THE INTERPLAY AMONG PROSOCIAL MOTIVATION, CULTURAL TIGHTNESS, AND UNCERTAINTY AVOIDANCE IN PREDICTING KNOWLEDGE HIDING

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ABSTRACT: *In this paper, we examine the socio-cultural aspects of knowledge hiding. Specifically, we aim to deepen the understanding regarding the role that national cultural dimensions and motivation play in stimulating or preventing knowledge hiding. We investigate a three-way interaction among prosocial motivation, cultural tightness, and uncertainty avoidance to explain knowledge hiding in organizations. Our field studies involved working professionals from Slovenia (n = 123) and China (n = 253). Results show that the highest level of knowledge hiding happens when employees are met with a combination of a low level of prosocial motivation, a low level of cultural tightness, and a low level of uncertainty avoidance. The highest levels of knowledge hiding thus occur when employees are not motivated by the welfare of others, are inclined to take the risk and simultaneously perceive that deviation from cultural norms will not be sanctioned. We discuss the contributions and implications of our two studies for the fields of knowledge hiding and cross-cultural organizational behavior.*

INTRODUCTION

Knowledge hiding is an emerging construct that is quickly gaining ground in contemporary research. This construct presents treatment as an interpersonal phenomenon (Connelly et al., 2012) and it has been recognized as a pressing matter in the workplace (Cui, Park. & Paik, 2016; Černe, Nerstad, Dysvik. & Škerlavaj, 2014). Interpersonal distrust and poor relationships in the workplace positively influence knowledge hiding. Moreover, knowledge hiding harms interpersonal relationships (Connelly et al., 2014), increases

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distrust (Černe et al., 2014; Grant & Sumanth, 2009; Oye, Salleh. & Noorminshah, 2011), diminishes creativity (Černe et al., 2014) and innovative work behavior (Černe et al., 2017), causes lower level of motivation (Oye et al., 2011), and creativity (Connelly et al., 2012; Černe et al., 2014).

Based on the previous research, we learned that prosocial motivation is a significant predictor of knowledge hiding (Černe et al., 2014; Černe, Babič, Connelly. & Škerlavaj, 2015). However, boundary conditions of the relationship between prosocial motivation and knowledge hiding (Connelly et al., 2012; Grant, 2007) remain largely unexplored. It is important to be aware of the outputs and consequences that this relationship could bring out. Prosocial motivation protects and promotes the well-being of others, so it should play an important role in predicting knowledge hiding (Batson, 1987). It refers to a desire to help others (Ardichvili, Page. & Wentling, 2003; Batson, 2010; Miller, 1994). Based on that knowledge, we focus on how prosocial motivation (Bolino & Grant, 2016; Grant, 2007), in connection with national cultural dimensions of tightness-looseness and uncertainty avoidance (Gelfand, Erez. & Aycan, 2007; Tsui, Nifadkar. & Ou, 2007), influences knowledge hiding. Even though in our research we combined two compatible cultural dimensions, there are some important differences between them. With cultural tightness, we measure the strength or intensity, and with uncertainty avoidance, we measure the content of national culture. The difference is also that uncertainty avoidance is a cultural dimension that deals with a society's tolerance for uncertainty and ambiguity (Hofstede, 1983a). On the other hand, cultural tightness is a construct that presents the strength of social norms and degree of sanctioning within societies (Gelfand, Nishii. & Raver, 2006). Cultural tightness is a broader construct than uncertainty avoidance; although cultures could be tight, not all tight cultures are uncertainty-avoidance oriented.

Today, organizations work globally and it is crucial to learn about the cultural context to reduce misunderstanding and inappropriate behavior in advance (Johnson, Lenartowicz. & Apud, 2006). Organizations need to be aware that each culture has its own norms, values, and official rules that influence work behavior (Aktas, Gelfand. & Hanges, 2015; Chua, Roth. & Lemoine, 2015; Gelfand et al., 2007; Gelfand, Nishii. & Raver, 2006). The extant research shows that work behavior is influenced by various cultural norms (Chua et al., 2015; Pan. & Zhang, 2014). Cultural tightness and uncertainty avoidance have already been demonstrated to have a significant influence on organizational behavior (Fischer, Ferreira, Leal, Redford. & Harb, 2005; Gelfand et al., 2007; Liu, Jiang, Shalley, Keem. & Zhou, 2016). Uncertainty avoidance, one of the core Hofstede's cultural dimensions, is defined as the extent to which the members of a culture feel threatened by ambiguous or unknown situations, and holds important research opportunities (Doney, Cannon. & Mullen, 1998; Litvin, Crotts. & Hefner, 2004).

