledge hiding/creativity relationship at the team level. Moreover, in the team-level analysis, I used just one control variable (i.e., the team membership), which can also interfere with the linear regression results. For this study, I was not able to both have more teams in the sample and have more than one control variable. Future studies should address these issues, testing the proposed relationship with a larger sample size and with more control variables. Overall, I call for more research to further investigate the bottom-up relationships between cultural intelligence, knowledge hiding and creativity.

Third, a potential limitation related to this 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 should be more specific and examine the relationship between knowledge hiding and creativity within dyads in a culturally diverse environment. This would provide a more comprehensive understanding of the connections between knowledge hiding and creativity in culturally diverse organizations. Moreover, for better understanding of the multilevel bottom-up approach, future research should also consider replicating the moderating effect of cultural intelligence on the association between knowledge hiding and creativity at the dyadic level.

Fourth, a potential limitation is the generalizability of its findings in the experimental study. The sample in the 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 analyzed behavior is specific to one demographic or occupational group. However, the behaviors I 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 my Hypotheses. Hence, my two-study, multi-method approach addresses this generalizability concern and indicates that knowledge hiding negatively is related negatively to creativity (individual and team), and that this individual relationship is dependent upon its interaction with cultural intelligence. The fifth limitation is related to my methodological approach in the

experimental study: I 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 behavior.

Another potential limitation is that these two studies use a self-report measure of cultural intelligence as a whole and for each dimension. This self-report scale has been validated (Ang, et al., 2007) and used in diverse disciplines, including cross-cultural applied linguistics (Rogers, 2008) and international missionary work (Livermore, 2006). Furthermore, Ng et al. (2012, p. 19) argued that "self-report and performance-based measures are complementary approaches to assessing cultural intelligence"; nevertheless, some limitations need to be taken into account when using only self-report measures. For example, individuals may not be fully aware that they possess high or low levels of cultural intelligence (Kruger & Dunning, 1999). Moreover, Imai and Gelfand (2010) suggested that measuring cognitive cultural intelligence dimensions with self-reports is not optimal, as their research implied that neither metacognitive nor cognitive cultural intelligence correlated with an individual's need for cognition. Thus, I propose that future research should include more objective measures (e.g., colleagues' assessments, leaders' assessments, or direct observations) for cultural intelligence as a whole and for each dimension to validate my findings.

3.7 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 organizations can mitigate it. This research helps to resolve individual knowledge hiding in a culturally diverse environment and provides empirical insights into the knowledge hiding - creativity relationship at both the individual and team levels. More precisely, this research reveals that individual knowledge hiding is negatively related to both individual and team creativity. Moreover, also team knowledge hiding has a negatively associated with team creativity. Furthermore, in this chapter, I provide empirical and practical insights into individual cultural intelligence as a whole and cultural intelligence dimensions metacognitive, and behavioral which mitigates the negative consequences of individual knowledge hiding and hence acts as a salient contingency for stimulating individual creativity. However, cultural intelligence doesn't have the same moderating effect on the association between knowledge hiding and creativity at the team level. The cultural intelligence dimensions also do not have a moderating effect on the knowledge hiding - creativity relationship at team level.

CHAPTER FOUR: CREATIVITY AS AN OUTCOME OF CONFLICT

This chapter aims to resolve the equivocal results of the relationship between task conflict and creativity in a culturally diverse environment. More precisely, this study contributes to the task conflict literature by investigating task conflict's impact on creativity in a culturally diverse environment at the individual level. Moreover, drawing from the social categorization theory, I propose individual cultural intelligence as a specific individual ability that can help resolve the inconsistent association between task conflict and creativity. Based on social categorization, I predict that cultural intelligence will shift the perspective of "us against them" to a mutual "us," thus providing a moderating effect on the relationship between task conflict and individual creativity. In addition, I predict that an individual's and their team's level of cultural intelligence are crucial in the task conflict–creativity relationship in a culturally diverse environment. Thus, Chapter 4 also contributes to the literature on cultural intelligence and creativity by exploring the cultural intelligence–creativity relationship in a culturally diverse environment. Two studies, using both field and experimental data, offer consistent support for this argument.

Using a sample of 617 employees of 16 multicultural SME companies from six countries in the Adriatic region and members of the International Network of Norway, I conducted a hierarchical last-square regression to explain the task conflict–creativity relationship and the moderating effect of cultural intelligence on that proposed relationship. Furthermore, to strengthen causal inferences, I conducted a laboratory experiment in which participants were asked to be part of a "marshmallow challenge," a creative game task. The results of the field and laboratory data show that task conflict is mostly negatively, yet non-significantly, related to creativity at the individual and team levels.

Moreover, the results from the field study show that cultural intelligence has a significant moderating effect on the association between task conflict and creativity at the individual level. Also, metacognitive, cognitive and motivational cultural intelligences decrease the negative effect of task conflict on creativity at individual level. However, behavioral cultural intelligence has no moderating impact on the task conflict–creativity relationship at the individual level. An experimental study of 100 international students replicated the moderation effect of cultural intelligence and extended these findings by implying that creativity was high in the task conflict condition only when an individual had a moderate level of cultural intelligence.

At the team level only cognitive cultural intelligence has a marginally moderating effect on the relationship between task conflict and creativity. Cultural intelligence as a whole and metacognitive, motivational and behavioral cultural intelligences have no statistically significant impact on the association between task conflict and creativity at the team level. Altogether in this chapter I contribute to the cultural intelligence and creativity literatures by providing insight into how cultural intelligence can minimize negative aspects of

cultural diversity (such as task conflict) in order to simulate creativity at the individual and team levels. Implications for practice and future research are discussed.

4.1 Introduction

Given the competitive and uncertain environment in which many organizations are operating, practitioners and scholars have realized that creativity and the production of novel and useful ideas (Amabile, 1996), is crucial for organizational survival (Shalley, et al., 2009; Shalley, et al., 2004). Furthermore, employees are now, more than ever, forced to interact and collaborate with culturally diverse individuals as organizations operate globally (Shin, et al., 2012). As such, in today's business environment, the greatest challenge is how to be innovative and creative, work globally, and mange conflicts that arise from colleagues' nationally differences (e.g., cultural norms, religion, and behavior) (Gibson, 1996).

Cultural differences in the work environment do not necessarily lead to conflict; yet usually a culturally diverse environment increases its likelihood (Armstrong & Cole, 2002; Joshi, Labianca, & Caligiuri, 2002). Therefore, the creative potential of cultural diversity in the workplace often goes unrealized (Chua, et al., 2012). As already mentioned, the value in diversity argument (Anderson, et al., 2014; Williams & O'Reilly, 1998) suggests that cross-cultural interactions may stimulate team members to generate new ideas (Perry-Smith & Shalley, 2003), because individuals are exposed to different thinking styles, knowledge, and skills. The similarity attraction argument (Pfeffer, 1983), on the other hand, proposes that a diverse environment provokes negative treatment (Shin, et al., 2012), such as conflict situations (Williams & O'Reilly, 1998), and thus inhibits creativity.

However, previous research indicated that some level of conflict can be beneficial for creative performance (De Dreu, 2006; Fairchild & Hunter, 2014; Farh, et al., 2010). There are three different types of conflict: interpersonal relationship conflict, process conflict, and task conflict (Jehn, 1995). Task conflict relates to the conversation and discussions on how to implement individual tasks. Research (De Dreu, 2006; Farh, et al., 2010) has shown that task conflict has a greater effect on creativity than do emotional and process conflict. This is because task conflict provokes individuals to come to a greater degree of information sharing and to evaluate the current situation, which encourages creativity (Hülsheger, et al., 2009; Shalley, et al., 2009). Therefore, in this chapter, I will focus only on task conflict. Task conflict can increase individual and group creativity because it triggers the group's engagement in deep, task-relevant information exchanges and status quo reevaluation (De Dreu, 2006; Hülsheger, et al., 2009).

Yet too much task conflict can lead to frustrated employees; lost sight of collective goals; and reduced capacity to perceive, process, and evaluate information that is crucial for creative work tasks (De Dreu, 2006). For example, a meta-analysis by Hülsheger et al. (2009) indicated that there is no positive relationship between task conflict and creativity.

On the other hand, recent research from Fairchild (2014) reveals that task conflict can enhance team creativity, yet only when teams have participated safety. Therefore, scholars (Dreu, 2008; Hülsheger, et al., 2009) have rapidly called for more detail investigation under which specific circumstances task conflict can be beneficial for individual and team creativity.

Thus, the objective of this chapter is to explain and resolve the inconsistent relationship between task conflict and creativity, and do so in a culturally-diverse environment, while organizational scholars and practices need new theoretical perspectives and empirical investigations to deepen knowledge of the task conflicts and cultural differences that drive creativity (Anderson, et al., 2004; Anderson, et al., 2014). Drawing on social categorization theory (Tajfel & Turner, 1979), I posit that task conflict occurs between culturally diverse co-workers, because individuals are used to categorizing themselves and others into in-group and out-group members based on cultural similarities and differences. If conflicts can impede creativity, organizations and managers in culturally diverse working environments need to know how to mitigate task conflict in organizations (Farh, et al., 2010).

I propose that cultural intelligence can provide more in-depth insight into how it can decrease negative effect of task conflict on creativity a culturally diverse environment. As already mentioned, cultural intelligence is defined as an individual's capability of functioning effectively in a culturally diverse environment (Ang & Van Dyne, 2008a), and it can reduce in-group/out-group perception (Imai & Gelfand, 2010). Also, Imai and Gelfand (2010) found that cultural intelligence is positively related to cooperative motives, and negotiation in a culturally diverse environment. Taking it all together, I propose that cultural intelligence has a moderating role in the relationship between task conflict and creativity in a culturally diverse work environment at individual and team level.

I go even further by proposing that the relationship between task conflict and creativity in multicultural collaboration will be more positive when employees have moderate level of cultural intelligence at individual level. While a highly cultural intelligent individual may start to avoid task conflict and negative evaluations of ideas, in turn, it is likely that groupthink will emerge among team members (Janis, 1972). Rather than producing creative ideas, groupthink inhibits creativity, since individuals will not debate their own views. With this research, I aim to investigate how task conflict is related to creativity and moderation impact of cultural intelligence on the task conflict – creativity association in a culturally diverse work environment. I test proposed hypotheses by conducting both a field study and an experiment study.

This chapter makes significant theoretical contributions to creativity literature. First, by introducing a culturally-diverse work environment as an important, but often neglected influence on creativity, I aim to contribute to the creativity literature. My social

categorization point of view reveals how a culturally-diverse environment leads to task conflict and hinders creativity. Second, I introduce the relatively new concept of cultural intelligence (Kim & Van Dyne, 2012) as an important moderator of the task conflict-creativity relationship in a culturally diverse environment at individual and team level. Using social categorization viewpoints, I reveal how different levels (i.g. high, medium, low) of cultural intelligence can minimize the negative effect task conflict on creativity at individual and team level. This theoretical point of view and empirical findings explain that cultural intelligence is important for creativity when task conflict occurs in a culturally diverse work environment. In addition, with this research I contribute to the task conflict literature by provide more in-depth insight into is task conflict can be beneficial for creativity in a culturally diverse environment at individual and team level.

4.2 Task conflict and creativity in a cultural diverse environment

My emphasis in this chapter is on understanding the conditions under which task conflict can be beneficial for individual and team creativity in a culturally diverse environment. Creativity is often the result of social processes (Perry-Smith, 2006; Perry-Smith & Shalley, 2003) in which individuals share ideas and brainstorm solutions with others (Chua, et al., 2012). Therefore, the level of creativity is very much dependent on how and with whom individuals interact. Task conflict is negative interaction among individuals, defined as "disagreement among group members about the content of the tasks being performed, including differences in viewpoints, ideas, and opinions" (Jehn, 1995, p. 258). As already noted, organizational scholars have long implied that task conflict can enhance creativity (Williams & O'Reilly, 1998). Researchers have identified three different mechanisms through which conflict may stimulate creativity.

First, according to the minority dissent theory proposed, task conflict can enhance creativity while triggering the group's engagement in deep, task-relevant information exchange and challenging the status quo of creative ideas (Baron & Kenny, 1986; De Dreu & West, 2001; Hülsheger, et al., 2009). More precisely, when minority individuals in the work environment publicly oppose the majority, then the majority members are forced to consider the ideas suggested by the minority (Nemeth, 1986). This is how minorities increase divergent thinking and creativity within a larger group (De Dreu & West, 2001). Second, in a work group where there is no conflict and members have total agreement, task groupthink can emerge (Janis, 1972). In contrast to conflict, groupthink can stifle creativity because individuals experiencing groupthink have a psychological drive for suppressing both dissent and the possibility of dissent in decision-making groups. Third, building on this notion, Kolb and Gildden (1986) suggested that managers could foster the legitimatization of conflict in order to use it as a creative force. In line with this logic, studies have shown that task conflict results from the presence of different options stimulates work group originality (Dyne & Saavedra, 1996), complexity (Gruenfeld, 1995), and divergence (Nemeth, 1986).

However, theory and empirical research have yielded confusing results about whether task conflict and culturally diversity enhances creativity. For example, Kurtzberg and Amabile (2001) proposed that a moderate level of conflict can be the most beneficial for creativity. More specifically a high level of task conflict decreases the creativity process while it reduces individual capacity to perceive, process, and evaluate information (De Dreu, 2006). Furthermore, De Dreu (2006) elaborate when individuals perceive increasingly high levels of task conflict, they are more likely to feel stress, interpersonal tension, and distrust; therefore, they would avoid open-minded idea generation with colleagues. In his study De Dreu (2006) found teams were more innovative when the level of task conflict was moderate instead of low or high.

Farh et al. (2010) want even further and reveled that task conflict has a curvilinear effect on team creativity such that creativity is highest at moderate conflict levels. Thus, it is considerably difficult to maintain moderate levels of task conflict in the work environment because perceived conflict frequently changes. Employees are more likely to move to higher levels of conflict if they perceive small levels of task conflict (Kurtzberg & Amabile, 2001). Therefore, I am going to distinguish between those individuals who do or do not perceive task conflict in my study, which is in line with research from Fairchild and Hunter (2014). Their resent study (Fairchild & Hunter, 2014) through 55 teams indicates that task conflict can stimulate team creativity, yet only if individuals perceive some levels of participative safety in teams. Moreover, team generated more original creative solutions when teams had low on participative safety and task conflict.

On the other hand, theory, and research in creativity literature yielded also confusing results whether diversity enhances creativity between diverse colleagues. More than ever before, the workforce is becoming increasingly culturally diverse (Cox, Lobel, & McLeod, 1991), therefore it is critical to understand how cultural differences among employees are affecting creative process (Anderson, et al., 2014). In a highly culturally diverse environment, employees are forced to interact with people from different cultural backgrounds and ethnicities in order to complete assignments. Employees from different cultural identity groups have distinct worldviews (Alderfer & Smith, 1982), norms, values, goal priorities, and sociocultural heritages (Cox, 1994).

Thus, in line with the value-in diversity argument (Williams & O'Reilly, 1998), I expect that individuals in culturally diverse interactions can be creative because employees are exposed to new ideas and perspectives to address a given problem (Chua, 2013; Chua, et al., 2012). Indeed, a few studies have indicated that cultural diversity can enhance creativity (Chua, 2013; Chua, et al., 2012; Leung, Maddux, Galinsky, & Chiu, 2008; Maddux, Adam, & Galinsky, 2010; Stahl, Maznevski, Voigt, & Jonsen, 2010) and innovation (Østergaard, Timmermans, & Kristinsson, 2011). Yet studies (Hülsheger, et al., 2009; O'Reilly & Barsade, 1998; Paletz, Peng, Erez, & Maslach, 2004) have also shown that cultural diversity has moderate or even negative effects on individuals' creativity. For

example, Curseu (2010) found that team diversity based on gender, age, or nationality was moderately but positively related to team creative performance. In contrast, McLeod, and colleagues' (McLeod, Lobel, & Cox, 1996) research has indicated that ethnic diversity hinders team creativity.

I propose that cooperation among individuals with different cultures can be negative for individuals and businesses alike because the wrong perception of cultural differences reduces the interaction between individuals and thus their effectiveness in carrying out creative tasks. Empirical research from Paulus and colleagues (Paulus, Putman, Dugosh, Dzindolet, & Coskun, 2002) suggested that brainstorming in culturally diverse teams may lead to productivity loss due to the challenges of intercultural communication (Jackson, Joshi, & Erhardt, 2003). These mixed results suggest that researchers need to pay closer attention to tree crucial issues to a deep interest in understanding the relationship between task conflict and creativity in a culturally diverse environment.

First, they need to be aware that a culturally diverse environment can act as a salient contingency in the relationship in task conflict–creativity relationship while task conflict in a culturally diverse environment most often occurs because of a lack of cultural awareness in expectations or misunderstood comments (Chua, et al., 2012). Second, in recent reviews of the creativity literature, scholars have called for deeper understanding of how cultural differences could stimulate creativity (Anderson, et al., 2014; Shalley, et al., 2004; Jing Zhou & Shalley, 2011). Third, there have been calls (De Dreu, 2008; Hülsheger, et al., 2009) for the need to examine the conditions and individual capabilities under which task conflict can benefit individual creativity in a culturally diverse environment.. I address these issues by first exploring the relationship between task conflict and creativity in a culturally diverse environment and thus hypothesize:

Hypothesis 12a. Task conflict is negatively related to creativity at individual level.

Hypothesis 12b. Task conflict is negatively related to creativity at team level.

4.3 Task conflict, creativity and cultural intelligence

In this section I take a step further and propose that cultural intelligence as a whole and each dimension can buffer the negative relationship between task conflict and creativity in a cultural diverse environment at individual and team level. The social categorization theory (Tajfel & Turner, 1979) proposes that individuals frequently classify themselves as in-group versus out-group by evaluating their culturally diverse work environment based on salient characteristics such as ethnicity, nationality, and cultural background. For example, research has shown that the social categorization process negatively influences the level of creativity and innovation in multicultural teams compared to culturally homogenous teams (Gibson & Gibbs, 2006; Jackson & Joshi, 2011), stimulates conflict

(Pelled, Eisenhardt, & Xin, 1999), and triggers individual stereotyping among cultural diverse employees (Williams & O'Reilly, 1998).

I propose that cultural intelligence can reduce the categorization process and in turn decrease task conflict among culturally diverse individuals, where cultural intelligence is defined as the individual ability to interact effectively with people from a diverse cultural environment (Earley & Ang, 2003; Li, Mobley, & Kelly, 2013). Earely and Ang (2003) conceptualized cultural intelligence as a multidimensional construct, consisting of four complementary individual capabilities: metacognitive, cognitive, motivational, and behavioral. I predict that each of these cultural intelligence dimensions can reduce the individual social categorization process for in-group and out-group members based on culturally diverse colleagues, thus decreasing task conflict while increasing individual creativity.

Metacognitive cultural intelligence refers to a mental process that includes individual capabilities like planning for upcoming intercultural situations, monitoring during intercultural interactions, and revising mental models of the past intercultural situations (Ang, Van Dyne, & Koh, 2006). Individuals with high metacognitive cultural intelligence are more aware about cultural differences and similarities during cross-cultural interaction that helps employees to have more appropriate social interactions with people from different cultural background and adjust better to new cultural environments (Erez et al., 2013) Therefore, Rockstuhl and Ng (2008) proposed that individuals with high metacognitive cultural intelligence are more likely to decrease negative aspects of the social categorization processes in diverse teams.

In line with their suggestion, Crotty and Brett (2012) revealed that metacognitive cultural intelligence stimulates individuals to create a fusion culture in the work environment and blend diverse cultural values into one culture. If culturally diverse employees create their new common culture, they perceive themselves more as in-group members rather than out-group members. Furthermore, high metacognitive cultural intelligence increases interpersonal trust among culturally diverse dyads (Rockstuhl & Ng, 2008) and effect-based trust in teams (Chua, et al., 2012). Thus, when employees and teams have high levels of metacognitive cultural intelligence, it is more likely that a higher trusting relationship will occur between them and their work partners.

According to social categorization theory, individual trust is associated more with in-group members than with out-group members (Tanis & Postmes, 2005). It follows that metacognitive cultural intelligence may, through common culture and trusting relationships, indeed decrease the social categorization process and in turn prevent the emergence of task conflicts based on cultural differences. Therefore metacognitive cultural intelligence decreases negative effect of task conflict on creativity at individual and team level. Hence, I hypothesis:

Hypothesis 13a: Metacognitive cultural intelligence has a moderating effect on the relationship between task conflict and creativity at individual level.

Hypothesis 13b: Metacognitive cultural intelligence has a moderating effect on the relationship between task conflict and creativity at team level.

Cognitive cultural intelligence reflects individual knowledge of norms, economic, legal, and sociolinguistic practices and cultural values acquired from education and personal experience (Ang & Van Dyne, 2008). Employees with high cognitive cultural intelligence understand similarities and differences across different cultures (Brislin, Worthley, & Macnab, 2006) and therefore can work more "efficiently and effectively within a specific domain" (Van Dyne et al., 2012: 302). It has been found that cultural judgment and decision making, which refer to the quality of decisions regarding intercultural interactions (Ang, et al., 2007) and higher interpersonal trust among individuals (Rockstuhl & Ng, 2008) are outcomes of cognitive cultural intelligence.

Furthermore, while interviewing global managers, Janssed and Cappellen (2008) found that cognitive cultural intelligence was relevant to their cross-cultural work. For example, as a global manager explains, "You need to know what is allowed and what is not"; further, "You need to react differently, negotiate differently in a particular cultural environment" (Janssens & Cappellen, 2008: 365). Most of the managers emphasized that no matter where they operate, knowledge about business relationships, language, negotiation, and communication styles are the most important for them. I argue that individuals and teams with high cognitive cultural intelligence are less likely to form negative, stereotypical judgments based on cultural characteristics (Abreu, 2001) because they are aware of similarities and are prone to better cultural judgment and decision making. By not making stereotypical judgments and instead focusing on similarities with coworkers, the individual with high cognitive cultural intelligence will see all coworkers as in-group members, who will decrease negative effect of task conflict on creativity at individual and team level. Therefore, I hypothesis:

Hypothesis 14a: Cognitive cultural intelligence has a moderating effect on the relationship between task conflict and creativity at individual level.

Hypothesis 14b: Cognitive cultural intelligence has a moderating effect on the relationship between task conflict and creativity at team level.

Motivational cultural intelligence is defined as the capacity to direct attention and energy to learning and functioning in culturally diverse environments (Ng, Van Dyne, & Ang, 2009). Thus, it is conceptualized based on intrinsic motivation and self-efficacy. Individuals with high motivational cultural intelligence "are attracted to intercultural situations because they value the benefits of these interactions and are confident that they

can cope with the inherent challenges of cultural differences" (Van Dyne, et al., 2012: 304). For example, employees with high motivational cultural intelligence have a strong desire to communicate and interact with people from different cultural backgrounds (Earley & Ang, 2003).

I propose that employees' desire to communicate and interact will lead to fewer distinctions between in-group and out-group employees (Reynolds & Oakes, 2000) and would also increase the likelihood for employees to create new in-groups. Such interaction and communication stimulate a group's psychological sense of safety, which allows individuals in teams to exchange sensitive information, propose extreme solutions, and reduce conflict (Mayer, Davis, & Schoorman, 1995). Scholars have long maintained that communication and psychological safety play a critical role in creative performance (Shalley & Gilson, 2004; Shalley, et al., 2004; Woodman, Sawyer, & Griffin, 1993). This is why I propose that high motivational cultural intelligence can, through communication, and psychological safety, reduce or eliminate categorization and thus buffer the negative relationship task conflicts and creativity in culturally diverse workplaces at individual and team level. Therefore, I hypothesis:

Hypothesis 15a: Motivational cultural intelligence has a moderating effect on the relationship between task conflict and creativity at individual level.

Hypothesis 15b: Motivational cultural intelligence has a moderating effect on the relationship between task conflict and creativity at team level.

Behavioral cultural intelligence refers to what individuals are doing while interacting with others. More precisely, it reflects the range of verbal and nonverbal capabilities that individuals possess and use when interacting with people from different cultures (Ang et al., 2007). For example, a communication style that is appropriate in one cultural setting may be inappropriate in another and vice versa (Earley & Ang, 2003). Individuals with high behavioral cultural intelligence will adopt appropriate communication styles according to the cultural background of their colleague. Thus, with appropriate verbal and nonverbal behavior, individuals may be more easily accepted by out-group members when interacting with them (Lin, Chen, & Song, 2012). As such, through using appropriate communications (verbal and nonverbal behavior), behavioral cultural intelligence can eliminate the categorization process based on cultural differences and can therefore reduce the negative aspect of task conflict on creativity in a culturally diverse environment at individual and team level. Hence, I hypothesis:

Hypothesis 16a: Behavioral cultural intelligence has a moderating effect on the relationship between task conflict and creativity at individual level.

Hypothesis 16b: Behavioral cultural intelligence has a moderating effect on the relationship between task conflict and creativity at team level.

As proposed above, each dimension of cultural intelligence can differently reduce the individual's perception of an "us against them" mentality. However, I predict that social categorization based on cultural diversity can also be decreased when dimensions of cultural intelligence work together as one. Reset research also implies that individuals or teams with higher levels of cultural intelligence exhibit better team performance (Moon, 2013). Cultural intelligence can reduces anxiety and influences communication effectiveness in foreign multinational enterprises (Bücker, et al., 2014) and simulates intercultural negotiators to have more integrative information behaviors and more cooperative relationship-management behaviors (Imai & Gelfand, 2010). Thus, I propose that high cultural intelligence can—through metacognitive, cognitive, motivational and behavioral cultural intelligence dimensions—eliminate categorization and negative aspect of task conflict on creativity in culturally diverse workplaces at the individual and team levels. Therefore, I hypothesize:

Hypothesis 17a:. Cultural intelligence has a moderating effect on the relationship between task conflict and creativity at individual level.

Hypothesis 17b: Cultural intelligence has a moderating effect on the relationship between task conflict and creativity at team level.

However, I expect that high levels of cultural intelligence will have a negative effect on the relationship between task conflict and creativity. In line with Grant and Schwartz (2011), who theorized about the too-much-of-a-good-thing effect, I propose that too much cultural intelligence can have a negative effect on the task conflict–creativity relationship. According to Pierce and Aguinis (2011, p. 314) the too-much-of-a-good-thing effect "accounts for an apparent paradox in organizational life: ordinarily beneficial antecedents causing harm when taken too far." For example, lower individual engagement in "organizational citizenship behavior may help one be perceived as a better employee while having little influence on one's level of stress" (Bolino, Klotz, Turnley, & Harvey, 2013, p. 547). If an employee is moderately engaged in organizational citizenship behavior, his or her levels of stress and work–family conflict increases, but this individual's professional outcomes will be much better.

However, employees who are extremely engaged in organizational citizenship behavior may be harmed both personally and professionally. Thus, I argue that if an individual has a low level of cultural intelligence, task conflict will still have a negative impact on creativity in a culturally diverse environment. These individuals will not adjust their behavior and will not be motivated to interact with individuals from outside the group (e.g., they have a low level of behavioral and motivational cultural intelligence). On the

other hand, I propose that if employees have extremely high levels of cultural intelligence, they will start to avoid conflict and will, in turn, start to think as a group (Janis, 1972). Groupthink inhibits creativity, as individuals will not debate different thoughts and opinions. As Zhou and George (2003, p. 560) suggested, "Idea evaluation can become a superficial process in which employees attempt to maintain interpersonal harmony at all costs and offer no real critical assessments to improve ideas." Groupthink can therefore result in low-quality ideas because some constructive criticism is needed for the creative improvement of ideas (George & Zhou, 2002). Thus, I predict that moderate levels of cultural intelligence will most buffer the negative relationship between task conflict and creativity at individual level, and therefore, I hypothesize as follows:

Hypothesis 18: When individuals' cultural intelligence is at a moderate level, the relationship between task conflict and individual creativity is the least negative.

I tested these hypotheses in two studies. In Study 1, I tested Hypotheses 12a and 12b by examining the direct impact of task conflict in a culturally diverse environment at individual level. Furthermore, I also researched the moderating role of cultural intelligence as a whole and of each cultural intelligence dimension on individual creativity (testing Hypotheses 13a,b – 17a,b). In Study 2, I tested Hypothesis 18, which states that the relationship between task conflict and individual creativity is the least negative when individuals have a moderate level of cultural intelligence.

4.4 Study 1: Methods

4.4.1 Sample and procedures

Empirical data were collected from 617 employees in more than twenty-one different countries in order to get a culturally diverse sample. Thus, empirical data were collected as part of the Pacinno project which includes companies from Adriatic countries: Slovenia, Albania, Bosnia and Hercegovina, Italy, Montenegro and Serbia in October and November 2014 and within the members of the International Network of Norway in June and August 2014. A translation-back translation procedure was used to translate the questionnaire from English to the languages of the Adriatic countries and then back to English. Within the members of the International Network of Norway the questionnaire was in English while participants came from than twenty-one different countries. The employees from diverse organizations were invited to complete a survey online either during or outside their working hours. Furthermore, to protect the confidentiality of the employees, participants had the opportunity to identify themselves by code names and not their real names.

The companies that I used in the sample are from different industries (pharmaceutical, IT, automotive, biotechnology, educational) yet they all are trans-national companies that deal with multicultural collaborations daily. For example one of the company is a biotechnology manufacturer that employs about 70 people. Their motto is to "be the world

leader in innovative biotechnology manufacturer, and supplying our customer with the best possible biotechnological solutions, and providing advanced laboratory measurements". The other example is the company from automotive industry that employs 200 people. The company tradition is in highly specialized industrial production, yet they also vested into producing innovative solutions to the technological challenges of the future. With almost 50 years of experience, they have evolved and become a trans-national company connecting almost 30 companies in Europe, in the USA and in Asia. The International Network of Norway is network of people from all over the world that work in Norway and has more than 400 members. The members of International Network of Norway work for variety of industries, for example energy industry, car industry, educational, and consulting organizations.

A total of 617 employees completed the survey (a 46.7% response rate, ranging from 20 to 86% by organization). Their demographic data are as follows: about 60.00% of the participants were male, and 45.95% were between 24 and 34 years of age (SD = 1.05). 95.2% of respondents were fully employed in their organizations (SD = 0.26). They were also a multicultural sample, representing 21 countries of origin: 19.1% form Italy, 17.8% from Bosnia and Hercegovina, 16.2% from Greece, 16.0% from Albania, 15.4% from Montenegro, and 11.2% from Serbia, (country origin SD = 3.08). The remaining 4.3 % represented were from another 14 countries of origin (i.e., Slovenia, Croatia, Norway, Germany, UK, Sweden, India, Greece etc.).

4.4.2 Measures

Unless otherwise noted, seven-point Likert-type scales ranging from 1 ("strongly disagree") to 7 ("strongly agree") were used in the study. *Task conflict* was self-reported and assessed with a 4-item scale developed by Jehn (1995) – $\alpha = 0.89$. The four-item scale included items such as "To what extent are there differences of opinion with colleagues from different cultural backgrounds regarding the work tasks," and "How frequently are there disagreements about work tasks you are working with colleagues from different cultural background".

Creativity was also self-reported and measured according to a 13-item questionnaire developed by Zhou and George (2001) – $\alpha = 0.94$. The employees were asked to assess their belief 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."

Cultural intelligence was assessed with a 16-item shortened scale by Ang and Van Dyne (2008b), and the overall cultural intelligence reliability score was – $\alpha = 0.94$. I measured cultural intelligence by calculating the sum of a four-item scale of metacognitive cultural

intelligence (– α = 0.90), cognitive cultural intelligence (– α = 0.87), motivational cultural intelligence (– α = 0.89), and behavioral cultural intelligence (– α = 0.89). The overall cultural intelligence was then divided by 16, as I used 16 items in the scale. The questionnaire included items such as "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. I controlled for several individual and contextual factors that could influence task conflict, cultural intelligence, and creativity at an individual level in a culturally diverse environment. Following other researchers (e.g., Amabile, 1996; Shin, et al., 2012; Shin & Zhou, 2003) I controlled for *education* level because it might be associated with creativity. I did not control for cultural origin while individuals in the sample were from 21 different countries. However, I controlled for cultural value *individualism* developed from Dorfman and Howell (1988) and Triandis in Gelfland (1998) by asking participants whether "The well-being of my coworkers is important to me". Finally, other control variables included *age, gender, employment,* and *data sets* (I created two dummy variables in order to control for Pacinno and International Network of Norway sample).

I tested for the possibility of common method bias using Harman's single-factor test, which indicated that 38.85% of the variance was explained, and thus, the one-factor solution had an average variance extracted lower than 50% (see Appendix C). Therefore, I predict that, in this study, there is a minor effect of common method bias on my results.

4.4.3 Descriptive statistics, validity, and reliability at individual level

I began by observing the factor structure of the focal variables at the individual level and thus conducted a confirmatory factor analysis using Mplus 7 software with maximum likelihood estimation procedures while I some data form Pacinno project and some new data from International Network of Norway (see Table 27). First, I assessed task conflict, four cultural intelligence factors to creativity in order to assess the best model fit (Model A). The expected six-factor solution (creativity, task conflict, metacognitive, cognitive, motivational, and behavioral cultural intelligence) fit somewhat reasonably with the data (χ^2 [480] = 1672.988, CFI = 0.922, TLI = 0.914, SRMR = 0.048, RMSEA = 0.064). The factor loadings ranged from 0.73 to 0.90 for metacognitive cultural intelligence items, 0.75 to 0.85 for cognitive cultural intelligence items, 0.74 to 0.90 for motivational cultural intelligence, 0.75 to 0.89 for behavioral cultural intelligence, 0.70 to 0.90 for task conflict and 0.65 to 0.82 for creativity items.

Second, while I already compare different model of cultural intelligence with creativity in chapter 1 like, thus now I only compared this six-factor model with alternative five-factor model (i.e., Model B: task conflict, cognitive, motivational and behavioral cultural

intelligence combined on creativity) and four-factor model (i.e., Model B: task conflict, metacognitive and behavioral cultural intelligence combined on creativity) in order to assess the best fit. The results provided in Table 27 show that the six-factor solution (Model A) was superior to more parsimonious five-factor or four model solutions. Table 28 presents means, standard deviations, and correlations for the key study variables. To further examine the proposed hypothesis, I conducted a hierarchical linear regression using SPSS.

Table 27*: Study 1 - comparing the fit of alternative models for cultural intelligence, task conflict and creativity*

Model		χ^2	df	CFI	TLI	SRMR	RMSEA
A	six-factor model on creativity	1672.988	480	0.922	0.914	0.048	0.064
B	Five-factor model on creativity	3945.797	489	0.773	0.755	0.200	0.107
C	Four-factor model on creativity	5417.763	497	0.677	0.657	0.243	0.127

CFI = (Bentler's) Comparative fit index; TLI = Tucker–Lewis index; SRMR = Standardized root mean square residual; RMSEA = Root mean square error of approximation.

Table 28*: Study 1 - means, standard deviation, and correlations of variables used in analyzing moderating effect of cultural intelligence on task conflict - creativity relationship at individual level*

Variable		Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	DV Norway [c]	.06	.24	1													
2	DV Pacinno [c]	.94	.22	-.90**	1												
3	Gender [d]	1.61	0.50	.03	-.04	1											
4	Age [e]	2.79	1.05	.40**	-.45**	.04	1										
5	Education [f]	2.10	0.85	.16**	-.24**	.01	.10*	1									
6	Employment [g]	1.05	0.26	-.00	-.00	-.08*	.00	.06	1								
7	Cultural individualism	3.92	1.96	.24**	-.30**	.00	.08*	.14**	-.14**	1							
8	Metacognitive cultural intelligence	5.04	1.31	-.02	-.01	-.06	.03	.32**	.07	.17**	1						
9	Cognitive cultural intelligence	4.53	1.33	.21**	-.25**	.08*	.18**	.33**	.07	.10**	.66**	1					
10	Motivational cultural intelligence	4.75	1.33	-.07	.05	-.00	-.08*	.27**	.,06	.17**	.71**	.62**	1				
11	Behavioral cultural intelligence	4.38	1.43	-.36**	.38**	-.03	-.15**	.06	.08*	.03	.59**	.43**	.73**	1			
12	Cultural intelligence	4.68	1.15	-.08*	.05	-.00	-.00	.28**	.08*	.14**	.87**	.79**	.90**	.82**	1		
13	Task conflict	3.52	1.30	.40**	-.45**	.04	.15**	.07	-.05	.16**	-.27**	-.17**	-.25**	-.36**	0.31	1	
14	Creativity	4.84	1.17	.09*	-.13**	.10**	.11**	.29**	-.02	.23**	.50**	.43**	.46**	.32**	.50**	-.08*	1

[a] n = 617. [b] Coefficient alphas are on the diagonal in parentheses. [c] Dummy variables for two different data sets. [d] For gender, 1= "female," 2= "male". [e] For age 1 = "18 till 24," 2 = "25 till 34", 3 = "35 till 44," 4 = "45 till 54", 5 = "55 till 64," 6 = "65 or older". [f] For education 1 = "High school diploma", 2 = "Associate's degree", 3 = "Master's degree", 4= "Doctorate degree". [g] For employment age 1 = "Full time," 2 = "Temporary", 3 = "Part-time. *p < .05, **p<. 01, ***p < .001.

4.4.4 Hierarchical linear regression results at individual level

I conducted hierarchical ordinary least-squares regression to test my hypotheses if task conflict is negatively related to creativity and it cultural intelligence moderates the relationship between task conflict and creativity at the individual level. In order to complete the moderation regression, I followed the moderation procedures recommended by Aiken and West (1991). Therefore, in Step 1, I first enter the control variables; in Step 2, I added task conflict and cultural intelligence; and in Step 3, inserted their interaction. The results indicate that task conflict is negatively, yet non-significantly, related to creativity (ß = -0.03, *nsg*.) at the individual level (see Table 29, Step 2). Thus, my Hypothesis 12a is rejected. These results are no surprise, since research on task conflict and creativity equal. However cultural intelligence is positively related to individual creativity (ß = 0.44, $p < 0.001$). Moreover, the results show in Step 2 revealed that control variables gender (ß = 0.24, $p < 0.01$), education (ß = 0.17, $p < 0.01$) and cultural individualism (ß = 0.06, $p < 0.01$) are statistical significant predictors of creativity.

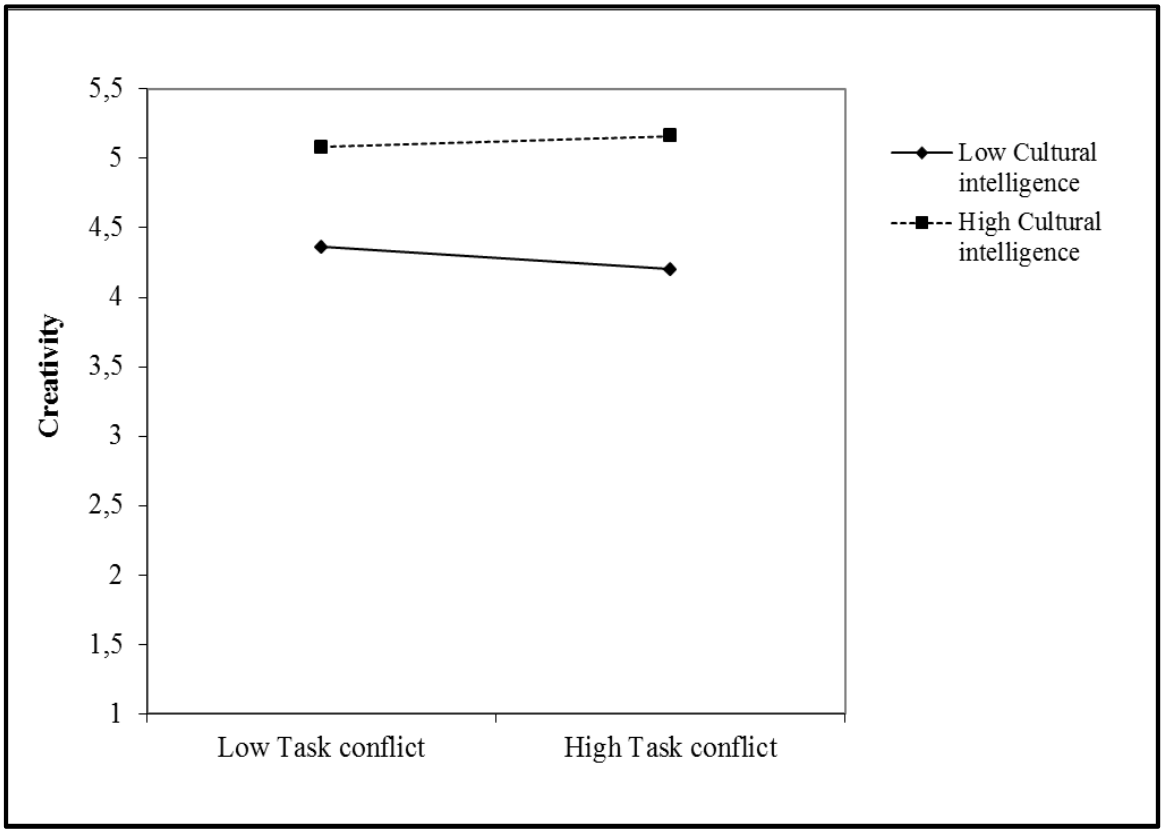
Furthermore, the results revealed in Step 3 that cultural intelligence moderates the relationship between task conflict and creativity (interaction = 0.06, $p < .01$) at individual level, thus, supporting Hypothesis 17a. Also from Table 29, Step 3 we can see, that task conflict was still non-significant negatively related to creativity (ß = -0.02, *nsg*.), yet cultural intelligence was positively related to creativity (ß = 0.42, $p < 0.001$). In addition, it is worth mentioning that the control variables gender (ß = 0.26, $p < 0.001$), education (ß = 0.16, $p < 0.01$) and cultural individualism (ß = 0.05, $p < 0.05$) are statistical significant related to individual creativity. Then, as Aiken and West (1991) suggested, I plotted the simple slopes for task conflict and creativity, at one standard deviation above and below the mean of cultural intelligence at individual level. The results of simple slopes for moderating effect of cultural intelligence on task conflict-creativity relationship at individual level are plotted in Figure 22.

Table 29*: Study 1 – hierarchical ordinary least-squares regression of moderating effect of cultural intelligence on task conflict – creativity relationship at individual level*

Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	3.26	.64		5.03***	4.54	.59		7.69***	4.70	.59		7.95***
DV Norway	-.31	.42	-.06	-.74	-.26	.37	-.05	-.69	-.33	.37	-.07	-.88
DV Pacinno	-.22	.48	-.04	-.45	-.71	.44	-.14	-1.60	-.78	.44	-.15	-1.77
Cultural individualism	.11	.02	.18	4.46***	.06	.02	.11	3.04**	.05	.02	.09	2.58*
Gender	.24	.09	.10	2.72**	.24	.08	.10	3.08**	.26	.08	.11	3.25***
Age	.08	.04	.07	1.80	.06	.04	.06	1.59	.06	.04	.05	1.46
Education	.35	.05	.25	6.38***	.17	.05	.12	3.27**	.16	.05	.11	3.15**
Employment	-.02	.17	-.00	-.16	-.22	.15	-.05	-1.43	-.22	.15	-.05	-1.45
Cultural intelligence					.44	.04	.44	11.19***	.42	.04	.42	10.77***
Task conflict					**-.03**	**.03**	**-.04**	**-1.05**	**-.02**	**.03**	**-.02**	**-.63**
Task conflict x cultural intelligence									**.06**	**.02**	**.09**	**2.67****
R^2				0.142***				0.323***				0.331***
F (df)				13.471 (7, 570)				30.062 (9, 568)				28.066 (10, 567)
ΔR^2				0.142***				0.181***				0.008**

[a] n = 617. [b] Coefficient alphas are on the diagonal in parentheses. [c] Dummy variables for two different data sets. [d] For gender, 1= "female," 2= "male". [e] For age 1 = "18 till 24," 2 = "25 till 34", 3 = "35 till 44," 4 = "45 till 54", 5 = "55 till 64," 6 = "65 or older". [f] For education 1 = "High school diploma", 2 = "Associate's degree", 3 = "Master's degree", 4= "Doctorate degree". [g] For employment age 1 = "Full time," 2 = "Temporary", 3 = "Part-time. *p < .05, **p<. 01, ***p < .001.

Figure 22*: Study 1 – simple slopes of moderating effect of cultural intelligence on task conflict – creativity relationship at individual level*



The results revealed that, when cultural intelligence was high, task conflict marginally significantly predicted a higher level of creativity ($b = 0.341$, $t = 1.75$, $p < 0.06$); when cultural intelligence was low, task conflict marginally significantly predicted a lower levels of creativity ($b = 0.21$, $t = 1.66$, $p < 0.06$). The simple slopes plotted in Figure 21 indicated that high cultural intelligence enhances individual creativity in high task conflict environment. However, with respect to my main Hypotheses 17a about the relationship between moderating the effect of cultural intelligence on the task conflict-creativity relationship, it is worth mentioning that the results of simple slopes were only marginally significant. That is no surprise, since I furthermore propose and hypothesize that the level of cultural intelligence (i.e., low, medium, high) plays a crucial part in the task conflict-creativity relationship in a culturally diverse environment. Thus, results are in line with my Hypothesis 18, which suggests that a moderate level of cultural intelligence is strengthened by the association between task conflict and creativity. I will test this hypothesis in Study 2. In order to test the moderating effect of each dimensions of cultural intelligence on the task conflict-creativity relationship, I split cultural intelligence into four dimensions and carried on additional hierarchical ordinary least-squares regression. The results of moderating effect of metacognitive cultural intelligence on task conflict – creativity relationship are presented in Table 30.

Table 30*: Study 1 – hierarchical ordinary least-squares regression of moderating effect of metacognitive cultural intelligence on task conflict - creativity relationships at individual level*

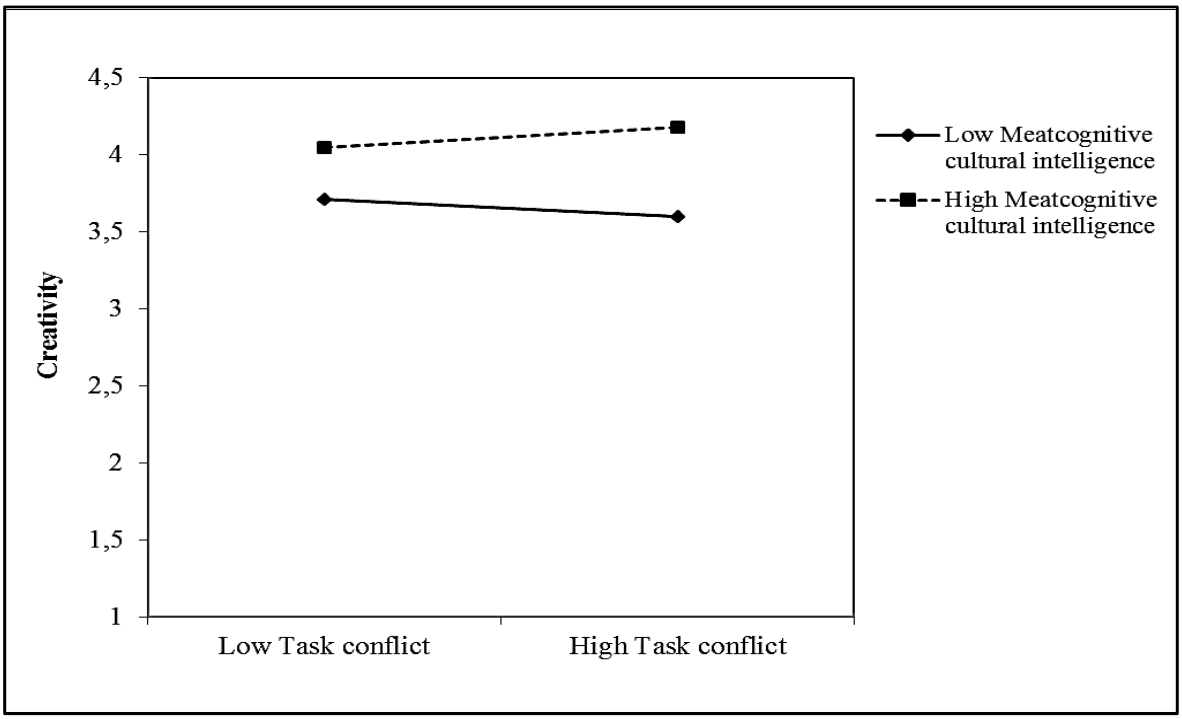
Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	4.27	.60		7.03***	4.44	.60		7.40***	4.59	.59		7.69***
DV Norway	-.29	.38	-.06	-.76	-.23	.37	-.05	-.61	-.31	.37	-.06	-.85
DV Pacinno	-.51	.46	-.10	-1.09	-.61	.46	-.12	-1.30	-.68	.46	-.13	-1.46
Gender	.22	.08	.09	2.70**	.28	.08	.12	3.53***	.30	.08	.13	3.75***
Age	.08	.04	.08	1.97*	.07	.04	.06	1.75	.07	.04	.06	1.64
Education	.18	.05	.13	3.36***	.14	.05	.10	2.73**	.14	.05	.10	2.67**
Employment	-.19	.15	-.04	-1.21	-.22	.15	-.05	-1.42	-.22	.15	-.05	-1.48
Cultural individualism	.07	.02	.12	3.14**	.05	.02	.09	2.59*	.04	.02	.08	2.12*
Cognitive cultural intelligence	.12	.04	.14	2.77**	.03	.04	.03	.68	.01	.04	.02	.38
Motivational cultural intelligence	.21	.05	.25	3.97***	.13	.05	.15	2.37**	.13	.05	.15	2.42*
Behavioral cultural intelligence	.07	.05	.08	1.39	.03	.05	.03	.60	.03	.04	.03	.64
Metacognitive cultural intelligence					.25	.04	.28	5.11***	.24	.04	.27	4.88***
Task conflict					**-.03**	**.03**	**-.03**	**-.85**	**-.02**	**.03**	**-.02**	**-.59**
Task conflict x Metacognitive cultural intelligence									**.06**	**.02**	**.11**	**3.19*** **
R^2				0.302***				0.335***				0.347***
F (df)				24.4797(10, 568)				23.735 (12, 565)				23.051 (13, 564)
ΔR^2				0.302***				0.034***				0.012***

[a] n = 617. [b] Coefficient alphas are on the diagonal in parentheses. [c] Dummy variables for two different data sets. [d] For gender, 1= "female," 2= "male". [e] For age 1 = "18 till 24," 2 = "25 till 34", 3 = "35 till 44," 4 = "45 till 54", 5 = "55 till 64," 6 = "65 or older". [f] For education 1 = "High school diploma", 2 = "Associate's degree", 3 = "Master's degree", 4= "Doctorate degree". [g] For employment age 1 = "Full time," 2 = "Temporary", 3 = "Part-time. *p < .05, **p<. 01, ***p < .001.

As you can see in Table 30 in Step 1, I first enter the control variables; in Step 2, I added task conflict and metacognitive cultural intelligence; and in Step 3, inserted their interaction. However, the results rejected Hypothesis 12a by raveling that task conflict is negatively, yet non-significantly, related to creativity (ß = -0.03, *nsg.*) at the individual level (see Table 30, column two). Also results indicate that control variables gender (ß = 0.28, $p < 0.001$), education (ß = 0.14, $p < 0.01$), cultural individualism (ß = 0.05, $p < 0.001$), and motivational cultural intelligence (ß = 0.13, $p < 0.01$) are statistical related to individual creativity. Furthermore, metacognitive cultural intelligence (ß = 0.25, $p < 0.001$) is positively related to creativity at the individual level. The interaction of task conflict and metacognitive cultural intelligence (ß = 0.06, $p < 0.001$) has positively impact to creativity at the individual level (see Table 29, Step 3). Thus, my Hypothesis 13a is supported.

The results in Step 3 furthermore reveal that control variables gender (ß = 0.30, $p < 0.001$), education (ß = 0.14, $p < 0.01$), cultural individualism (ß = 0.04, $p < 0.05$), and motivational cultural intelligence (ß = 0.13, $p < 0.05$) are statistical related to individual creativity. Metacognitive cultural intelligence (ß = 0.243, $p < 0.001$) is also in Step 3 statistically significant and positively related to creativity at the individual level. However, task conflict is negatively, yet non-significantly, related to creativity (ß = -0.02, *nsg.*) in Step 3. In order to get better interpretation of results, I plotted the simple slopes for task conflict and creativity, at one standard deviation above and below the mean of metacognitive cultural intelligence at individual level in Figure 23.

Figure 23*: Study 1 – simple slopes of moderating effect of metacognitive cultural intelligence on task conflict – creativity relationship at individual level*



As, we can see from the Figure 23, the results revealed that, when metacognitive cultural intelligence was high, task conflict predicted a higher level of creativity (b = 0.33, t = 8.133, p < 0.000); when cultural intelligence was low, task conflict also predicted creativity, yet lower levels (b = 0.21, t = 5.53, p < 0.001). Thus, simple slopes are in line with my Hypothesis 13a, that metacognitive cultural intelligence buffers the negative relationship between task conflict and creativity at individual level. Then I conducted, hierarchical ordinary least-squares regression in order to reveal the moderating effect of cognitive cultural intelligence on task conflict – creativity relationship (see Table 31).

The results in Table 31 again reveled that task conflict is negatively, yet non-significantly, related to creativity (ß = -0.03, *nsg*) at the individual level (see Step 2). Cognitive cultural intelligence is positively, yet non-significantly, related to creativity (ß = 0.03, *nsg*) at the individual level (see Step two). Moreover, results indicate that control variables gender (ß = 0.28, p < 0.001), education (ß = 0.14, p < 0.01), cultural individualism (ß = 0.05, p < 0.05), metacognitive cultural intelligence (ß = 0.25, p < 0.001), and motivational cultural intelligence (ß = 0.13, p < 0.05) in Step 2 are statistical related to individual creativity. At this point, I would like to stress that the significant R change (ΔR^2 = 0.002, *nsg*.) in Step 2 is statistical non-significant. However, in Step 3 R change (ΔR^2 = 0.007, p < 0.01) is statistical significant.

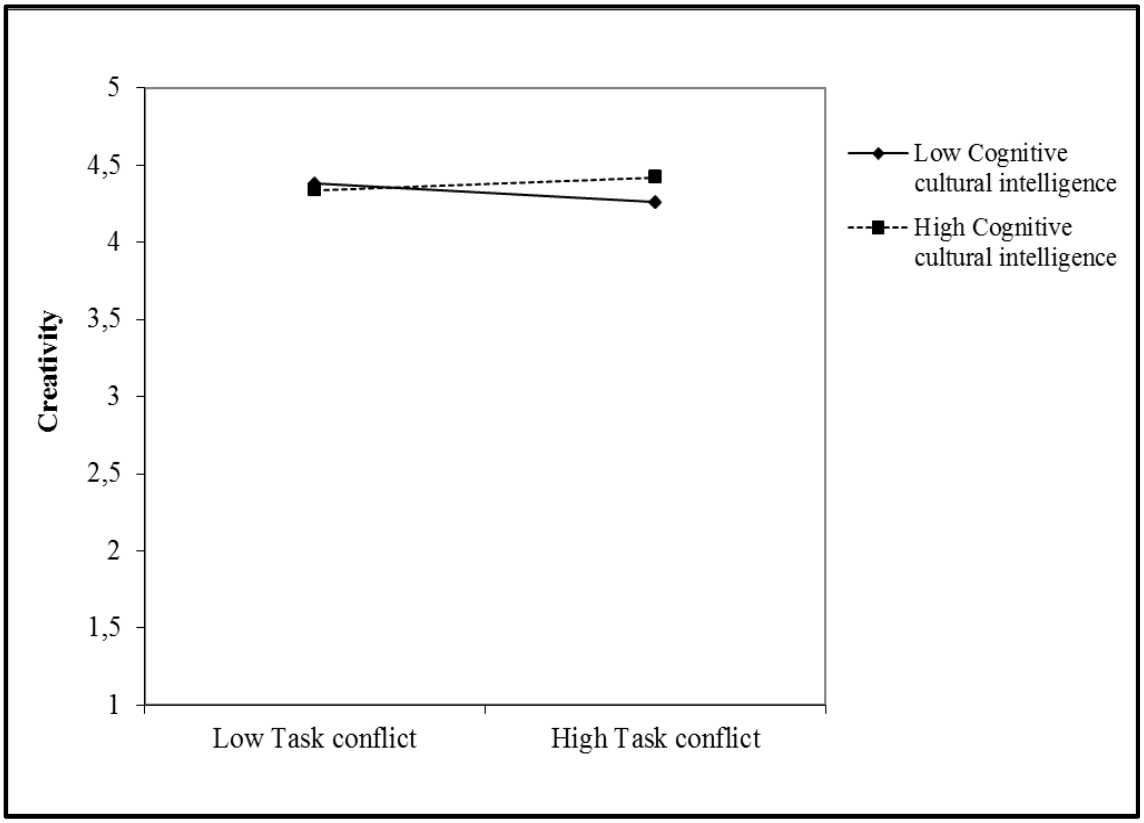
Moreover, the results presented in Table 31 reveled that interaction between cognitive cultural intelligence and task conflict (ß = 0.05, p < 0.05) has positive effect on creativity at individual level (see Step 3). Thus, my Hypothesis 14a is supported. Moreover, it is worth to mentioned that cognitive cultural intelligence is positively, yet non-significantly, related to creativity (ß = 0.03, *nsg*) at the individual level (see Step 3). The results in Step 3 also reveal that control variables gender (ß = 0.29, p < 0.001), education (ß = 0.14, p < 0.01), cultural individualism (ß = 0.05, p < 0.05), metacognitive cultural intelligence (ß = 0.24, p < 0.001), and motivational cultural intelligence (ß = 0.14, p < 0.05) are statistical related to individual creativity. While, Hypothesis 14a was supported, I plotted the simple slopes for task conflict and creativity, at one standard deviation above and below the mean of cognitive cultural intelligence at individual level in order to get representation of the results. The simple slopes for moderating effect of cognitive cultural intelligence on task conflict-creativity relationship at individual level are plotted in Figure 24.

Table 31*: Study 1 – hierarchical ordinary least-squares regression of moderating effect of cognitive cultural intelligence on task conflict - creativity relationship at individual level*

Variable	**Step 1**				**Step 2**				**Step 3**			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	4.40	.59		7.45***	4.44	.60		7.40***	4.35	.59		7.26***
DV Norway	-.22	.37	-.04	-.59	-.23	.37	-.05	-.61	-.29	.37	-.06	-.79
DV Pacinno	-.58	.44	-.11	-1.30	-.61	.46	-.12	-1.30	-.44	.47	-.08	-.94
Gender	.29	.08	.12	3.66***	.28	.08	.12	3.53***	.29	.08	.12	3.67***
Age	.08	.04	.07	1.90	.07	.04	.06	1.75	.07	.04	.06	1.60
Education	.14	.05	.10	2.75**	.14	.05	.10	2.73**	.14	.05	.10	2.71**
Employment	-.21	.15	-.04	-1.40	-.22	.15	-.05	-1.42	-.22	.15	-.05	-1.44
Cultural individualism	.05	.02	.09	2.44*	.05	.02	.09	2.59*	.05	.02	.08	2.16*
Metacognitive cultural intelligence	.27	.04	.31	5.94***	.25	.04	.28	5.11***	.24	.04	.27	4.88***
Motivational cultural intelligence	.14	.05	.16	2.69**	.13	.05	.15	2.37*	.14	.05	.16	2.50*
Behavioral cultural intelligence	.03	.04	.04	.71	.03	.05	.03	.60	.02	.05	.03	.49
Cognitive cultural intelligence					.03	.04	.03	.68	.03	.04	.03	.65
Task conflict					**-.03**	**.03**	**-.03**	**-.85**	**-.01**	**.03**	**-.01**	**.29**
Task conflict x Cognitive cultural intelligence									**.05**	**.02**	**.10**	**2.46***
R^2				0.334***				0.335***				0.342***
F (df)				28.376 (10, 567)				23.735 (12, 565)				22.574 (13, 564)
ΔR^2				0.334***				0.002				0.007*

[a] n = 617. [b] Coefficient alphas are on the diagonal in parentheses. [c] Dummy variables for two different data sets. [d] For gender, 1= "female," 2= "male". [e] For age 1 = "18 till 24," 2 = "25 till 34", 3 = "35 till 44," 4 = "45 till 54", 5 = "55 till 64," 6 = "65 or older". [f] For education 1 = "High school diploma", 2 = "Associate's degree", 3 = "Master's degree", 4= "Doctorate degree". [g] For employment age 1 = "Full time," 2 = "Temporary", 3 = "Part-time. *p < .05, **p<. 01, ***p < .001.

Figure 24*: Study 1 – simple slopes of moderating effect of cognitive cultural intelligence on task conflict – creativity relationship at individual level*



The Figure 24 revealed that, when cognitive cultural intelligence was high, task conflict significantly predicted a higher level of creativity ($b = 0.26$, $t = 6.60$, $p < 0.000$). When cultural intelligence was lower, task conflict predicted lower levels of creativity ($b = 0.16$, $t = 4.44$, $p < 0.000$). As such, simple slopes indicate that cognitive cultural intelligence indeed buffers the negative relationship between task conflict and creativity at individual level. Thus, results of simple slopes support my Hypothesis 14a. Then I conducted, hierarchical ordinary least-squares regression in order to reveal the moderating effect of motivational cultural intelligence on the relationship between task conflict and creativity at individual level (see Table 32).

Table 32*: Study 1 – hierarchical ordinary least-squares regression of moderating effect of motivational cultural intelligence on task conflict - creativity relationship at individual level*

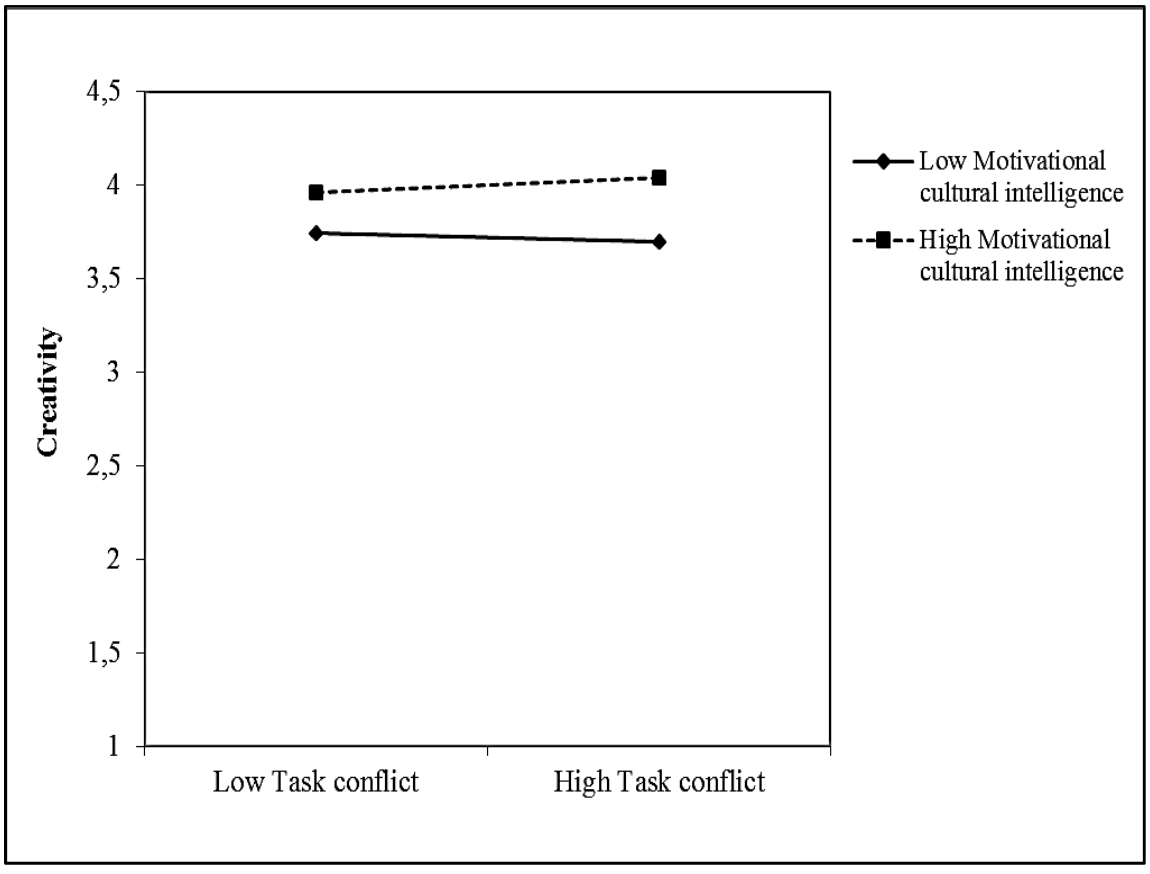
Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	4.43	.59		7.44***	4.44	.60		7.40***	4.52	.60		7.54***
DV Norway	-.21	.37	-.04	-.56	-.23	.37	-.05	-.61	-.27	.37	-.05	-.73
DV Pacinno	-.57	.45	-.11	-1.27	-.61	.46	-.12	-1.30	-.63	.46	-.12	-1.36
Gender	.28	.08	.12	3.49***	.28	.08	.12	3.53***	.29	.08	.12	3.66***
Age	.06	.04	.05	1.37	.07	.04	.06	1.75	.07	.04	.06	1.65
Education	.15	.05	.11	3.01**	.14	.05	.10	2.73**	.14	.05	.10	2.63**
Employment	-.22	.15	-.05	-1.43	-.22	.15	-.05	-1.42	-.22	.15	-.05	-1.44
Cultural individualism	.06	.02	.10	2.76**	.05	.02	.09	2.59**	.05	.02	.09	2.33*
Metacognitive cultural intelligence	.29	.04	.33	6.18***	.25	.04	.28	5.11***	.24	.04	.28	5.05***
Cognitive cultural intelligence	.06	.04	.07	1.46	.03	.04	.03	.68	.03	.04	.03	.69
Behavioral cultural intelligence	.09	.04	.11	2.17**	.03	.05	.03	.60	.02	.05	.02	.44
Motivational cultural intelligence					.13	.05	.15	2.37**	.13	.05	.15	2.40*
Task conflict					**-.03**	**.03**	**-.03**	**-.85**	**-.02**	**.03**	**-.02**	**-.58**
Task conflict x Motivational cultural intelligence									**.04**	**.02**	**.07**	**2.07***
R^2				0.328***				0.337***				0.341*
F (df)				27.618 (10, 567)				22.255 (12, 565)				22.369 (13, 564)
ΔR^2				0.328***				0.008*				0.005*

[a] n = 617. [b] Coefficient alphas are on the diagonal in parentheses. [c] Dummy variables for two different data sets. [d] For gender, 1= "female," 2= "male". [e] For age 1 = "18 till 24," 2 = "25 till 34", 3 = "35 till 44," 4 = "45 till 54", 5 = "55 till 64," 6 = "65 or older". [f] For education 1 = "High school diploma", 2 = "Associate's degree", 3 = "Master's degree", 4= "Doctorate degree". [g] For employment age 1 = "Full time," 2 = "Temporary", 3 = "Part-time. †p<.10, *p < .05, **p<. 01, ***p < .001.

The results of hierarchical ordinary least-squares regression rejected Hypothesis 12a by raveling that task conflict is negatively, yet non-significantly, related to creativity (ß = -0.03, *nsg*) at the individual level (see Table 32, Step 2). Yet, control variables gender (ß = 0.28, $p < 0.001$), education (ß = 0.14, $p < 0.01$), cultural individualism (ß = 0.05, $p < 0.001$), and metacognitive cultural intelligence (ß = 0.25, $p < 0.001$) are statistical related to individual creativity. Also, motivational cultural intelligence (ß = 0.13, $p < 0.01$) is positively related to creativity at the individual level.

Regarding my main hypothesis, the interaction of task conflict and motivational cultural intelligence (ß = 0.04, $p < 0.05$) is significant and positively impact creativity at the individual level (see Table 32, Step 3). Thus, my Hypothesis 15a is supported. The results in Step 3 furthermore reveal that control variables gender (ß = 0.29, $p < 0.001$), education (ß = 0.14, $p < 0.05$), metacognitive cultural intelligence (ß = 0.23, $p < 0.001$) are statistical related to individual creativity. Motivational cultural intelligence (ß = 0.13, $p < 0.001$) is also in Step 3 statistically significant and positively related to creativity at the individual level. In order to get better interpretation of results, I plotted the simple slopes for task conflict and creativity, at one standard deviation above and below the mean of metacognitive cultural intelligence at individual level in Figure 25.

Figure 25*: Study 1 – simple slopes of moderating effect of motivational cultural intelligence on task conflict – creativity relationship at individual level*



The Figure 25 revealed that, when motivational cultural intelligence was high, task conflict significantly predicted a higher level of creativity (b = 0.21, t = 5.16, p < 0.001); when motivational cultural intelligence was low, task conflict predicted lower levels of creativity (b = 0.13, t = 3.44, p < 0.001). Simple slopes are in line with my proposal and revel that motivational cultural intelligence buffers the negative relationship between task conflict and creativity at individual level. Thus, Figure 25 support my Hypothesis 15a. At last I conducted, hierarchical ordinary least-squares regression in order to reveal the moderating effect of behavioral cultural intelligence on task conflict – creativity relationship (see Table 33).

The results of hierarchical ordinary least-squares regression presented in Table 33 reveled that R change (ΔR^2 = 0.001, *nsg*.) in Step 2 and R change (ΔR^2 = 0.003, *nsg*.) in Step 3 are non-significant. Moreover, the interaction of task conflict and behavioral cultural intelligence (ß = 0.03, *nsg*.) had also non-significant impact to creativity at the individual level (see Table 33, Step 3). Thus, the Hypothesis 16a is rejected. While the moderating effect of behavioral cultural intelligence on the relationship between task conflict and creativity was statistical non-significant, I did not plots the simple slopes. I continued my analysis in order to test my hypothesis on team level. I used bottom up approach and aggregate the individual-level measures of the cultural intelligence, task conflict and creativity on group level.

Table 33*: Study 1 – hierarchical ordinary least-squares regression of moderating effect of behavioral cultural intelligence on task conflict - creativity relationship at individual level*

Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	4.29	.58		7.41***	4.44	.60		7.40***	4.72	.62		7.58***
DV Norway [a]	-.22	.37	-.04	-.60	-.23	.37	-.05	-.61	-.26	.37	-.05	-.70
DV Pacinno [a]	-.44	.43	-.08	-1.02	-.61	.46	-.12	-1.30	-.84	.48	-.16	-1.72
Gender	.28	.08	.12	3.50***	.28	.08	.12	3.53***	.28	.08	.12	3.57***
Age	.08	.04	.07	1.87	.07	.04	.06	1.75	.07	.04	.06	1.72
Education	.13	.05	.09	2.60**	.14	.05	.10	2.73**	.13	.05	.10	2.61**
Employment	-.21	.15	-.04	-1.37	-.22	.15	-.05	-1.42	-.21	.15	-.04	-1.39
Cultural individualism	.05	.02	.09	2.56*	.05	.02	.09	2.59*	.05	.02	.08	2.29*
Metacognitive cultural intelligence	.26	.04	.29	5.43***	.25	.04	.28	5.11***	.25	.04	.28	5.14***
Cognitive cultural intelligence	.04	.04	.04	.89	.03	.04	.03	.68	.02	.04	.03	.57
Motivational cultural intelligence	.15	.04	.17	3.18**	.13	.05	.15	2.37**	.12	.05	.14	2.28*
Behavioral cultural intelligence					.03	.05	.03	.60	.03	.05	.04	.67
Task conflict					**-.03**	**.03**	**-.03**	**-.85**	**-.02**	**.03**	**-.02**	**-.69**
Task conflict x Behavioral cultural intelligence									**.03**	**.02**	**.06**	**1.63**
R^2				0.334***				0.335				0.338
F (df)				28.419 (10, 567)				23.735 (12, 565)				22.179 (13, 564)
ΔR^2				0.334***				0.001				0.003

[a] n = 617. [b] Coefficient alphas are on the diagonal in parentheses. [c] Dummy variables for two different data sets. [d] For gender, 1= "female," 2= "male". [e] For age 1 = "18 till 24," 2 = "25 till 34", 3 = "35 till 44," 4 = "45 till 54", 5 = "55 till 64," 6 = "65 or older". [f] For education 1 = "High school diploma", 2 = "Associate's degree", 3 = "Master's degree", 4= "Doctorate degree". [g] For employment age 1 = "Full time," 2 = "Temporary", 3 = "Part-time. *p < .05, **p<. 01, ***p < .001.

4.4.5 Descriptive statistics, validity, and reliability at team level

Data on team level is part of the Paccino project, yet the task conflict variable was measured only in six Adriatic countries: Slovenia, Serbia, Albania, Italy, Montenegro, and Bosnia and Herzegovina. Thus, the dataset consisted of two hierarchically nested levels: 583 employees (level-1) nested within 47 groups (level-2), with each group having its own supervisor. Therefore, I first tested the multi-item within-group agreement (rwg(J)) and interclass correlations (ICCs) in order to validate the aggregation of individual-level measures of cultural intelligence, metacognitive cultural intelligence, motivational cultural intelligence, behavioral cultural intelligence, task conflict and creativity on the group level.

For cultural intelligence, the average rwg(8) was .86, ranging from .38 to .94 with ICC(1) at .44 and ICC(2) at .91 ($F = 11.69$, $p = 0.000$). For metacognitive cultural intelligence, the average rwg(8) was .78, ranging from .59 to .96 with ICC(1) at .41 and ICC(2) at .91 ($F = 10.81$, $p = 0.000$). For cognitive cultural intelligence, the average rwg(8) was .74, ranging from .27 to .97 with ICC(1) at .44 and ICC(2) at .92 ($F = 11.96$, $p = 0.000$). For motivational cultural intelligence, the average rwg(8) was .74, ranging from .29 to .96 with ICC(1) at .41 and ICC(2) at .91 ($F = 10.54$, $p = 0.000$). For behavioral cultural intelligence, the average rwg(8) was .65, ranging from .20 to .97 with ICC(1) at .32 and ICC(2) at .87 ($F = 7.60$, $p = 0.000$). For creativity, the average rwg(8) was .86, ranging from .15 to .97 with ICC(1) at .32 and ICC(2) at .87 ($F =7.62$, $p = 0.000$). For task conflict, the average rwg(8) was .80, ranging from .39 to .94 with ICC(1) at .39 and ICC(2) at .90 ($F = 9.81$, $p = 0.000$). The multi-item within-group agreement and interclass correlations are with gantlines, thus I continued with the analysis. Table 34 presents means, standard deviations, and correlations for the key study variables at team level.

Table 34*: Study 1 - means, standard deviation, and correlations of variables used in analyzing moderating effect of cultural intelligence on task conflict - creativity relationship at team level*

Variable		Mean	s.d.	1	2	3	4	5	6	7	8
1	Team	34.83	17.91	1							
2	Metacognitive cultural intelligence	4.81	1.06	-.51**	1						
3	Cognitive cultural intelligence	4.00	1.02	-.44**	.75**	1					
4	Motivational cultural intelligence	4.67	1.07	-.57**	.92**	.70**	1				
5	Behavioral cultural intelligence	4.28	0.96	-.57**	.79**	.71**	.88**	1			
6	Cultural intelligence	4.44	0.95	-.57**	.94**	.86**	.95**	.99**	1		
7	Task conflict	3.68	0.88	.23	-.65**	-.74**	-.65**	-.61**	-.73**	1	
8	Creativity	4.72	0.83	-.54**	.83**	.55**	.84**	.70**	.81**	-.55**	1

[a]n = 42. *p < .05, **p < .01, ***p < .001.

4.4.6 Hierarchical linear regression analysis results at team level

I conducted hierarchical linear regression to test weather task conflict is negatively related to creativity and moreover if cultural intelligence moderates the relationship between task conflict and creativity at the team level. In order to complete the moderation regression, I followed the moderation procedures recommended by Aiken and West (1991). Therefore, in Step 1, I first enter the control variable; in Step 2, I added task conflict and cultural intelligence; and in Step 3, inserted their interaction at team level. The results indicate that task conflict is positively, yet non-significantly, related to creativity (ß = 0.03, *nsg*) at the team level (see Table 35, Step 2). Thus, my Hypothesis 12b is rejected. This results are no surprise, since research on task conflict and creativity equal.

However cultural intelligence is statistical significant related to creativity (ß = 0.68, $p < 0.001$, Step 2) at team level. Furthermore, the results revealed in Step 3 that interaction between cultural intelligence and task conflict (ß = -0.03, *nsg*.) has negatively, yet non-significant impact on creativity at team level. Thus, Hypothesis 17b is rejected. It is worth mentioning that cultural intelligence (ß = 0.72, $p < 0.001$) was positive and statistical significant related to creativity at team level also in Step 3 (see Table 34). While results indicate that the cultural intelligence does not moderate the relationship between task conflict and creativity at team level, I did not I plotted the simple slopes for task conflict and creativity, at one standard deviation above and below the mean of cultural intelligence at team level.

Then, I divided cultural intelligence on four dimensions and separately tested weather cultural intelligence dimensions have moderating effect on association between task conflict and creativity at team level. First I conducted, hierarchical ordinary least-squares regression in order to reveal the moderating effect of metacognitive cultural intelligence on task conflict – creativity relationship at team level. In Step 1, I first enter the control variable (team, cognitive, motivational and behavioral cultural intelligence); in Step 2, I added task conflict and metacognitive cultural intelligence. Yet, in Step 2 the collinearity diagnostic reveled that my control variable motivational cultural intelligence (VIF = 13.223) and behavioral cultural intelligence (VIF = 5.548) have high variance inflation factors were high and there was multicollinearity in the model. Thus, I removed motivational and behavioral cultural intelligence as control variable and continued with my analyses. In Step 3, I added interaction between metacognitive cultural intelligence and task conflict. The results of hierarchical linear regression in analyzing moderating effect of metacognitive cultural intelligence on task conflict – creativity relationship at team level are presented in Table 35.

Table 35*: Study 1 – hierarchical linear regression analyses results of moderating effect of cultural intelligence on task conflict – creativity relationship at team level*

Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	5.59	0.24		23.21***	4.68	0.23		19.85***	4.62	0.29		15.73
Team	-0.02	0.00	-0.54	-406***	-0.00	0.00	-0.10	-0.85	-0.00	0.00	-0.08	-0.67
Team Cultural intelligence					0.68	0.14	0.78	4.58***	0.72	0.20	0.83	3.64***
Team task conflict					**0.03**	**0.13**	**0.04**	**0.28**	**0.04**	**0.13**	**0.04**	**0.30**
Team cultural intelligence x Team task conflict									**-0.03**	**0.10**	**-0.05**	**-0.34**
R^2				0.293***				0.669***				0.670
F (df)				16.542 (1, 40)				25.572 (3, 38)				18.763 (4,37)
ΔR^2				0.293***				0.376***				0.001

n = 42. Values in bold are relevant to tests of hypotheses. *p < .05, **p < .01, ***p < .001.

Table 36*: Study 1 – hierarchical linear regression analyses results of moderating effect of metacognitive cultural intelligence on task conflict - creativity relationship at team level*

Variable	Model 1				Model 2				Model 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	5.29	0.24		21.52***	4.75	0.19		23.90***	4.66	0.22		20.39***
Team	-0.01	0.00	-9.36	-2.66*	-0.00	0.00	-0.20	-2.03*	-0.00	0.00	-0.18	-1.82
Cognitive cultural intelligence	0.31	0.11	9.39	2.88**	-0.26	0.12	-0.32	-2.15*	-0.25	0.12	-0.31	-2.05*
Metacognitive cultural intelligence					0.65	0.10	0.84	6.13***	0.70	0.12	0.90	5.68***
Task conflict					**-0.19**	**0.12**	**-0.20**	**-1.53**	**-0.19**	**0.12**	**-0.20**	**-1.55**
Metacognitive cultural intelligence x Task conflict									**-0.06**	**0.07**	**-0.09**	**-0.76**
R^2				0.417***				0.746***				0.750
F (df)				13.927 (2, 39)				27.115 (4, 37)				21.567 (7,44)
ΔR^2				0.417***				0.329***				0.004

n = 42. Values in bold are relevant to tests of hypotheses. *p < .05, **p < .01, ***p < .001.

The results presented in Table 36 revealed that interaction between metacognitive cultural intelligence and task conflict (ß = -0.06, *nsg*.) has negatively, yet non-significant impact on creativity at team level (see Step 3). Thus, Hypothesis 13b is rejected. It is worth mentioning that metacognitive cultural intelligence (ß = 0.70, p < 0.001) was positive and statistical significant related to creativity at team level also in Step 3 (see Table 36). While results indicate that the metacognitive cultural intelligence does not moderate the relationship between task conflict and creativity at team level, I did not I plotted the simple slopes for task conflict and creativity, at one standard deviation above and below the mean of metacognitive cultural intelligence at team level.

Then, I conducted hierarchical linear regression in order to reveal the moderating effect of cognitive cultural intelligence on task conflict – creativity relationship at team level. In Step 1, I first enter the control variable (team, metacognitive, motivational and behavioral cultural intelligence); in Step 2, I added task conflict and metacognitive cultural intelligence. Yet, in Step 2 the collinearity diagnostic reveled that my control variable metacognitive cultural intelligence (VIF = 8.920), motivational cultural intelligence (VIF = 14.321) and behavioral cultural intelligence (VIF = 5.628) have high variance inflation factors were high and there was multicollinearity in the model. Thus, I removed metacognitive, motivational and behavioral cultural intelligence as control variable and continued with my analyses.

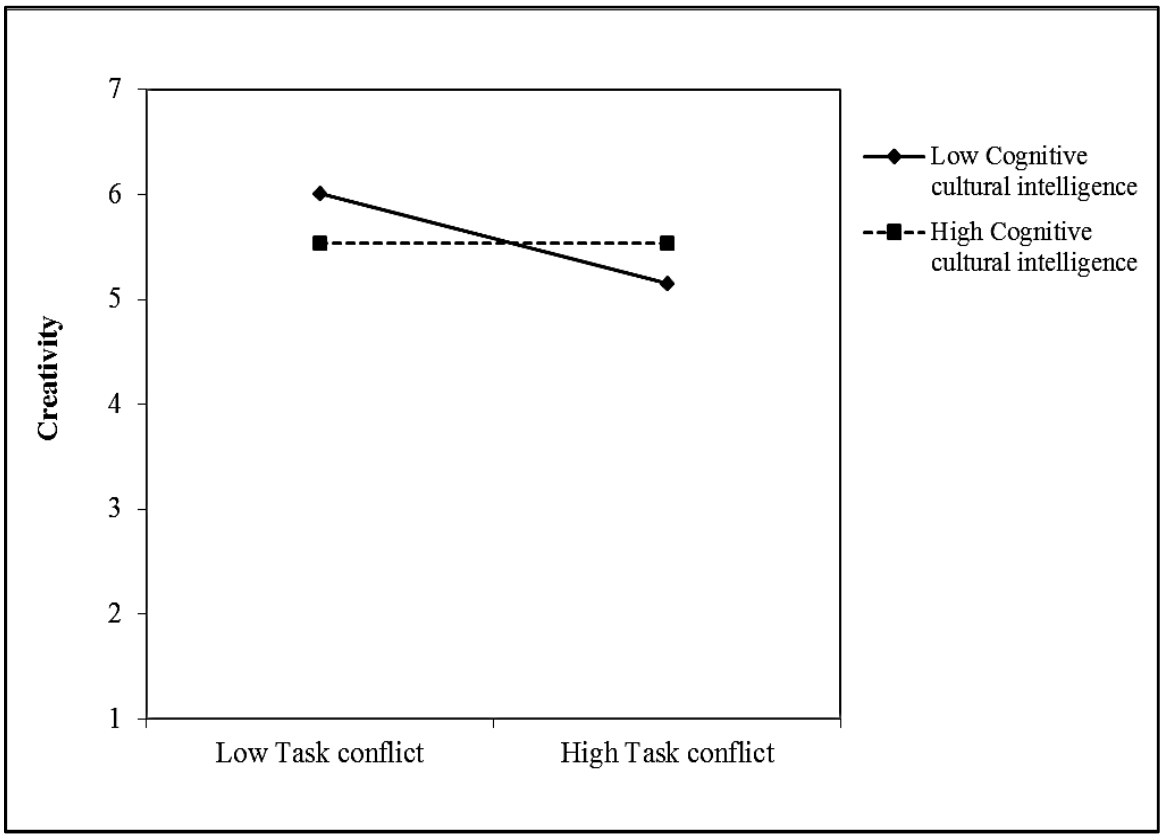
In Step 3, I added interaction between cognitive cultural intelligence and task conflict. Hierarchical ordinary least-squares regression reveled that cognitive cultural intelligence (ß = 0.21, $p < 0.057$) has marginally moderating effect on task conflict – creativity relationship at team level are presented (see Table 37, Step 3). Thus, results marginally supports my Hypothesis 14b. Moreover, results indicate that task conflict (ß = -0.38, $p < 0.01$) is negatively related to creativity at team level (see Table 37, Step 2). Thus, partly supporting Hypothesis 12b. In order to get better interpretation of results, I plotted the simple slopes for task conflict and creativity, at one standard deviation above and below the mean of cognitive cultural intelligence at team level in Figure 26.

Table 37*: Study 1 – hierarchical linear regression analyses results of moderating effect of cognitive cultural intelligence on task conflict - creativity relationship at team level*

	Model 1				Model 2				Model 3			
Variable	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	5.59	0.24		23.21***	5.38	0.23		22.70***	5.56	0.24		22.68***
Team	-0.02	0.00	-0.54	-4.06***	-0.01	0.00	-0.41	-3.13**	-0.02	0.00	-0.42	-3.37**
Cognitive cultural intelligence					0.05	0.15	0.06	0.35	-0.02	0.15	-0.03	-0.15
Task conflict					**-0.38**	**0.16**	**-0.40**	**-2.28***	**-0.21**	**0.18**	**-0.22**	**-1.18**
Cognitive cultural intelligence x Task conflict									**0.21**	**0.10**	**0.33**	**1.96†**
R^2				0.293***				0.487***				0.536***
F (df)				16.542 (1, 41)				12.030 (3, 38)				10.669 (4,37)
ΔR^2				0.293***				0.195**				0.049†

n = 42. Values in bold are relevant to tests of hypotheses. . †p<.10, *p < .05, **p < .01, ***p < .001.

Figure 26*: Study 1 – simple slopes of moderating effect of cognitive cultural intelligence on task conflict – creativity relationship at team level*



The Figure 26 revealed that, when cognitive cultural intelligence was high, task conflict non-significantly predicted almost insignificant a higher level of creativity (b = 0.00, t = 0.01, p < *nsg*.); when cognitive cultural intelligence was low, task conflict predicted lower levels of creativity (b = -0.434, t = 2.633 p < 0.05). Simple slopes reveled that cognitive cultural intelligence buffers the negative relationship between task conflict and creativity at team level. Thus, Hypothesis 14b is marginally supported.

Then I conducted, another hierarchical linear regression in order to reveal the moderating effect of motivational cultural intelligence on task conflict – creativity relationship at team level (see Table 38). In Step 1, I first enter the control variable (team, metacognitive, cognitive and behavioral cultural intelligence); in Step 2, I added task conflict and motivational cultural intelligence. Yet, in Step 2 the collinearity diagnostic reveled that my control variable metacognitive cultural intelligence (VIF = 8.984), and behavioral cultural intelligence (VIF = 5.555) have high variance inflation factors were high and there was multicollinearity in the model. Thus, I removed metacognitive and behavioral cultural intelligence as control variable and continued with my analyses. In Step 3, I added interaction between motivational cultural intelligence and task conflict (see Table 38).

Table 38*: Study 1 – hierarchical linear regression analyses results of moderating effect of motivational cultural intelligence on task conflict - creativity relationship at team level*

Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	5.29	0.24		21.52***	4.68	0.21		21.64***	4.47	0.27		16.29***
Team	-0.01	0.00	-0.36	-2.66*	-0.00	0.00	-0.11	-1.02	-0.00	0.00	-0.05	-0.43
Cognitive cultural intelligence	0.31	0.11	0.39	2.88**	-0.10	0.12	-0.13	-0.89	-0.07	0.12	-0.09	-0.64
Motivational cultural intelligence					0.62	0.11	0.80	5.59***	0.76	0.15	0.98	4.93***
Task conflict					**-0.09**	**0.13**	**-0.09**	**-0.68**	**-0.06**	**0.13**	**-0.06**	**-0.44**
Motivational cultural intelligence x Task conflict									**-0.11**	**0.08**	**-0.18**	**-1.27**
R^2				0.417***				0.722***				0.734
F (df)				13.927 (2, 39)				24.058 (4, 37)				5.802 (5,36)
ΔR^2				0.417***				0.306				0.012

n = 42. Values in bold are relevant to tests of hypotheses. *p < .05, **p < .01, ***p < .001.

The hierarchical linear regression reveled that interaction between motivational cultural intelligence and task conflict (ß = -0.11, *nsg*.) is non-significant on creativity at team level (see Table 38, Step 3). Thus, Hypothesis 15b is rejected. Results indicate that only motivational cultural intelligence (ß = 0.62, $p < 0.001$) is positively related to creativity at team level (see Table 38, Step 2). Since, interaction between motivational cultural intelligence and task conflict was statistical non-significant, I did not plotted the simple slopes. Then, I conducted hierarchical linear regression in order to reveal the moderating effect of behavioral cultural intelligence on task conflict – creativity relationship at team level (see Table 39).

In Step 1, I first enter the control variable (team, metacognitive, cognitive and motivational cultural intelligence); in Step 2, I added task conflict and behavioral cultural intelligence. Yet, in Step 2 the collinearity diagnostic reveled that my control variable metacognitive cultural intelligence (VIF = 8.840), and motivational cultural intelligence (VIF = 13.223) have high variance inflation factors were high and there was multicollinearity in the model. Thus, I removed metacognitive and motivational cultural intelligence as control variable and continued with my analyses. In Step 3, I added interaction between behavioral cultural intelligence and task conflict. The results of hierarchical linear regression in Table 39 reveled that interaction between behavioral cultural intelligence and task conflict (ß = 0.12, *nsg*.) is non-significant related to creativity at team level (see Step three). Thus, Hypothesis 16b is rejected. Results indicate that only behavioral cultural intelligence (ß = 0.48, $p < 0.01$) is positively related to creativity at team level (see Table 38, Step 2). Since, interaction between behavioral cultural intelligence and task conflict was statistical non-significant, I did not plotted the simple slopes.

Table 39*: Study 1 – hierarchical linear regression analyses results of moderating effect of behavioral cultural intelligence on task conflict - creativity relationship at team level*

Variable	Step 1				Step 2				Step 3			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Constant	5.29	0.24		21.52***	4.96	0.24		20.01***	5.11	0.27		18.84***
Team	-0.01	0.00	-0.36	-2.66*	-0.01	0.00	-0.21	-1.63	-0.01	0.00	-0.24	-1.85
Cognitive cultural intelligence	0.31	0.11	0.39	2.88**	-0.09	0.14	-0.11	-0.62	-0.10	0.14	-0.13	-0.74
Behavioral cultural intelligence					0.48	0.14	0.56	3.25**	0.36	0.17	0.42	2.13*
Task conflict					**-0.21**	**0.15**	**-0.23**	**-1.37**	**-0.22**	**0.15**	**-0.23**	**-1.41**
Behavioral cultural intelligence x Task conflict									**0.12**	**0.09**	**0.18**	**1.26**
R^2				0.417***				0.601***				0.618
F (df)				13.927 (2, 39)				13.959 (4, 37)				11.667 (5, 36)
ΔR^2				0.417***				0.185***				0.017

n = 42. Values in bold are relevant to tests of hypotheses. *p < .05, **p < .01, ***p < .001.

Altogether the results indicate that task conflict mostly has a negative yet non-significant impact on creativity at an individual level. Thus, the analysis in Study 1 did not support Hypothesis 12a. Furthermore, with respect to my main hypotheses about the relationship between task conflict and creativity at the individual level under the boundary condition of cultural intelligence, moderation had positive impact on creativity, however, only at the individual level. Moreover, the results indicate that metacognitive, cognitive, and motivational cultural intelligences decreased negative effect of task conflict on creativity at the individual level. Thus, Study 1 supports Hypotheses 13a, 14a, 15a, and 17a. Behavioral cultural intelligences did not statistical significant decrease negative effect of task conflict on creativity at individual level. Thus, Hypotheses 16a is rejected.

At the team level task conflict is negatively related to creativity, yet only when I put cognitive cultural intelligence as a moderating variable. Thus, Hypothesis 12b is marginally supported. Cognitive cultural intelligence did marginally buffer the negative relationship between task conflict and creativity, thus Hypothesis 14b is marginally supported. Moreover, cultural intelligence as a whole, and its dimensions metacognitive, motivational and behavioral cultural intelligence did not statistical significant decrease negative effect of task conflict on creativity at individual level. Thus, Hypotheses 13b, 15b, 16b, and 17b are rejected. However, that is in line with my further preposition that the level of cultural intelligence (i.e., low, medium, high) plays a crucial part in the task conflict–creativity relationship in a culturally diverse environment. Therefore, I conducted an experiment to test Hypothesis 18. More precisely, the main goal of the experimental study was to test the moderation impact of cultural intelligence (i.e., low, medium, high) on the proposed relationships between task conflict and individual creativity in a culturally diverse environment. I manipulated individuals' task conflict in order to capture the effect of underreporting this behavior and used participants' perceptions of cultural intelligence as a moderator.

4.5 Study 2: Methods

I conducted an experimental study among first and second-year undergraduate international students at a Slovenian university. The main goal of my experimental study was to test the moderation impact of cultural intelligence (i.e. low, medium, high) on the proposed relationships between task conflict and individual creativity in a culturally diverse environment. Therefore, I manipulated individuals' task conflict in order to capture the effect of underreporting this behavior, and used participants' perceptions of cultural intelligence as a moderator.

4.5.1 Sample, design, and procedures

The data was collected by conducting an experiment with 100 undergraduate international students who attended an elective course. Participation was voluntary, and the students were assured anonymity. There were 48% females with average of prior cross-cultural

interactions of 5.5 (SD = 0.99). The majority of the participants were from Europe and the remaining students were from Africa (4%), South Korea (4%), and Peru (4%), and Russia (2%). The participates from Europe from other countries were including Slovenia (30%), France (14%), Macedonia (8%), Spain (7%), Germany (7%), Turkey (6%), Austria (4%), from Slovakia (3%), Finland (3%), Albania (2%), Czech Republic (2%), Lithuania (2%), and one participates from countries Bulgaria, Croatia, Norway, Serbia, Sweden, and Ukraine. Because the cultural backgrounds of participants in this experimental study were quite diverse, we can say that we had an international sample. This justifies my main goal to analyze the relationship between task conflict and creativity in a culturally diverse environment. The experiment employed a two-by-one (i.e., two conditions of task conflict, low/high), between-subjects factorial design.

First, the participants were randomly assigned into two conditions: low task conflict and high task conflict. I introduced the study by explaining that we were interested in their creativity process and told them that they would be involved in creative tasks. Participants were randomly assigned to groups of four and given the Marshmallow Challenge. Created by Tom Wujec (1995), this is a well-known experiment for creativity in which teams must build the tallest free-standing structure out of 20 sticks of spaghetti, one yard of tape, one yard of string, and one marshmallow. The marshmallow needs to be on top. There were 25 groups in the study, and their task was to complete the challenge in 18 minutes.

Task conflict manipulation

To ensure that participants in the low and high task conflict conditions would experience different levels of task conflict, I gave the students special instructions with different pieces of information about their team task. I introduced my manipulations of task conflict by manipulating the mental set as per De Dreu and Nijstad (2008). Each team received specific instructions. In the control condition (low task conflict), I gave to each team 20 sticks of spaghetti, one yard of tape, one yard of string, and one marshmallow, and they had to read the following instructions:

The goal of this task is to make the tallest freestanding and creative building. You can break the spaghetti and use as much tape and string as you want. On the top of the building, you need to put the entire marshmallow, and you cannot hold the structure when the time runs out. I encourage you to cooperate and exchange thoughts and creative ideas between colleagues.

In addition, these instructions were also repeated by the teacher. Conversely, in the experimental condition (high task conflict), I gave each team member different colors (red, blue, yellow, white) of 20 spaghetti sticks, one yard of tape, one yard of string, and one marshmallow. Different colored items were used in the experiment because I expected that this would increase task conflict and help us identify the source of ideas (P.B. Paulus &

Yang, 2000). The team had 80 spaghetti sticks, four yards of tape, string, and marshmallows, all in different colors. Yet each team could use only 20 spaghetti sticks, one yard of tape and string, and one marshmallow. I induced a mental set for task conflict conditions by using the following instructions:

The team goal of this task challenge is to make the tallest freestanding and creative building. While building the structure, you can use only 20 spaghetti different colors, one color of tape, string, and marshmallow. You can break the spaghetti and use as much tape and string as you want. On the top of the building there needs to be the entire marshmallow, and you cannot hold on to the structure when the time runs out. Your individual goal is to convince your teammate to use as much as possible items of your color in the structure. The winner of this challenge is individual who had the most items of his color in the structure. I encourage you to compete with others and think of others as your opponent.

After participants finished their tasks, I assessed the perceived *task conflict*. The participants were asked to complete the 4-item questionnaire developed by Jehn (1995) scale ($\alpha = 0.85$). Answers could be given on 7-point scales ("Please rate the level of conflict that you perceive in your team during the task as 1 = not at all, to 7 = always"). These responses about task conflict served as *manipulation checks.* I measured *individual creativity* by counting the number by using independent raters (i.e., experts in the field of creativity) who assessed them on a scale from 1 (not at all creative) to 7 (very creative). The two raters achieved good reliability (ICC1 = 0.87, $p < 0.00$), and agreement (average deviation 0.86), which is within conventional guidelines (LeBreton & Senter, 2008). I averaged their ratings into a measure of the individual creativity of each participant.

Ang and Van Dyne's (2008) 20-item *cultural intelligence* questionnaire was used to measure individual cultural intelligence ($\alpha = 0.77$). This consists of four items for metacognitive cultural intelligence, six items for cognitive cultural intelligence, five items for motivational cultural intelligence, and five items for behavioral cultural intelligence. I asked participants to self-report cultural intelligence items on a 7-point scale ("Please rate the level of yours cultural intelligence 1 = *strongly disagree,* 7 = *strongly agree*"). This served to rate participants' cultural intelligence, my moderating variable.

Control variables. I controlled for *emotional conflict* because it might be associated with task conflict and creativity from. The participants were asked to complete the 3-item shorted questionnaire of Jehn (1995) scale ($\alpha = 0.69$). I asked participants "How much emotional conflict was in your work group during this task", and "How much fiction was there present in your work group during this task". The other control variables included *age,* and *gender.* All control variables besides were self-reported.

4.5.2 Study 2: Results

Table 40 provides means and standard deviations for each condition (high/low task conflict and high/medium/low cultural intelligence) for individual creativity. I tested my manipulation check with ANOVA. First, in terms of the manipulation check, ANOVA reveled the main effect of the task conflict manipulation on self-reported task conflict ($F[1,98] = 5.52$, $p < 0.05$) is statistically significant. These results indicate support for the validity of the interventions. Turning to individual creativity as the dependent variable, the ANCOVA revealed that Hypothesis 17a is supported, while cultural intelligence moderates the relationship between task conflict and individual creativity ($F[2,89] = 7.53$, $p < 0.001$; Figure 27). This moderating effect of cultural intelligence on the relationship between task conflict and individual creativity is shown in Figure 27.

Table 40*: Study 2 - means and standard deviations in analyzing moderating effect of cultural intelligence on task conflict – creativity relationship at individual level*

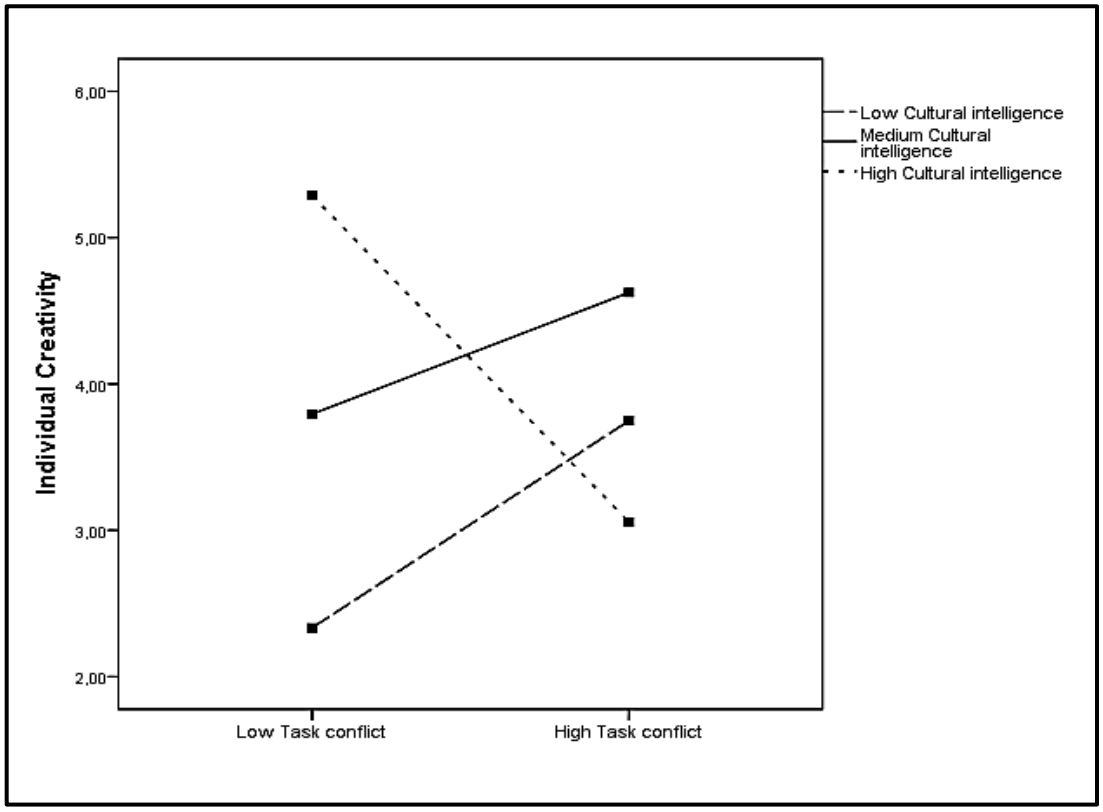
Condition	**Individual Creativity**
Low Task conflict, Low Cultural Intelligence (*n = 14*)	2.62 (1.03)
Low Task conflict, Medium Cultural Intelligence (*n = 18*)	3.79 (2.00)
Low Task conflict, High Cultural Intelligence (*n= 18*)	5.28 (1.97)
High Task conflict, Low Cultural Intelligence (*n =14*)	4.00 (1.37)
High Task conflict, Medium Cultural Intelligence (*n = 18*)	4.62 (1.60)
High Task conflict, High cultural intelligence (*n= 18*)	3.05 (1.37)

[a] Standard deviations are in parentheses

A visual inspection of the simple slopes in Figure 27 indicates that when individual have moderate level of cultural intelligence, the relationship between task conflict and individual creativity is less negative – in fact it is positive. On the other hand, when individual have high or low cultural intelligence, the relationship between task conflict and creativity will be more negative. These results provide support for the Hypothesis 18, that

moderate levels of cultural intelligence will strengthen the relationship between task conflict and individual creativity.

Figure 27*: Study 2 - the moderating effect of individual cultural intelligence on the task conflict - creativity relationship at individual level*



4.6 Discussion

Based on social categorization, I theorized that task conflict (Tajfel & Turner, 1979) in a culturally diverse environment emerges because individuals categorize themselves as in-group or out-group members, which impedes creativity at the individual and team levels. I also proposed that cultural intelligence as a whole and each of its dimensions moderate the association between task conflict and creativity at the individual and team levels. Furthermore, I argued that a moderate level of individual cultural intelligence while interacting with coworkers from different cultural backgrounds can reduce individual tendencies to view such work partners as out-group members, thereby decreasing negative aspects of task conflict on creativity at individual and team level.

Two studies demonstrate task conflict generally has non-significant impact on creativity at the individual or team level. Also, the studies provide consistent results showing that the relationship between task conflict and creativity in a culturally diverse environment is less negative if individuals have cultural intelligence at the individual level. Moreover, Study 2 implies that the relationship between task conflict and creativity is less negative when

individuals have a moderate level of cultural intelligence at the individual level. If individuals have low or high cultural intelligence, the relationship between task conflict and creativity is more negative. Additionally, Study 1 reveals that metacognitive, cognitive and motivational cultural intelligence dimensions also moderate the relationship between task conflict and creativity at the individual level. Finally, Study 1 also implies that just cognitive cultural intelligence have marginally moderating impact on the task conflict–creativity relationship at the team level. As such, these findings offer meaningful theoretical contributions to the literature on creativity, cultural intelligence and task conflict.

4.6.1 Theoretical contributions

The research in this chapter takes a step toward resolving the inconsistent relationship between task conflict and creativity in a culturally diverse environment. The primary contribution lies in introducing cultural intelligence as an important moderator of the relationship between task conflict and creativity at individual level. Although it has been has been recognized that task conflict on the one hand can stimulate creativity (De Dreu & West, 2001; Hülsheger, et al., 2009; McLeod, et al., 1997), yet on the other hand it can also decreases creativity by reducing an individual's capacity to perceive and evaluate valuable information for creative processes (De Dreu, 2006). This study demonstrate that cultural intelligence represents an appropriate individuals' capability that can decrease the negative social categorization process in culturally-diverse environments, helps individuals to overcome task conflicts, and in turn buffer individual creativity. In identifying cultural intelligence as one of the key building blocks that may decrease negative aspects of task conflict on creativity at individual level, my theoretical and empirical findings represent a departure from traditional approaches in examining the task conflict-creativity relationship. Moreover, is in line with Fairchild (2014) research by implying that task conflict may have positive effect on individual creativity in a culturally diverse environment, yet only is the case only when individual possesses a moderate level of cultural intelligence. As such, with this research I answer the calls (De Dreu, 2008; Hülsheger, et al., 2009) for more detail investigation under which specific circumstances task conflict can be beneficial for individual creativity.

Second, I contribute to the cultural intelligence literature by not only theoretically explaining how cultural intelligence can decrease task conflict as a result of the social categorization process in a culturally diverse environment but also empirically demonstrating that cultural intelligence as a whole, metacognitive cultural intelligence, cognitive cultural intelligence, and motivational cultural intelligence moderate the association between task conflict and creativity at the individual level. Thus, with these results, I add to the cultural intelligence literature by showing that cultural intelligence and some of its dimensions have a positive impact on job performance (Chen, et al., 2011; Chen, et al., 2010), such as creativity performance. With this research, I also add to the

cultural intelligence literature by providing evidence for Ng and colleagues' (2012, p. 46) theory that broad outcomes, in my case creativity, are better "predicted by the aggregate construct of cultural intelligence." Yet, behavioral cultural intelligence has no significant impact on the task conflict–creativity relationship at the individual or team levels. Thus, I predict future studies may use cultural intelligence as a whole as a possible moderator in different complex models in the diversity literature, such as Van Knippenberg et al.'s (2004) categorization–elaboration model.

Third, I also contribute to the cultural intelligence literature by answering the call from Van Dyne et al. (2012) for more in-depth research on cultural intelligence by providing evidence that cultural intelligence as a whole and its dimensions can minimize negative aspects of task conflict on creativity at the individual and team levels. This study implies that only cognitive cultural intelligence can increase creativity, even if individuals perceive high levels of task conflict at both the individual and team levels. However, cultural intelligence as a whole and metacognitive and motivational cultural intelligence can minimize task conflict in order to stimulate creativity, yet only at the individual level. Moreover, behavioral cultural intelligence dimension does not simulate creativity if there is high task conflict at the individual and team levels. Thus, by providing empirical evidence about which cultural intelligence dimensions can minimize task conflict in order to simulate creativity at the individual and team levels, my research fills a gap in the existing cultural intelligence literature and extends the cultural intelligence research previously predominately analyzed at the individual level (Ng, et al., 2012).

Fourth, this research makes important theoretical contributions to the too-much-of-a-good-thing effect discussions by demonstrating that individual cultural intelligence has moderating effect good thing effect on the task conflict-creativity relationship. Although scholars have presented conceptual arguments for the too much of a good thing effect in management (Pierce & Aguinis, 2013), little empirical research has tested how desirable consequences eventually can lead to a negative outcome (Bolino, et al., 2013; Grant & Schwartz, 2011). This research is among the first efforts to examine how different levels of cultural intelligence (i.e., high, medium, low) have different levels of impact on the task conflict-creativity relationship in a culturally diverse environment. I found that the relationship between task conflict and creativity was more negative when an individual had high levels of cultural intelligence. Thus, this research reveals that a moderate level of cultural intelligence has a positive impact the task conflict- creativity relationship at individual level and is the least negative. Therefore, I answer Pierce and Aguinis (2013)'s call by identifying the context-specific results of the too much of a good thing effect by revealing that too much cultural intelligence can lead to groupthink which, in turn, decreases not only task conflict, but also creativity in a culturally diverse environment.

The fifth theoretical contribution of this chapter is to the creativity literature by exploring individual creativity in a culturally diverse environment. This research takes a step forward

by demonstrating that a diverse environment plays an important role in triggering the influences of task conflict on creativity at individual level. Theory and research on organizational creativity emphasize that environmental factors are decisive for stimulating individual creativity (e.g., Amabile, 1983; Amabile, et al., 1996), yet to date limited attention has been devoted to a cultural diversity in the work environment. The assumption has been that cultural diversity can stimulate individual creativity by exposing individuals to disparate knowledge, information, ideas, and perspectives (Chua, 2013; Chua, et al., 2012; Pelled, et al., 1999). Thus, cultural diversity in the work environment can diminish creativity due to misunderstandings or a lack of communication among culturally diverse individuals. I show that social categorization processes (Tajfel & Turner, 1979; Turner, 1985), which will emerge because of a culturally-diverse environment and cause individuals to categorize themselves on in-group and out-group members, can in turn enhances individual creativity through task conflict. Therefore this study provides theoretical insights regarding the fact that a culturally diverse environment is as a salient contingency for decreasing individual creativity. Furthermore by introducing cultural intelligence as a possible moderator in culturally diverse environments, I answer the recent call to more deeply investigate antecedents and barriers to effective intercultural creative work (Anderson, et al., 2014; Chua, et al., 2012).

4.6.2 Practical implications

In today's uncertain and diverse work environments, organizations use employee creativity as a potential resource for organizational innovations (George, 2007; Shalley & Gilson, 2004). The studies in this chapter demonstrate how a moderate level of cultural intelligence can influence the relationship between task conflict and creativity in a culturally diverse environment at the individual level, by reducing task conflict and enhancing creativity. The present research offers valuable practical insights for both leaders and employees. Thus, for leaders and managers, the results suggest that employees with a moderate level of cultural intelligence tend to be more valuable than their colleagues with high or low levels of cultural intelligence, as this is an ability to stimulate the individual's creative process when faced with task conflict and when interacting with culturally diverse colleagues. Therefore, employees with moderate cultural intelligence will better solve task conflicts in intercultural collaborations and new cultures. As such, employees with moderate levels of cultural intelligence are more appropriate to deal across cultural boundaries on a daily basis.

Moreover, the empirical evidence imply that individual with cognitive cultural intelligence can resolve task conflict and enhance creativity at individual and team level. Thus, individuals with high cognitive cultural intelligence are more valuable in resolving a task-creative conflict in a culturally diverse environment. Taken all together, in line with Imai and Gelfand (2010), I suggest that employees (i.e., managers, leaders, employees who collaborate across cultures) should be selected based on their level of cultural intelligence.

Since many employees are dealing with cultural diversity, and organizations are using more diverse teams than ever (Bijak, Kupiszewska, Kupiszewski, Saczuk, & Kicinger, 2007; Pieterse, et al., 2013), it is worthwhile to research mechanisms that international human resources departments can use to stimulate better cross-cultural collaboration between colleagues and subsidiaries (Malek & Budhwar, 2013) and to decrease task conflict in order to stimulate creativity. Thus, at the individual level, international human resources departments could first assess employees' cultural intelligence in order to determine which employees can deal more efficiently with cross-cultural collaborations. Moreover, they could provide employees with supportive conditions (e.g. training, role-playing, cross-cultural contact, working abroad) that may stimulate and accelerate the development of individual cultural intelligence (Chen, et al., 2012; Erez, et al., 2013). Given that this chapter provides evidence that cultural intelligence can minimize task conflict and, in turn, stimulate creativity, organizations should allocate resources to international human resources departments in order to implement training on cultural intelligence.

In addition, at the organizational level, the research in this chapter indicates that organizations should value cultural diversity among employees. However, my results indicate that simply valuing cultural diversity among employees is not sufficient in order to stimulate individual creativity as a first step toward organizational innovation. Organizations will truly understand the benefits of a diverse workforce if "top management believes in the value of an effective diversity management system" (Guillaume, et al., 2014, p. 798) and thus starts to systematical improve organizational cultural intelligence (see Ang & Inkpen, 2008) for a model of cultural intelligence at the organizational level).

4.6.3 Limitations and suggestions for future research

The results from studies in this chapter are subject to a number of limitations and suggestions for directions for future research. The first limitation in experimental study is threat to the generalizability of the findings due to the sample used in the study. The latter concern is because the participants in the experiment were a student sample. Thus, the potential for using the student sample is in doubt when the analyzed behavior is specific to one demographic or occupational group (Highhouse & Gillespie, 2009). While the behaviors I researched cultural intelligence, task conflict, and creativity are not specific to one occupational group and can be relevant for all groups, the student sample is still reasonable for testing my hypotheses. Nevertheless, I suggest that future research in work environments is necessary to examine the generalizability of my findings.

The second limitation is by focusing on cultural intelligence, I limited this study to just one potentially important factor. I have emphasized how cultural intelligence is related to the relationship between task conflict and individual creativity, but there are also other factors that may influence this relationship. For example, research findings associated cultural

intelligence and creativity with constructs such as emotional intelligence, cognitive ability, participative safety and openness to experiences that have been also associated with creativity (Amabile, Hadley, & Kramer, 2002; Baer & Oldham, 2006; Fairchild & Hunter, 2014). Therefore, my suggestion is order to get the whole picture, future studies should explore a more complex model and include the above propose items as a possible mediators between cultural intelligence and the relationship between task conflict and creativity.

Third, a potential limitation of my study is that cultural intelligence was measured solely based on participants' self-reporting. However, individuals who perform low on given dimensions of cultural intelligence usually lack awareness of this (Kruger & Dunning, 1999). This is why I propose that future research should also include observation reports of cultural intelligence by leaders or colleagues. I have also restricted my observation to individuals' perceptions of task conflict and cultural intelligence. Future research may expand my focus by observing a dyadic, team, or leader (subordinate interaction) to demonstrate the influence of a particularly relevant multilevel bottom-up approach (Kozlowski, Chao, Grand, Braun, & Kuljanin, 2013).

In addition, limitations of this study great cultural diversity among the respondents while I did not explicitly explain the definition of "cultural" to participants in the field study and experimental study. In these two studies, the employees and students were from more than 20 countries, so it may be beneficial to provide a more detailed description of culture while "cultural can mean different mean different things in different contexts and to different people," while cultural measures ask about interactions with people from different cultural backgrounds" (Ng, et al., 2012, p. 47). Moreover, Nag and colleagues (2012) explain that it would be essential to provide definitions of culture and cultural intelligence to participants in order to "ensure that participants respond to questions with a consistent mental model" (Ng, et al., 2012, p. 47). Thus, in this study I cannot be sure that participants self-reported their cultural intelligence in line with a common mental model, and as such the results of cultural intelligence are questionable. I suggest that when dealing with cultural diversity and cultural intelligence items, future researchers should define culture and cultural intelligence in more detail for their research participants.

4.7 Conclusion

The research in this chapter identifies cultural intelligence as an important contingency that can strengthen the effects of task conflict on creativity in a culturally diverse environment. With these studies, I try to resolve the mystery of whether task conflict and cultural diversity in work environments are beneficial to creativity. I found that task conflict has no significant impact on creativity at the individual or team levels. However, results in Chapter 4 indicate that, if individuals have a moderate level of cultural intelligence, they can utilize group task conflict in their individual creativity in a culturally diverse environment. On the other hand, the relationship between task conflict and individual

creativity is more negative if individuals have high or low cultural intelligence. Moreover, the cognitive cultural intelligence dimension has a moderating impact on the task conflict–creativity relationship in a culturally diverse working environment at the individual and team level. Also, the metacognitive and motivational cultural intelligence dimension has a moderating impact on the task conflict–creativity relationship in a culturally diverse working environment, yet only at the individual level. However, Study 1 indicates that behavioral cultural intelligence dimensions do not have any impact on the relationship between task conflict and creativity in a culturally diverse working environment at the individual and/or team level.

CHAPTER FIVE: GENERAL DISCUSSION AND CONCLUSION

5.1 Summary of main findings

In my dissertation I focused on creativity as part of a social process (Perry-Smith & Shalley, 2003) that occurs in a culturally diverse environment. Thus, in Chapter 2 first connect cultural intelligence and it's dimension with creativity in a culturally diverse environment. In Chapter 3 based on social exchange theory (Blau, 1964) and social categorization theory (Tajfel & Turner, 1979), I argued that a culturally diverse environment will stimulate knowledge hiding, while culturally diverse individuals struggle to understand one another and consequently fail to share information (Gilson, 2013) and tend to share information more with in-group members over out-group members (Van Knippenberg & Schippers, 2007). However, I then theorized and examined how cultural intelligence can help with knowledge exchange, more precisely minimizing knowledge hiding in order to stimulate creativity. Nevertheless, I did not engage deeply in the knowledge exchange process and, thus, propose that developments will have to be made to get a more detailed picture of the social exchange pattern between the knowledge hider and seeker (Poortvliet & Giebels, 2012) and individual or team cultural intelligence.

The aim of the Chapter 4 was to resolve the inconsistent relationship between task conflict and creativity, and to do so in a culturally diverse environment, while a recent literature review of Anderson et al. (2014) stresses that organizational scholars and practices need new theoretical perspectives and empirical investigations to deepen knowledge of the task conflicts and cultural differences that drive creativity. I followed Fairchild's (2014) research by implying that task conflict may have a positive effect on individual creativity in a culturally diverse environment, yet that is the case only when an individual possesses a moderate level of cultural intelligence. I also made an important step in cultural intelligence literature by elaborating on and empirically showing the too-much-of-a-good-thing effect on individual cultural intelligence and the task conflict-creativity relationship.

I followed Kozlowski and Klein (2000) suggestion that unit specification at different levels should be driven by the theoretical foundations in the field. Thus, in each chapter I provided an explanation of the assumptions for using a bottom-up approach while cultural intelligence and creativity start at an individual level yet are also influenced by higher-level organizational units such as colleagues or team dynamic. Therefore, in my dissertation I used a multilevel bottom-up approach and analyzed the same research questions at different levels (i.e., individual and team level). I present the summary of main findings in Table 41, 42 and 43.

Table 41*: Summary of main findings – Chapters 1 and 2*

Chapter (Title) and research questions	**Overarching theories**	**Study type** (methodology/design/ analysis)	**Main findings**	**Contributions** (to which literature)
Chapter 1: Cultural intelligence and creativity co-citation analyzes and science mapping	Cross-cultural psychology theory Self-efficacy theory Creativity componential theory Interactionist theory of organizational creativity	Qualitative literature review, Co-citation analysis, Science mapping	Identification of primary domains, chronical development and the key contributions within the cultural intelligence field Identification of primary domains, chronical development and the key contributions within creativity field Identification of the key contributions within the cultural intelligence and creativity field	Analysis of the cultural intelligence field development Analysis of the creativity field development Analysis of the cultural intelligence and creativity research
Chapter 2: Relationship between cultural intelligence and creativity H1: Individual cultural intelligence is positively related to creativity at (a)individual level, and (b) tem level. H2:Metacognitive cultural intelligence is positively related to creativity at (a)individual level, and (b) tem level. H3: Cognitive cultural intelligence is positively related to creativity at (a)individual level, and (b) tem level. H4: Motivational cultural intelligence is positively related to creativity at (a)individual level, and (b) tem level. H5: Behavioral cultural intelligence is positively related to creativity at (a)individual level, and (b) tem level.	Social categorization theory Diversity theory	Field study – primary data in 20 multicultural SME companies from eight countries in the Adriatic region (Slovenia, Albania, Bosnia and Hercegovina, Croatia, Italy, Greece, Montenegro, Serbia); Experimental study on undergraduate students; Random coefficient modeling (multilevel analysis); Hierarchical linear regression; ANOVA	Cultural intelligence is positively related to creativity at individual and team level. Metacognitive cultural intelligence is positively related to creativity at individual and team level. Motivational cultural intelligence is positively related to creativity at individual and team level. Behavioral cultural intelligence is positively related to creativity at individual level.	Conceptualizing the mechanism through which cultural intelligence affects creativity Showing that cultural diversity can stimulates creativity Advance research on motivation literature by linking creativity with motivational cultural intelligence (diversity, cultural intelligence, motivational theories of creativity)

Table 42*: Summary of main findings – Chapter 3*

Chapter (Title) and research questions	**Overarching theories**	**Study type** (methodology/design/ analysis)	**Main findings**	**Contributions** (to which literature)
Chapter 3: Cultural diverse knowledge exchange and creativity Hypothesis 6: Knowledge hiding is negatively related to creativity at (a) individual, and (b) team level. Hypothesis 6c: Individual knowledge hiding is negatively related to team creativity. Hypothesis 7: Cultural intelligence moderates the relationship between knowledge hiding and creativity (a) individual level, and (b) team level. The higher the cultural intelligence, the less negative the relationship. Hypothesis 8: Metacognitive cultural intelligence moderates the relationship between knowledge hiding and creativity at (a) individual level, and (b) team level. The higher the metacognitive cultural intelligence, the less negative the relationship. Hypothesis 9:Cognitive cultural intelligence moderates the relationship between knowledge hiding and creativity at (a) individual level, and (b) team level. The higher the cognitive cultural intelligence, the less negative the relationship. Hypothesis 10: Motivational cultural intelligence moderates the relationship between knowledge hiding and creativity at (a) individual level, and (b) team level.. The higher the motivational cultural intelligence, the less negative the relationship. Hypothesis 11: Behavioral cultural intelligence moderates the relationship between knowledge hiding and creativity at (a) individual level, and (b) team level. The higher the behavioral cultural intelligence, the less negative the relationship.	Social exchange theory Social categorization theory Diversity theory Multilevel theory	Field study – primary data in 20 multicultural SME companies from eight countries in the Adriatic region (Slovenia, Albania, Bosnia and Hercegovina, Croatia, Italy, Greece, Montenegro, Serbia); Experimental study on undergraduate students; Random coefficient modeling (multilevel analysis); Hierarchical linear regression; ANOVA, ANCOVA	Knowledge hiding is directly negatively related to creativity at the individual and team level. Individual knowledge hiding is negatively related to team creativity. Cultural intelligence moderates the relationship between knowledge hiding and creativity at individual level. Metacognitive cultural intelligence moderates the relationship between knowledge hiding and creativity at individual level. Behavioral cultural intelligence partially moderates the relationship between knowledge hiding and creativity at individual level.	Conceptualizing the mechanism of knowledge hiding in cultural diverse working environment Empirical examination of knowledge hidings as a multilevel construct Empirical examination of cultural intelligence construct as a whole and each dimension separately Showing how managers can remedy negative effects of knowledge hiding by training individual and team cultural intelligence (cultural intelligence, creativity, knowledge hiding, diversity)

Table 43*: Summary of main findings – Chapter 4*

Chapter (Title) and research questions	**Overarching theories**	**Study type** (methodology/design/ analysis)	**Main findings**	**Contributions** (to which literature)
Chapter 4: Creativity as an outcome of conflict Hypothesis 12a. Task conflict is negatively related to creativity at (a) individual level, and (b) team level. Hypothesis 13: Metacognitive cultural intelligence has a moderating effect on the relationship between task conflict and creativity at (a) individual level and (b) team level. Hypothesis 14: Cognitive cultural intelligence has a moderating effect on the relationship between task conflict and creativity at (a) individual level and (b) team level. Hypothesis 15: Motivational cultural intelligence has a moderating effect on the relationship between task conflict and creativity at (a) individual level and (b) team level. Hypothesis 16: Behavioral cultural intelligence has a moderating effect on the relationship between task conflict and creativity at (a) individual level, and (b) team level. Hypothesis 17: Cultural intelligence has a moderating effect on the relationship between task conflict and creativity at (a) individual level, and (b) team level. Hypothesis 18: When individuals' cultural intelligence is at a moderate level, the relationship between task conflict and individual creativity is the least negative.	Social categorization theory Diversity theory Multilevel theory Too-much-of-a-good thing theory	Field study – primary data in 16 multicultural SME companies from six countries in the Adriatic region (Albania, Bosnia and Hercegovina, Italy, Greece, Montenegro, Serbia) and members of the International Network of Norway; Experimental study on undergraduate students; Hierarchical ordinary least-squares regression; Hierarchical linear regression; ANOVA, ANCOVA	Cultural intelligence moderates the relationship between task conflict at individual level. Metacognitive cultural intelligence moderates the relationship task conflict and creativity at individual level. Cognitive cultural intelligence moderates the relationship between task conflict and creativity at individual level and marginally at team level. Motivational cultural intelligence marginally moderates the relationship between task conflict and creativity at individual level. Creativity is the highest when individual have moderate level of cultural intelligence.	Clarifying previously contrasting results between task conflict and creativity Empirical examination of task conflict as a multilevel construct Empirical examination of cultural intelligence construct as a whole and each dimension separately Conceptualizing the too much of a good thing effect of cultural intelligence Showing how managers can remedy negative effects of task conflict by training individual and team cultural intelligence (cultural intelligence, creativity, task conflict, diversity, too much of a good thing)

5.2 Overarching theoretical contributions

The first important overarching contribution of this dissertation is connecting cultural intelligence as a whole and each dimension to creativity in a culturally diverse environment. I do this in several steps; In Chapter 1, I first do it with the help of bibliometric co-citation analysis and network analysis provides the foundation, development and the main research findings of the cultural intelligence and creativity fields, separately. Namely, the cultural intelligence field is still in its early stage of development and the main authors in the field Ang (2006, 2007) and Earley (2003, 2004) mostly conceptualize, define and make cross-validation of the multidimensional cultural intelligence scale. On the other hand, the creativity field is quite established in the organizational context and the main authors Oldham & Cummings (1996), Woodman et al. (1993), Amabile (1988), Amabile et al. (1996), and Scott & Bruce (1994) in the field mostly theorize and research about the creativity process as part of the innovation process and its individual and contextual factors. I also make a qualitative review of the two fields together and provide evidence that there is a research gap between these two constructs.

Moreover, by empirically linking and testing the multilevel relationship between cultural intelligence and creativity in Chapters two-four, I answer repeated calls for more in-depth research on the relationship between diversity, especially cultural diversity, and creativity (Anderson, et al., 2004; Anderson, et al., 2014; Shalley, et al., 2004; Zhou & Su, 2010) by providing empirical evidence that cultural diversity indeed stimulates creativity but only if individuals or teams have high or moderate levels of cultural intelligence. Thus, the second overarching contribution of my doctoral dissertation lies in adding research to the value-in-diversity perspective (O'Reilly, et al., 1998) that cultural diversity can trigger creativity by cross-cultural interactions in which individuals are exposed to different thinking styles, knowledge, and skills, and add that this is indeed the case if individuals or teams also possess individual characteristics, such as a high level of cultural intelligence. As such, I would like to stress that scholars need to pay attention not only to situational factors (e.g., culturally diverse environments) but also to individual differences (e.g., cultural intelligence) that can help employees to capitalize on the potential benefits of cultural diversity for their own creativity.

The third overarching contribution of this dissertation is to extend prior work on the development and research of multilevel theory of cultural intelligence and creativity. This gives an approach that combines different levels of perspectives, thus allowing researchers to get a more integrated perception of the research phenomena that engenders a more integrated science (Kozlowski & Klein, 2000). Thus, in my dissertation I focus, conceptualize, and research by exhibiting concern about bottom-up approaches on cultural intelligence and its effect on creativity. Therefore, I contribute to building a science in a cultural intelligence literature, and add to this with previous research on multilevel theory in cultural intelligence (Chen, et al., 2012; Crotty & Brett, 2012; Moon, 2013) by

empirically testing the same research questions regarding cultural intelligence and its effect on creativity at both the individual and team levels. Moreover, I also contribute to building a science in a creative field and answer Anderson et al.'s (2014, p. 1323) call for multilevel studies on creativity in order to "move forward the understanding of creativity." Thus, with this dissertation I address this call and, within the lines of Gong et al. (2013), demonstrate that creativity is a multilevel phenomenon that involves bottom-up relationships across the individual and team levels.

The fourth overarching contribution of this dissertation is to the cultural intelligence literature. First, I answer the call from Van Dyne et al. (2012) for more in-depth research on cultural intelligence and through the whole dissertation theorize and research cultural intelligence as a whole and each dimension separately. In Chapters two-four, the results indicate that cultural intelligence as a whole can stimulate creativity in a culturally diverse environment directly or through a moderating effect on the relationship between knowledge hiding or task conflict and creativity. On the other hand, cultural intelligence dimensions (i.e. metacognitive, cognitive, behavioral and motivational) mostly did not strengthen the relationship between knowledge hiding or task conflict and creativity at an individual level. As such, I add to previous empirical investigations Elenkov and Manev (2009) and provide evidence for Ng and colleagues'(2012) theorizing that broad outcomes, in my case creativity, are better predicted when cultural intelligence dimensions are aggregate as one construct. Nevertheless, I also contribute to the more in-depth research of the metacognitive, cognitive, motivational, behavioral cultural intelligence and its moderating effect on the relationship between negative aspects of diversity (i.e., social categorization process, knowledge hiding or task conflict) and creativity. However, I propose that future studies may use cultural intelligence as a whole as a possible moderator in different complex models in the diversity literature, such as Van Knippenberg et al.'s (2004) categorization–elaboration model.

I also contribute to the cultural intelligence literature by introducing cultural intelligence on of the individual abilities that can help people to decrease negative social categorization processes in a culturally diverse environment, which on one hand helps them to overcome the lack of a social exchange pattern or evading the social exchange between culturally diverse colleagues and, on the other hand, stimulates their creativity. Thus, studies in my dissertation chapter contribute to this reasoning by empirically demonstrating that cultural intelligence can deaminize the negative aspect of the social categorization process in order to positively influence creativity in a culturally diverse environment. As such, with my dissertation I introduce cultural intelligence as a new mechanism for minimizing the negative aspects of cultural diversity (e.g., individual knowledge hiding behavior) in order to stimulate creativity at the individual level. I also add to previous empirical investigations that cultural intelligence can have a positive impact on job performance (Chen, et al., 2011; Chen, et al., 2010), specifically on nonr2outine creativity performance.

Moreover, I contribute to the cultural intelligence literature by also exploring the too-much-of-a-good-thing effect of individual cultural intelligence. In Chapter 3, I demonstrated that different levels of cultural intelligence (i.e., high, medium, low) have different levels of impact on the task conflict-creativity relationship in a culturally diverse environment. More specifically, the results indicate that a moderate level of cultural intelligence has a positive impact on the task conflict-creativity relationship at an individual level and is the least negative. Thus, I take a step forward and indicate that too much cultural intelligence can lead to groupthink which, in turn, decreases not only task conflict, but also individual creativity in a culturally diverse environment. As such, I answer Pierce and Aguinis' (2013) call by identifying the context-specific results of the "too much of a good thing" effect in the domain of cultural intelligence literature.

The fifth overarching contribution of this dissertation is to the creativity literature. I first contribute to creativity literature by extending previous cross-cultural creativity research by simultaneously considering individuals' behaviors (knowledge hiding) or social interactions (task conflict) and contextual factors (culturally diverse environment) as antecedents of team and individual creativity. Scholars in organizational creativity have long emphasized that personal and contextual factors are decisive for stimulating creativity (e.g., Amabile, 1983; Amabile, et al., 1996; Shalley, et al., 2004), yet only a few research these factors together. Therefore, with my dissertation I provide theoretical insights regarding the fact that a culturally diverse environment is a salient contingency for decreasing creativity while it trigger task conflict or knowledge hiding through social categorization processes (Tajfel & Turner, 1979; Turner, 1985).

I also contribute to creativity literature through advancing research on motivation as an important driver of creativity (Elsbach & Hargadon, 2006) by adding a focus on motivational cultural intelligence. In the creativity literature there are quite comprehensive research that indicate that individual motivation can enhance creativity, especially intrinsic motivation (Amabile, 1985; Amabile, et al., 1994) and prosocial motivation (Grant & Berry, 2011); however, to my knowledge, there is no research that links creativity with motivational cultural intelligence at the individual and team levels. As such, with this dissertation I complement previous research on motivational creativity theory and take a step forward by empirically testing motivational cultural intelligence as one of the predictors of creativity and its effect as the moderating mechanism on the relationship between task conflict and creativity at an individual level. Moreover, I also answer Shalley et al.'s (2004) call for new theoretical perspectives and empirical investigations in order to provide a more in-depth understanding of the motivational processes that stimulate creativity at both individual and team levels.

The sixth contribution of this dissertation is to the knowledge hiding and task conflict literature. In Chapter 3, I contribute to the knowledge hiding literature by researching the construct on a team level. Based on theoretical developments in the recent research of

Černe et al. (2014), I show that similar patterns of social exchange, which can affect the relationships between knowledge hiding and creativity at the dyadic level, can also happen on a team level. As such, my experimental study indicates that individual knowledge hiding is also negatively related to team creativity. Furthermore, in Chapter 3, I resolve the inconsistent relationship between task conflict and creativity (De Dreu & West, 2001; Hülsheger et al, 2009; De Dreu, 2006) by departing from traditional approaches in examining the task conflict-creativity relationship and identifying cultural intelligence as the key building blocks that may decrease negative aspects of task conflict on creativity at an individual level. As such, the research found in Chapter 3 are in line with Fairchild's (2014) research in demonstrating that task conflict may have a positive effect on creativity at an individual level yet this is the case only when individuals possess a moderate level of cultural intelligence.

5.3 Managerial implications

The overarching managerial implications of this doctoral dissertation are related to cultural intelligence awareness and further cultural intelligence development and training at the individual and team levels. The empirical evidence in this dissertation indicated that individual and team cultural intelligence is one of the most important individual capabilities in social exchange (knowledge hiding) and social interaction (task conflict) in a culturally diverse environment. As such, managers should be highly motivated to first to be aware of his and then his employees' cultural intelligence in order to better cope with cross-cultural interactions while the financial and personnel costs of the employees' failure in cross-cultural interactions are quite high (Daniels & Insch, 1998; Sanchez, Spector, & Cooper, 2000).

The results also demonstrate that employees with high cultural intelligence tend to be more creative, share more knowledge, and have less task conflict than their colleagues with low cultural intelligence when collaborating with teammates from different cultural backgrounds. This indicates that employees with high-level cultural intelligence tend to be more valuable for managers that employees with low-levels of cultural intelligence (e.g., which employee to hire, which employee to send on oversea assignments, and which have more potential to become a cross-cultural manager). For example, Apple employees were highly culturally intelligent and cross-culturally sensitive when they included multifunctional mobile Internet features to their iPhone 3GS in order to adapt to the Japanese consumer (Chiu & Kwan, 2010). The results were financially highly beneficial for Apple, while the iPhone 3GS was on the list of bestselling smartphones in Japan in July 2009. Thus, cultural intelligence employees are highly valuable from a financial point of view, especially for multinational companies.

Moreover, if managers are interested in fueling creativity, sharing knowledge, and having less task conflict in a culturally diverse working environment, they need to ensure conditions in which employees will enhance their levels of cultural intelligence. As

Livermore (2011) stresses, high individual cultural intelligence doesn't come automatically, yet unfortunately, individuals can improve and train their cultural intelligence (Erez, et al., 2013). Thus, I propose that managers who are interested in stimulating cultural intelligence should create conditions that would support employees' improvement of their cultural intelligence. Employees can develop and increase their cultural intelligence by being exposed to a cross-cultural interaction as much as possible (Erez, et. Also, Li et al. (2013) or to have opportunity for longer overseas work experience (Li et al., 2013). For example, Livermore (2011, p. 18–19) in his book reveled that "the companies that used the cultural intelligence approach through training, hiring, and strategizing, 92 percent saw increased revenue within eighteen months of implementation. Every company named cultural intelligence as a significant factor that contributed to increased profits. Therefore, companies are prioritizing hiring and retaining personnel with high CQ."

In each chapter, I also point out which specific cultural-intelligence dimensions managers need to pay more attention to when training their employees in order to stimulate social exchange (knowledge hiding) and social interaction (task conflict) in a culturally diverse work environment. Training for particular cultural-intelligence dimensions can be even more specific then when developing overall cultural intelligence. For example, cognitive cultural intelligence is focused on individual cultural knowledge and can be mostly learned through books, short lectures, case studies, other reading material, films, and videos (Brislin & Yoshida, 1994). However, metacognitive cultural intelligence is more complex and is related not only with knowledge about other culture but also metacognitive experience, observation during interactions, and strategy (Earley & Mosakowski, 2004).

Thus, to learn how to appropriately react during information exchanges with culturally diverse individuals and train for metacognitive cultural intelligence, individuals first have to have quality multicultural experiences (Li et al., 2013). Only through challenging interactions can an individual increase metacognitive cultural intelligence. Moreover, in order to interpret the received information during cross-cultural experiences, it takes "a great deal of effort to comprehend" (Earley & Mosakowski, 2004, p. 106) all valuable information. Therefore, managers need to be aware that training for metacognitive cultural intelligence will take more time and cost more than training for cognitive cultural intelligence. As such, the last overarching managerial implication is to provide a table (see Table 44) for managers to explicitly inform other managers about which cultural-intelligence dimensions need to be trained in order to stimulate social exchange (knowledge hiding) and social interaction (task conflict) among culturally diverse colleagues. Furthermore, they also need to provide information about which dimensions are more important for individuals and which are more important for multicultural teams.

Table 44*: Summary of managerial implications*

Chapter (Title)	**Study type (methodology/design/analysis)**	**Managerial implications**
Chapter 2: Relationship between cultural intelligence and creativity	Field study – primary data in 20 multicultural SME companies from eight countries in the Adriatic region (Slovenia, Albania, Bosnia and Hercegovina, Croatia, Italy, Greece, Montenegro, Serbia); Experimental study on undergraduate students; Random coefficient modeling (multilevel analysis); Hierarchical linear regression; ANOVA	Highlighting the importance of overall cultural intelligence for creativity at individual and team level. More precisely, identifying that metacognitive and motivational cultural intelligence are related to creativity at individual and team level. Also, identifying that behavioral cultural intelligences is related to creativity at individual level.
Chapter 3: Culturally diverse knowledge exchange and creativity	Field study – primary data in 20 multicultural SME companies from eight countries in the Adriatic region (Slovenia, Albania, Bosnia and Hercegovina, Croatia, Italy, Greece, Montenegro, Serbia); Experimental study on undergraduate students; Random coefficient modeling (multilevel analysis); Hierarchical linear regression; ANOVA, ANCOVA	Highlighting that knowledge hiding is negatively related to creativity and individual and team level. Managers can mitigate this effect by training overall individual cultural intelligence at work. Also by improving employees metacognitive, and behavioral cultural intelligence managers can mitigate knowledge hiding effect on creativity.
Chapter 4: Creativity as an outcome of conflict	Field study – primary data in 16 multicultural SME companies from six countries in the Adriatic region and members of the International Network of Norway; Experimental study on undergraduate students; Hierarchical ordinary least-squares regression; Hierarchical linear regression; ANOVA, ANCOVA	Identifying that task conflict can enhance creativity if employees have high or moderate level of cultural intelligence. With high metacognitive, cognitive, and motivational cultural intelligence employees will more likely decrease task conflict and be more creative. Also by improving employees cognitive cultural intelligence managers can mitigate task conflict negative effect on creativity at individual and team level.

5.4 Limitations and future research suggestions

The results of my doctoral dissertations are subject to a number of limitations and suggestions for directions for future research. First, although I tested a proposed multilevel relationship in at least 16 different companies and their employees nested in at least 42 groups in at least 8 different countries, I did not account for the question of when (Kozlowski & Klein, 2001) and thus ignored time as a boundary condition. This is relevant because employees' creativity and cultural intelligence can differ over time. Creativity is "often a time and effort intensive activity" (Tierney & Farmer, 2004, p. 417), and thus, individual creativity can change over time because employees need to get first familiar with their field in order to have more creative ideas at work (Weisberg, 1999). Moreover, studies have implied that time pressure can impact the employees' daily (Ohly & Fritz, 2010) or overall creativity (Baer & Oldham, 2006). Also, research indicated that cultural intelligence can significantly increase over time (Erez et al., 2013; Thomas Rockstuhl, et al., 2011) and has a positive change over time in multicultural team processes (Moynihan, Peterson, & Earley, 2006). Therefore, I suggest that future studies should address the time issue and require a longitudinal approach when examining the creativity and cultural-intelligence relationship.

In focusing on only cultural origin, I overlooked the other important diversity variables such as individual values and the level of diversity. It may be the case, for example, that dividing diversity into the surface level (e.g., age, ethnicity/race, and gender) and deep level (e.g. beliefs, and values) would have different impacts on cultural intelligence and creativity because different types diversity have different effects (Joshi & Roh, 2009). I also did not capture the perceived or cognitive diversity that could be relevant for this research. Scholars in diversity literature usually evaluate perceived diversity in their research (e.g. Harrison et al., 2002; Jehn et al., 1999; Shin et al., 2012) because it may provide more valuable information about individual behavior than actual diversity (Harrison & Klein, 2007). However, I intentionally did not use perceived culturally diverse measurements because employees may fail to accurately assess their perceived cultural diversity; thus, their assessment could be biased (Harrison & Klein, 2007). Nevertheless, future research should examine whether different types of diversities have the same effect on the proposed creativity and cultural-intelligence relationship.

Another potential concern in my dissertation is that I did not directly test whether social categorization processes (i.e., on out-group and in-group members) stimulate knowledge hiding and task conflict or creativity in a culturally diverse environment. Although I provided theoretical explanations of the social-categorization effect on knowledge hiding and task-conflict relationships, future studies could provide empirical evidence of my presuppositions by measuring perceived categorization in the work environment. Moreover, to better explain the mechanism of social-categorization and its relationship to creativity, future research should also include possible mediators such as prototype clarity

(Fielding & Hogg, 1997), self-prototypicality (Hogg & Hains, 1998), prototype valence (Chattopadhyay et al., 2004), shared objectives (Anderson & West, 1998), and measures for information elaboration (Kearney, Gebert, & Voelpel, 2009; van Ginkel & Van Knippenberg, 2008).

Finally, in Chapters 2–4 I collected data from two different sources and diverse industries with the intention of avoiding potential common-method biases. However, in all five studies in this dissertation, I relied heavily on self-reported data. Cultural intelligence was self-reported in each study; however, it is possible that individuals may have problems with evaluating their own cultural intelligence because they simply lack of awareness of their cultural intelligence (Kruger & Dunning, 1999). Future research may address this issue by assessing employees' cultural intelligence and dimensions of cultural intelligence from different sources (e.g., teammates or leaders). In addition, in the experimental studies, I tried to mitigate the risk of bias by collecting the individual creativity measure from two different sources, which is commonly used in creativity research (Zhou & Shalley, 2003). Nevertheless, the independent raters in my experimental design did not use any objective measures of creativity. As such, I cannot rule out the possibility of method bias in the research. I hope to see future research address these bias issues, use multiple raters for individual and team cultural intelligence, and employ more appropriate objective measures in evaluating the cultural-intelligence–creativity relationship.

5.5 Conclusion

I began this dissertation by citing Csikszentmihayi (1994), who said, "Creativity is not an attribute of individuals, but of social systems making judgments about individuals … The social and cultural conditions, interacting with individual potentialities, brought about the objects, and behaviors we call creative" (p. 144). Through five distinct yet related chapters, I provided theoretical and empirical evidence that creativity is indeed related to cultural conditions, especially cultural intelligence. This dissertation highlighted the importance of understanding the relationship between cultural intelligence and creativity by first exploring the proposed relationship in a culturally diverse environment and using a multilevel approach (see Chapters 1, and 2).

In Chapters 3, and 4, I turned to creativity as a result of social conditions, especially knowledge hiding and task conflict: the negative aspects of cultural diversity. Cultural intelligence plays an important part in creativity as a social process because it mitigates the negative consequences of knowledge hiding and task conflict on creativity in a culturally diverse environment at individual and team levels. I hope that this dissertation will stimulate further empirical research by linking cultural intelligence and creativity and further developing the multilevel theory of both constructs. From the practice point of view, managers need to pay attention and develop employees' cultural intelligence in order to simulate creativity in their organizations at individual and team levels.

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APPENDICES

LIST OF APPENDICES

Appendix A: Common method bias – EFA forced to one factor for cultural intelligence, creativity and knowledge hiding

Total Variance Explained						
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Intem	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
CR1	15.899	42.969	42.969	15.899	42.969	42.969
CR2	4.358	11.780	54.749			
CR3	3.725	10.067	64.815			
CR4	1.264	3.416	68.232			
CR5	0.990	2.676	70.907			
CR6	0.846	2.286	73.194			
CR7	0.726	1.962	75.156			
CR8	0.634	1.714	76.870			
CR9	0.592	1.599	78.470			
CR10	0.579	1.565	80.034			
CR11	0.489	1.322	81.356			
CR12	0.465	1.257	82.613			
CR13	0.452	1.220	83.833			
CQ1	0.439	1.186	85.020			
CQ2	0.417	1.128	86.147			
CQ3	0.377	1.019	87.166			
CQ4	0.339	0.916	88.082			
CQ5	0.330	0.893	88.975			
CQ6	0.325	0.877	89.852			
CQ7	0.293	0.792	90.644			
CQ8	0.290	0.783	91.427			
CQ9	0.276	0.746	92.172			
CQ10	0.271	0.732	92.905			
CQ11	0.252	0.682	93.587			
CQ12	0.239	0.645	94.232			
CQ13	0.234	0.631	94.864			
CQ14	0.230	0.623	95.486			
CQ15	0.210	0.566	96.053			
CQ16	0.204	0.551	96.603			
KH1	0.200	0.542	97.145			
KH2	0.185	0.501	97.646			
KH3	0.180	0.488	98.133			
KH4	0.177	0.479	98.612			
KH5	0.142	0.385	98.997			
KH6	0.138	0.373	99.370			
KH7	0.122	0.329	99.699			
KH8	0.111	0.301	100.000			

Appendix B: Common method bias test – marker variable test for cultural intelligence, creativity and knowledge hiding

Time perspective TP1	CQ 1	CQ2	CQ3	CQ4	CQ5	CQ6	CQ7	CQ8	CQ9	CQ10	CQ11	CQ12	CQ13	CQ14	CQ15	CQ16
TP1 Pearson Correlation	-0.03	-0.00	-0.04	-0.00	-0.00	-0.05	-0.01	-0.04	-0.04	-0.01	-0.05	-0.01	0.01	-0.01	-0.00	0.03
TP1 Sig. (2-tailed)	0.34	0.94	0.26	0.92	0.94	0.12	0.71	0.19	0.25	0.67	0.16	0.67	0.68	0.67	0.86	0.31

Time perspective TP1	CR1	CR2	CR3	CR4	CR5	CR6	CR7	CR8	CR9	CR10	CR11	CR12	CR13
TP1 Pearson Correlation	0.02	-0.02	-0.04	-0.04	-0.02	0.01	-0.00	-0.01	-0.00	-0.03	-0.02	-0.01	0.00
TP1 Sig. (2-tailed)	0.51	0.46	0.17	0.17	0.56	0.72	0.86	0.66	1.00	0.366	0.47	0.64	0.92

Time perspective TP1	KH1	KH2	KH3	KH4	KH5	KH6	KH7	KH8
TP1 Pearson Correlation	.08*	.05	,06	.05	.07*	.08*	.08*	.07*
TP1 Sig. (2-tailed)	.01	.14	.06	.12	.03	.01	.01	.03

Note: There are no significant correlations.

Appendix C: Common method bias – EFA forced to one factor for cultural intelligence, creativity and task conflict

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Intem	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
CR1	12,821	38,851	38,851	12,821	38,851	38,851
CR2	4,449	13,483	52,334			
CR3	2,655	8,046	60,380			
CR4	1,563	4,735	65,115			
CR5	1,126	3,411	68,527			
CR6	,928	2,814	71,340			
CR7	,829	2,512	73,852			
CR8	,650	1,971	75,823			
CR9	,615	1,862	77,686			
CR10	,534	1,618	79,303			
CR11	,495	1,499	80,803			
CR12	,478	1,448	82,251			
CR13	,438	1,327	83,577			
CQ1	,425	1,288	84,865			
CQ2	,414	1,254	86,119			
CQ3	,389	1,179	87,298			
CQ4	,364	1,104	88,402			
CQ5	,345	1,046	89,448			
CQ6	,335	1,014	90,462			
CQ7	,322	,975	91,437			
CQ8	,289	,877	92,314			
CQ9	,279	,846	93,161			
CQ10	,273	,827	93,987			
CQ11	,267	,811	94,798			
CQ12	,241	,730	95,528			
CQ13	,230	,697	96,225			
CQ14	,216	,654	96,879			
CQ15	,205	,622	97,501			
CQ16	,191	,580	98,081			
TC1	,176	,534	98,615			
TC2	,166	,502	99,117			
TC3	,153	,463	99,580			
TC4	,139	,420	100,000			

SLOVENIAN SUMMARY / POVZETEK

Uvod

Znanje o spodbujanju ustvarjalnosti v današnjih vse bolj kompleksnih in dinamičnih organizacijah je ključ do učinkovite managerske prakse (Bledow, Rosing in Frese, 2013). Amabile (1996) opredeli ustvarjalnost kot zmožnost ustvarjanja novih in uporabnih idej. Organizacija se odziva na priložnosti, raste in je konkurenčna, če razvija in uporablja ustvarjalne ideje svojih zaposlenih (Amabile, 1996; Oldham in Cummings, 1996). Zato ni presenetljivo, da je vse več znanstvenih razprav in raziskav o ustvarjalnosti v družboslovnih, zlasti psiholoških in poslovnih vedah.

V zadnjih dveh desetletjih so se znanstvene študije osredotočile na osebne in kontekstualne dejavnike, ki spodbujajo ali zavirajo ustvarjalnost (Shalley, Zhou in Oldham, 2004; Tierney in Farmer, 2002). Toda danes organizacije zaradi globalizacije delujejo vedno bolj mednarodno (MacNab in Worthley, 2011) in delovna sila v organizacijah postaja vse bolj raznolika (Shin, Kim, Lee in Bian, 2012). Kulturna raznolikost v delovnem okolju naj bi spodbujala posameznikovo ustvarjalnost, ki pa je pogosto prezrta (Chua, Morris in Mor, 2012). Teorija raznolikosti (*angl. diversity theory*) na podlagi vidikov raznolikosti kot dodane vrednosti (*angl. value in perspective*) in privlačnosti podobnega (angl. similarity attraction perspective) pojasnjuje, kako raznolikost v delovnem okolju vpliva na posameznikovo ustvarjalnost.

Vidik raznolikosti kot dodane vrednosti (Williams in O'Reilly, 1998) pravi, da medkulturna sodelovanja spodbujajo ustvarjalnost (Perry-Smith in Shalley, 2003), saj so posamezniki pri medkulturni interakciji izpostavljeni različnim načinom mišljenja, znanjem in idejam. Vidik privlačnosti podobnega (Pfeffer, 1983) pa poudarja, da raznolikost med sodelavci negativno vpliva na delovanje zaposlenih (Shin et al., 2012). Visoka stopnja kulturne raznolikosti lahko neposredno negativno vpliva na posameznikovo ustvarjalnost, saj so empirične raziskave pokazale, da posamezniki z različnih kulturnih področij v skupnem delovnem okolju zaznajo višjo stopnjo konfliktov (Jehn, Northcraft in Neale, 1999), nizko stopnjo kohezivnosti s sodelavci (Harrison in Klein, 2007) in manj komuniciranja s sodelavci (Hoffman, 1985; Watson, Kumar in Michaelsen, 1993). Zaradi nasprotujočih si empiričnih izsledkov je treba podrobneje preučiti, kateri dejavniki pozitivno vplivajo na posameznikovo ustvarjalnost, ko ta sodeluje z ljudmi iz različnih kultur (Anderson et al., 2014; Anderson, De Dreu in Nijstad, 2004; Leung, Maddux, Galinsky in Chiu, 2008).

Kulturna inteligentnost omogoča poglobljen vpogled, kako lahko medkulturno sodelovanje in kulturna raznolikost v okolju spodbujata ustvarjalnost. Ang in Van Dyne (2008, str. 3) opredelita kulturno inteligentnost kot »posameznikovo sposobnost delovanja in

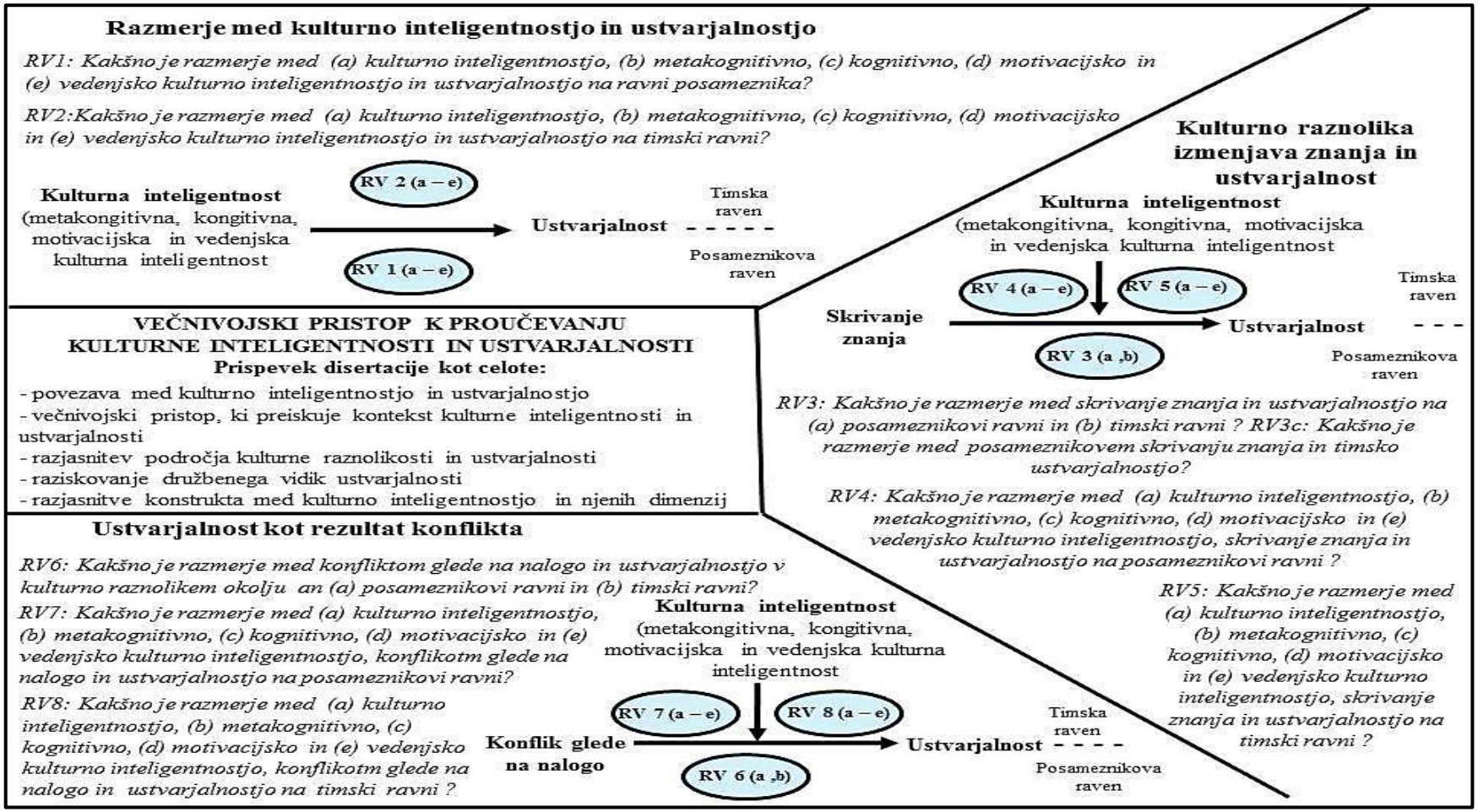
učinkovitega upravljanja v kulturno raznolikih okoljih«. Kulturna inteligentnost omogoča posamezniku, da kar najbolje zazna in izkoristi raznolikost v okolju ter tako poveča svojo ustvarjalnost (Tarique in Takeuchi, 2008). Kulturna inteligentnost je večdimenzionalen konstrukt, ki ga lahko razdelimo na štiri različne dimenzije, in sicer metakognitivno, kognitivno, vedenjsko in motivacijsko (Early in Ang, 2003).

Metakognitivna kulturna inteligentnost je sestavljena iz (1) posameznikove strategije pred medkulturno interakcijo, (2) preverjanja domnev med medkulturno interakcijo in (3) prilagajanja delovanja pri medkulturnih interakcijah, ko se dejanske izkušnje interakcij razlikujejo od pričakovanih (Ang et al., 2007). Kognitivna kulturna inteligentnost je splošno znanje, ki ga imajo posamezniki o ekonomiji, pravnem sistemu, družbenih normah, verskih prepričanjih in jeziku določene kulture. Vedenjska kulturna inteligentnost je opredeljena kot posameznikova sposobnost ustreznega besednega in nebesednega komuniciranja v različnih kulturah. Motivacijska kulturna inteligentnost je posameznikova zmožnost visoke zavzetosti delovanja v medkulturnih interakcijah in visoka zavzetost pri učenju o tem, kako naj medkulturno sodelujejo (Ang et al., 2007). Vsaka dimenzija in kulturna inteligentnost kot celota tako lahko spodbudijo ustvarjalnost v medkulturnih interakcijah kljub mogočim neposrednim negativnim vplivom kulturne raznolikosti.

Anderson (et al., 2014, str. 1301) v svojem pregledu ustvarjalne literature ugotovi, da je »precejšnja vrzel med raziskavami in prakso privedla do večkratnih pozivov za vse večjo potrebo po raziskovanju ustvarjalnosti in kulturnih razlik«. Tako je glavni namen moje doktorske naloge povezati področje kulturne inteligentnosti in ustvarjalnosti ter odgovoriti na temeljno vprašanje naloge: »Ali kulturna inteligentnost lahko spodbudi posameznikovo in timsko ustvarjalnost kljub negativnim vplivov kulturno raznolikega okolja?« Cilj doktorske naloge je torej zapolniti raziskovalno vrzel med kulturno inteligentnostjo in ustvarjalnostjo ter dokazati, da kulturna inteligentnost lahko zmanjša negativne vplive kulturno raznolikega okolja, kot so socialna kategorizacija, skrivanje znanja in konflikt glede na nalogo.

V doktorski disertaciji sem svoje raziskovanje gradila na teoriji raznolikosti in večnivojskem pristopu (od spodaj navzgor) ter želela najprej povezati raziskovalni področji kulturne inteligentnosti in ustvarjalnosti ter ju tudi podrobneje razširiti. Raziskovalni model disertacije sem prikazala na Sliki 1.

Slika 1: Raziskovalni model disertacije



1 Struktura znanstvenega področja kulturne inteligentnosti in ustvarjalnosti: kvalitativni pregled literature, kreiranje znanosti in analiza citiranja med avtorji

Akademiki (Ng in Earley, 2006; Haire, Ghiselli in Porter, 1996) na organizacijskem področju so že zdavnaj dognali, da kultura in inteligenca v veliki meri vplivata na posameznikovo delo. V preteklosti so kulturo večinoma raziskovali glede na kulturne vrednote, kot so individualizem in kolektivizem ter vpliv vrednot na organizacijsko vedenje na različnih ravneh (Bond in Smith, 1996; Earley in Gibson, 1998; Erez in Earley, 1993; Triandis, 1994). Po drugi strani pa je inteligentnost velikokrat vključena v metaanalitične preglede literature (Hunter in Hunter, 1984; Salgado et al., 2003) kot eden izmed kazalcev delovnih uspešnosti zaposlenega. Vendar pa je še vedno ostalo neodgovorjeno vprašanje, zakaj nekateri bolje delujejo v medkulturnih interakcijah in okolju kot drugi.

Earley and Ang (2003) odgovorita na to vprašanje s konceptualizacijo kulturne inteligentnosti, ki nakazuje na posameznikovo zmožnost uspešnega medkulturnega sodelovanja. Področje kulturne inteligentnosti je dokaj novo in se je razvijalo le zadnjih deset let, zato ga velikokrat enačijo tudi z ostalimi konstrukti, na primer čustveno inteligenco. Zato sem v prvem poglavju najprej opredelila konstrukt kulturne inteligentnosti, naredila kratek pregled literature in pripravila bibliometrično analizo skupnega navajanja objavljenih raziskav, ki so na voljo na ISI Web of Science. Bibliometrična analiza skupnega navajanja je pokazala, da lahko kulturno inteligentno področje razdelimo na dve komponenti.

Na drugi strani je ustvarjalnost dokaj raziskan pojav v managementu in na organizacijskem področju. V preteklosti so ustvarjalnost povezovali z individualnimi lastnostmi (osebnost, usmerjenost k ciljem, vrednote), individualnimi faktorji (motivacija, zaupanje) in kontekstualnimi dejavniki (nagrade, vodja, socialna omrežja) (Anderson et al., 2014). Vendar se ustvarjalnost velikokrat pojavlja z roko v roki z inovativnostjo in ju zato tudi zamenjujejo. Zato sem v prvem poglavju opredelila tudi konstrukt ustvarjalnosti ter naredila kratek pregled literature in izvedla bibliometrično analizo skupnega navajanja objavljenih raziskav. Bibliometrična analiza skupnega navajanja je pokazala, da lahko ustvarjalno področje razdelimo na dve komponenti. S podrobnejšim vpogledom v vodilne citirane članke na obeh področjih sem prispevala k pojasnitvi in boljšemu razumevanju temeljev obeh področij. Prav tako je pregled literature pokazal, da področji kulturne inteligentnosti in ustvarjalnosti skupaj nista empirično raziskani.

2 Razmerje med kulturno inteligentnostjo in ustvarjalnostjo

Družbena izmenjava, natančneje deljenje informacij s sodelavci, je dragocen vir za ustvarjalne ideje tako posameznika kot timov (Chua et al., 2012, Perry-Smith, 2006). Tako literatura o ustvarjalnosti nakazuje, da lahko različne skupine (npr. voditelji in sodelavci)

spodbujajo individualno in/ali skupinsko ustvarjalnost (Anderson et al., 2014; Madjar, 2005; Madjar et al., 2002; Shalley in Gilson, 2004; Zhou in Hocever, 2014). Caniels in kolegi (2014, str. 103) na primer pravijo, da morajo organizacije, ki želijo pospeševati nastajanje idej kot del ustvarjalnega procesa med svojimi zaposlenimi, »spodbujati medosebne stike, kolikor je mogoče, tako da se navzkrižno oplajanje med različnimi oddelki in/ali področji strokovnega znanja izboljša«.

Zato ne preseneča dejstvo, da literatura o raznolikosti pravi, da so kulturno raznoliki sodelavci dragocen vir organizacijske ustvarjalnosti (Amabile, 1996), vendar je ta pogostokrat prezrta (O'Reilly, Williams in Barsade, 1998). Čeprav obstajajo raziskave (Chua, 2013; Chua et al., 2012; Cox, Lobel in McLeod, 1991; Giambatista in Bhappu, 2010; McLeod, Lobel in Cox, 1996; Stahl, Maznevski, Voigt in Jonsen, 2010), ki obravnavajo vpliv kulturne raznolikosti na ustvarjalni proces, so te prinesle mešane in pogosto nejasne rezultate. Nekatere študije so pokazale, da je kulturna raznolikost pozitivno povezana z ustvarjalnostjo (Chatman, Polzer, Barsade in Neale, 1998; Stahl et al., 2010), medtem ko so druge nakazale statistično neznačilen ali celo negativen vpliv kulturne raznolikosti na ustvarjalnost (Giambatista in Bhappu, 2010; Shin et al., 2012).

V luči teh nasprotujočih ugotovitev so znanstveniki že večkrat pozvali k podrobnejši raziskavi o pogojih, pod katerimi bodo kulturne razlike dejansko spodbudile ustvarjalnost v organizacijah (Anderson et al., 2004; Anderson et al., 2014; Shalley et al., 2004; Zhou in Shalley, 2003). Tako v tem poglavju obravnavam kulturno inteligentnost kot individualno zmožnost, ki pomaga pri medkulturnih interakcijah in posledično spodbuja ustvarjalnost v medkulturnem okolju. Namen tega poglavja je razrešiti in pregledati vpliv kulturne inteligentnosti na ustvarjalnost v kulturno raznolikem okolju na individualni in timski ravni. Natančneje, povezala bom vsako dimenzijo kulturne inteligentnosti z ustvarjalnostjo na individualni in skupinski stopnji.

Na vzorca 621 zaposlenih v 20 malih in srednje velikih podjetij multinacionalnih organizacij iz osmih držav v jadranski regiji, sem naredila analizo s pomočjo hierarhičnega linearnega modeliranja (HLM), da pojasnim, kako je kulturna inteligentnost povezana z ustvarjalnim delovanjem na individualni ravni. Na pojasnim isto razmerje na timski ravni, sem na istem vzorcem, v katerem je bilo 73 timov, naredila različne linearne regresije v SPSS-u. Prva raziskava je pokazala, da je ustvarjalnost pogojena s kulturno inteligentnostjo kot celoto ter njeno metakognitivno in motivacijsko dimenzijo na posameznikovi in timski ravni. Prav tako ima vedenjska kulturna inteligentnost pozitiven vpliv na posameznikovo ustvarjalnost. Hkrati so rezultati pokazali, da kognitivna kulturna inteligentnost nima nobenega vpliva na ustvarjalnost na ravni posameznika in tima. Eksperimentalna študija je potrdila, da je ustvarjalnost v kulturno raznolikem okolju pogojena s kulturno inteligentnostjo. V prvem poglavju dokažem, da sta posameznikova in timska ustvarjalnost povezani s kulturno inteligentnostjo in njenimi tremi dimenzijami.

3 Kulturno raznolika izmenjava znanj in ustvarjalnost

Kulturno raznoliko delovno okolje omogoča posameznikom dostop do različnih znanj, saj posamezniki prihajajo iz različnih okolij z različnim znanjem (Pelled, Eisenhardt in Xin, 1999; Williams in O'Reilly, 1998). Različna znanja so ključna za ustvarjalnost (Amabile, 1996), toda od posameznika je odvisno, ali bo delil svoje znanje s sodelavci ali ne (Gilson in Shalley, 2004). Posamezniki, ki niso motivirani in ne želijo deliti svojega znanja s svojimi sodelavci, lahko skrivajo svoje znanje pred drugimi.

Skrivanje znanja je opredeljeno kot namerno zadrževanje ali prikrivanje znanja, ki ga je zahtevala druga oseba (Connelly, Zweig, Webster in Trougakos, 2012). Za ustvarjalnost je bistvenega pomena prav izmenjava informacij oziroma znanja (Amabile, 1983), zato posameznikovo skrivanje znanja negativno vpliva na ustvarjalnost. Tudi nekatere raziskave so pokazale, da skrivanje znanja skozi nezaupanje negativno vpliva na ustvarjalnost tistega, ki ga je prvotno skrival (Černe et al., 2014). Vendar pa je veliko še neraziskanega in nejasnega pri skrivanju znanja na organizacijskem področju, kot na primer zakaj prihaja do skrivanja znanja in kakšna je njegova vloga v ustvarjalnem procesu (Connelly et al., 2012). Prav tako ni jasno, kako vpliva na ustvarjalnost pri interakciji z ljudmi iz različnih kulturnih okolij. Zato je namen drugega poglavja raziskati odnos med skrivanjem znanja in ustvarjalnostjo (individualno ter skupinsko) v kulturno raznolikem okolju.

Zaposleni v raznolikem delovnem okolju najverjetneje skrivajo svoje znanje pred sodelavci iz kulturno raznolikih okolij, saj jih pogosto zaznajo kot posameznike, »ki niso del njihove skupine« (Van Knippenberg in Schippers, 2007, str. 518) in so v zanki socialne kategorizacije v smislu enih proti drugim (Tajfel in Turner, 1979). Poleg tega raziskave kažejo, da imajo posamezniki v kulturno raznolikih delovnih okoljih večjo stopnjo nezaupanja (Swann, Kwan, Polzer in Milton, 2003), ki se odraža tako, da se posamezniki izogibajo komunikaciji s svojimi sodelavci (Watson et al., 1993) in ne delijo svojega znanja. Poglavitno je, da managerji dobijo odgovor, kako omiliti posledice skrivanja znanja v kulturno raznolikem okolju in s tem spodbuditi ustvarjalnost. Domnevam, da kulturna inteligentnost posameznikov lahko vpliva na vzorec družbene menjave znanj med iskalci in skrivalci znanja (Poortvliet in Giebels, 2012) in zmanjša percepcijo o (ne)pripadnosti skupini, saj je opredeljena kot posameznikova zmožnost, ki učinkovito deluje v kulturno raznolikem okolju (Ang in Van Dyne, 2008b).

Chua in Morris (2009) sta dokazala, da je kulturna inteligentnost posameznika skozi zaupanje vplivala na pogostost izmenjave idej pri medkulturnih interakcijah. Kot Connelly in sodelavci (2012) pojasnijo, izmenjava znanja ne pomeni nujno, da ne pride do skrivanja znanja, ker se pri tem posameznik namerno odloči, da ne bo delil svojega znanja. Kljub temu sklepam, da če posameznikova kulturna inteligentnost vpliva na deljenje znanja, potem ima učinek tudi na skrivanje znanja. Zato raziščem, kako kulturna inteligentnost in

njene dimenzije zmanjšajo negativno razmerje med skrivanjem znanja ter ustvarjalnostjo na ravni posameznika in tima.

Prva raziskava na omenjenih podatkih iz drugega poglavja (621 zaposlenih iz 73 timov iz jadranske regije) je pokazala, da ima skrivanje znanja neposreden negativen vpliv na ustvarjalnost na posameznikovi in timski ravni. Moderacijska analiza je pokazala, da sama kulturna inteligentnost ter njena metakognitivna in vedenjska dimenzija zmanjšajo negativno razmerje med skrivanjem znanja in ustvarjalnostjo na posameznikovi ravni. Eksperimentalna študija je potrdila omenjene empirične rezultate ter pokazala, da je posameznikovo skrivanje znanja prav tako neposredno negativno vplivalo na timsko ustvarjalnost.

4 Ustvarjalnost kot rezultat konflikta

Medkulturne razlike v delovnem okolju ne vodijo nujno do konfliktov, vendar je stopnja za nastajanje konflikta višja v kulturno raznolikem okolju (Armstrong in Cole, 2002; Aparna Joshi, Labianca in Caligiuri, 2002), zato je ustvarjalni potencial kulturne raznolikosti na delovnem mestu pogosto prezrt (Chua et al., 2012). Toda raziskave so pokazale, da so lahko nekatere stopnje konflikta koristne za ustvarjalnost v organizacijah (De Dreu, 2006; Fairchild in Hunter, 2014; Farh et al., 2010). Obstajajo tri različne vrste konfliktov: konflikt medosebnega odnosa, procesni konflikt in konflikt glede na nalogo (Jehn, 1995). Konflikt glede na nalogo se nanaša na pogovor in razprave o tem, kako izvajati posamezne naloge. Raziskavi (De Dreu, 2006; Farh et al., 2010) sta pokazali, da ima konflikt glede na nalogo večji vpliv na ustvarjalnost kot čustven in procesni konflikt, zato se bom v tem poglavju osredotočila le na konflikt glede na nalogo.

V literaturi najdemo različne izsledke raziskav, ki povezujejo konflikt glede na nalogo z ustvarjalnostjo. Tako na primer metaanaliza Hülshegerja et al. (2009) pokaže, da konflikt glede na naloge ne vpliva pozitivno na ustvarjalnost. Po drugi strani pa je nedavna raziskava Fairchilda (2014) razkrila, da lahko konflikt glede na nalogo okrepi timsko ustvarjalnost, vendar le takrat, ko so posamezniki v timih stremeli k visoki stopnji varnega sodelovanja. Zato znanstveniki (De Dreu, 2008; Hülsheger et al., 2009) pozivajo k bolj specializiranim raziskavam, ki bodo pojasnile, v kakšnih okoliščinah je konflikt glede na nalogo dober za posameznikovo ali timsko ustvarjalnost.

Tako je cilj poglavja štiri pojasniti in razrešiti nedosleden odnos med konfliktom glede na nalogo in ustvarjalnostjo v kulturno raznolikem okolju, saj organizacijski učenjaki potrebujejo nove teoretične perspektive, empirične raziskave ter poglobljeno znanje o konfliktih glede na nalogo in kulturnih razlikah, ki stimulirajo ustvarjalnost (Anderson et al., 2004, Anderson et al., 2014). Menim, da kulturna inteligentnost lahko zmanjša negativni učinek delovnega konflikta na ustvarjalnost v kulturno raznolikem okolju, saj kot

je bilo že omenjeno, kulturno inteligenco opredeljujemo kot posameznikovo zmožnost učinkovitega delovanja v kulturno raznolikem okolju (Ang in Van Dyne, 2008a). Nadalje domnevam, da se posameznik z visoko stopnjo kulturne inteligentnosti začne popolnoma izogibati konfliktom glede na nalogo in se lahko pojavi skupno mišljenje skupine (angl. groupthink) med člani tima (Janis, 1972). Skupno mišljenje zavira ustvarjalnost, saj posamezniki ne bodo razpravljali o svojih pogledih, ampak sledili celotni skupini, saj se popolnoma strinjajo in zlijejo z njo.

Prva raziskava v tem poglavju je bila narejena na podlagi vzorca 617 zaposlenih iz 42 timov ter 16 malih in srednjih mednarodnih podjetjih ter članov mednarodne mreže na Norveškem (*angl. International Network of Norway*). Rezultati raziskave so pokazali, da kulturna inteligentnost zmanjša negativno razmerje med konfliktom glede na nalogo in ustvarjalnostjo na posameznikovi ravni. Moderacijska analiza je nadalje pokazala, da metakognitivna, kognitivna in motivacijska kulturna inteligentnost prav tako zmanjšajo negativno razmerje med konfliktom glede na nalogo in ustvarjalnostjo na posameznikovi ravni. Na timski ravni le kognitivna kulturna inteligentnost zmanjša negativno razmerje med konfliktom glede na nalogo in ustvarjalnostjo. Eksperimentalna študija je potrdila, da ustvarjalnost zmanjša negativno razmerje med konfliktom glede na nalogo in ustvarjalnostjo na posameznikovi in timski ravni. Nadalje je eksperimentalna študija nakazala, da ko posameznik zazna veliko stopnjo konflikta glede na nalogo, je ustvarjalnost najvišja, če ima posameznik srednjo raven kulturne inteligentnosti.

5 Skupna diskusija prispevkov in zaključek

Prvi pomembni prispevek te disertacije je povezovanje kulturne inteligentnosti kot celote in njene dimenzije z ustvarjalnostjo v kulturno raznolikem okolju, ki sem ga izvedla v več korakih. V prvem poglavju sem s pomočjo bibliometrične analize kocitiranosti in analize omrežja prikazala temelje, razvoj ter glavne ugotovitve raziskav na področjih kulturne inteligentnosti, ustvarjalnosti in obeh skupaj. Področje kulturne inteligentnosti je namreč še vedno v fazi razvoja in osrednja avtorja Ang (2006, 2007) in Earley (2003, 2004) se v svoji literaturi večinoma posvečata sami konceptualizaciji konstrukta, opredelitvi in validaciji merske lestvice za kulturno inteligentnost. Po drugi strani pa je ustvarjalnost precej bolj raziskana v organizacijskem kontekstu. Glavni avtorji so Oldham in Cummings (1996), Woodman et al. (1993), Amabile (1988), Amabile et al. (1996) ter Scott in Bruce (1994), ki se ukvarjajo predvsem s prestavitvami teoretičnih modelov ter raziskavami o ustvarjalnem procesu kot delu inovacijskega procesa in njegovih individualnih ter kontekstualnih dejavnikih. Prav tako sem raziskala oba konstrukta skupaj in analiza je pokazala, da obstaja le eden članek, ki raziskuje kulturno inteligentnost in ustvarjalnost hkrati. S tem sem pokazala, da obstaja raziskovalna vrzel med tema dvema konstruktoma.

Z empiričnim povezovanjem in testiranjem s pomočjo večnivojskega pristopa med kulturno inteligentnostjo in ustvarjalnostjo v kulturno raznolikem okolju odgovorim na

številne klice po poglobljenih raziskavah o kulturnimi raznolikosti in ustvarjalnosti (Anderson et al., 2004; Anderson et al., 2014; Shalley et al., 2004; Zhou in Su, 2010). Prav tako skozi celotno doktorsko nalogo dokazujem, da kulturna raznolikost dejansko spodbuja ustvarjalnost, vendar le, če imajo posamezniki ali timi visoko ali zmerno raven kulturne inteligentnosti. Tako je drugi prispevek moje doktorske disertacije ta, da so rezultati empiričnih raziskav v skladu z vidikom vrednosti v različnosti (O'Reilly et al., 1998).

Tretji prispevek te disertacije je razširitev predhodnega dela na področju razvoja in empiričnih raziskav na večnivojski teoriji kulturne inteligentnosti in ustvarjalnosti. Večnivojski pristop, ki združuje različne ravni raziskovanja, ponuja raziskovalcu, da celostnejše dojema raziskovalne pojave, ki omogočajo celostnejši pregled znanosti (Kozlowski in Klein, 2000). Tako sem se v svoji disertaciji osredotočila, konceptualizirala in s pomočjo pristopa večnivojske teorije (od spodaj navzgor) raziskala kulturno inteligentnost in njen vpliv na ustvarjalnost. S tem sem prispevala k izgradnji znanosti v literaturi in raziskavah o kulturni inteligentnosti. Pripomogla sem tudi k izgradnji znanosti na ustvarjalnem področju, ker sem odgovorila na poziv Andersona et al. (2014) o večnivojskem raziskovanju ustvarjalnosti, saj bomo le tako v celoti razumeli kompleksnost ustvarjalnosti. V skladu z Gongom et al. (2013) sem prikazala, da je ustvarjalnost večnivojski konstrukt, ki vključuje odnose od spodaj navzgor na individualni in timski ravni.

Četrti prispevek te disertacije je usmerjen k literaturi o kulturni inteligentnosti. Najprej odgovorim na poziv Van Dyne et al. (2012) o bolj poglobljenih raziskavah o kulturni inteligentnosti ter skozi celotno disertacijo teoretiziram in raziskujem kulturno inteligentnosti kot celoto ter vsako dimenzijo posebej. Rezultati raziskav so pokazali, da lahko kulturna inteligentnosti kot celota spodbuja ustvarjalnost v kulturno raznolikem okolju, in sicer neposredno ali prek zmanjševanja negativnega odnosa med skrivanjem znanjem ali konfliktom glede na nalogo in ustvarjalnostjo. Po drugi strani pa dimenzije kulturne inteligentnosti (tj. metakognitivne, kognitivne, vedenjske in motivacijske) ne zmanjšujejo negativnega vpliva skrivanja znanja na ustvarjalnost na individualni ravni. Tako s svojimi raziskavami doprinesem k empiričnim raziskavam Elenkova in Maneva (2009) in podkrepim delo avtorja Ng s sodelavci (2012), ki teoretizirajo, da je vpliv na ustvarjalnost večji, ko kulturna inteligentnost deluje kot en konstrukt, sestavljen iz štirih dimenzij. Kljub temu pa prav tako prispevam k bolj poglobljenim empiričnim dokazom in znanjem o metakognitivni, kognitivni, motivacijski in vedenjski dimenziji kulturne inteligentnosti.

Doprinesla sem k literaturi o kulturni inteligentnosti tudi tako, da sem jo povezala s posameznikovo sposobnostjo, ki zmanjša negativen socialni kategorizacijski proces v kulturno raznolikem okolju, kar posledično zmanjša skrivanje znanja in konflikt glede na nalogo, po drugi strani pa spodbuja ustvarjalnost. Z raziskavami v moji doktorski disertaciji sem podprla trditev, da je kulturna inteligentnost nov mehanizem za zmanjšanje negativnih vidikov kulturne raznolikosti (npr. individualno skrivanje znanja in stopnja

konflikta glede na nalogo) z namenom spodbujanja ustvarjalnosti na individualni ravni. Prav tako sem s svojo raziskavo doprinesla k preteklim empiričnim ugotovitvam, da kulturna inteligentnost pozitivno vpliva na delovno učinkovitost (Chen et al., 2011; G. Chen et al., 2010), še posebej na ustvarjalnost.

K literaturi o kulturni inteligentnosti sem prispevala tudi s preučevanjem preveč dobrega učinka (*angl. too-much-of-a-good-thing effect*) same kulturne inteligentnosti. V tretjem poglavju sem pokazala, da imajo različne ravni kulturne inteligentnosti (tj. visoka, srednja in nizka) različen vpliv na razmerje med konfliktom glede na nalogo in ustvarjalnostjo v kulturno raznolikem okolju. Rezultati so pokazali, da ima zmerna raven kulturne inteligentnosti najbolj pozitiven vpliv na razmerje med konfliktom glede na nalogo in ustvarjalnostjo v kulturno raznolikem okolju. S tem sem stopila korak naprej in dokazala, da lahko preveč kulturne inteligentnosti vodi do skupnega mišljenja skupine, ki ne zmanjšuje le konflikta glede na nalogo, ampak tudi individualno ustvarjalnost v kulturno raznolikem okolju. Tako sem odgovorila na poziv Piercea in Aguinisa (2013) po opredelitvi kontekstno-specifičnih rezultatov preveč dobrega učinka na področju literature o kulturni inteligentnosti.

Peti prispevek te disertacije je namenjen literaturi o ustvarjalnosti, saj sem razširila prejšnje študije s hkratnim raziskovanjem vedenja posameznikov (skrivanje znanja) ali socialnih interakcij (konflikt glede na nalogo) in kontekstualnih dejavnikov (kulturno raznoliko okolje) kot dejavnikov, ki vplivajo na timsko in individualno ustvarjalnost. Strokovnjaki na področju organizacijske kreativnosti poudarjajo, da so osebni in kontekstualni dejavniki odločilni za spodbujanje ustvarjalnosti (npr. Amabile, 1983b; Amabile et al., 1996; Shalley et al., 2004), vendar obstaja malo študij, ki raziskujejo oba dejavnika hkrati. Z mojo disertacijo torej podam teoretično razlago, da je kulturno raznoliko okolje tihi, nevidni dejavnik, ki negativno vpliva na ustvarjalnost, saj sproži skrivanje znanja ali konflikt glede na nalogo med kulturno raznolikimi sodelavci (Tajfel in Turner, 1979; Turner, 1985).

Prav tako prispevam k literaturi o ustvarjalnosti s pomočjo novih raziskav o motivaciji kot pomembnemu gonilu ustvarjalnosti (Elsbach in Hargadon, 2006) s poudarkom na motivacijski kulturni inteligentnosti. V literaturi o ustvarjalnost obstaja precej obsežna raziskava, ki označuje, da lahko motivacija (predvsem notranja in prosocialna) spodbuja posameznikovo ustvarjalnost (Grant in Berry, 2011; Amabile, 1985; Amabile et al., 1994). Vendar pa še nisem odkrila nobene študije, ki bi povezovala ustvarjalnost z motivacijsko kulturno inteligentnostjo na individualni in timski ravni. Z disertacijo sem dopolnila prejšnje raziskave o motivacijski teoriji ustvarjalnosti in storila korak naprej z empiričnim testiranjem motivacijske kulturne inteligence kot enega izmed kazalcev ustvarjalnosti, njenega učinka kot umirjujočega mehanizma pri odnosu med skrivanjem znanja in delovnim konfliktom ter ustvarjalnostjo na individualni in timski ravni. Prav tako sem odgovorila pozivu Shalley-ja et al. (2004) o novih teoretičnih perspektivah in empiričnih preiskavah, da bi se zagotovilo bolj poglobljeno razumevanje motivacijskih procesov, ki spodbujajo ustvarjalnost na posamičnih in ekipnih ravneh.