We included the construct of uncertainty avoidance in our research because it is correlated with the construct of cultural tightness (Chua et al., 2015). Cultural tightness essentially represents strengths of cultural norms. Cultural tightness is related with uncertainty avoidance, because both constructs describe strong rules, norms, and sanctions for inappropriate behavior (Chan, 1996; Gelfand et al., 2006; Gelfand, Lim. & Raver, 2004;

Toh & Leonardelli, 2013; Triandis, 1977; Triandis, 1998; Triandis, 2000). Based on previous research (Černe et al., 2015), we have learned that implication of many rules and sanctions could prevent knowledge hiding. In fact, it was found that a three-way interaction term between low prosocial motivation, low cultural tightness, and low collectivism caused the occurrences of knowledge hiding at higher levels - more often, frequently and with a higher chance (Černe et al., 2015).

Therefore, a connection between the constructs of uncertainty avoidance and cultural tightness exists based on their common characteristics (i.e., with regard to their settled rules and their lack of deviation from those rules). In this study, we propose that knowledge hiding is conditioned by prosocial motivation, cultural tightness, and with uncertainty avoidance. The three-way interaction term in a combination of the researched constructs showed the importance of the effect of socio-cultural aspects on knowledge hiding. Uncertainty avoidance means avoiding criticism, negative feedback, and conflict. Avoiding challenges carries the risk of errors and failure. When we are facing low uncertainty avoidance (Shane, 1995; Wennekers, Thurik, van Stel. & Noorderhaven, 2007) this increases the negative way of behavior (Lewicki, McAllister. & Bies, 1998; Tsai, 2002) within an organization. With our study, we empirically demonstrate that managers need to be aware of the occurrences of the combination of low levels of prosocial motivation, low cultural tightness, and low levels of uncertainty avoidance, which leads to knowledge hiding at the highest level. Moreover, managers need to pay special attention, if knowledge hiding occurs among their employees. They should be aware when a combination of three-way interaction term occurs within their organization.

This paper intends to contribute to the field of knowledge hiding. We studied two samples of working professionals, from two distinctly different settings - China and Slovenia, to increase the generalizability of findings. To predict knowledge hiding, we considered the type of culture using uncertainty avoidance and cultural tightness. Second, this study intends to contribute to cross-cultural organizational behavior research. We demonstrated the importance of combining various socio-cultural aspects using a three-way interaction term, and we connected cultural tightness (i.e., the strength) to uncertainty avoidance (i.e., the content). Previously, this combined approach, using two theoretical frameworks focused on national cultures, has been underexplored (Gelfand et al., 2007; Tsui et al., 2007).

Furthermore, in our research, we focused on variations within cultural dimensions from the individual-level assessments at the micro level (Brewer & Venaik, 2014; Taras, Steel. & Kirkman, 2016; Tsui et al., 2007). Variations in cultural values were found to mainly occur within countries and much less across, as a meta-analysis showed. Taras et al. (2016) gathered all the Hofstede-typology based studies to demonstrate that 80% of variance occurs on between-person level, and only 20% among different countries. When studying culture and values, individual perceptions are thus a stronger placeholder for cultural dimensions than countries are.

THEORY AND HYPOTHESES

Knowledge hiding

Knowledge hiding is defined as an intentional attempt to conceal or withhold information that others have requested (Connelly et al., 2012). It(Connelly, 2012 #713) occurs when an employee receives a request for knowledge, but actively conceals or withholds that knowledge. This definition specifically excludes cases in which employees fail to share knowledge due to mistakes, accidents, or ignorance, as well as cases when they simply do not have the requested knowledge. Prior research describes three facets of knowledge hiding, which are: playing dumb (i.e., an individual pretends not to know the relevant information), evasive hiding, (i.e., individual pretends that the information will be forthcoming even as he or she intends to conceal it) and rationalized hiding (individual provides an accurate explanation to explain why the information will not be forthcoming) (Connelly et al., 2012).

Knowledge hiding, not simply the opposite of knowledge sharing (Connelly et al., 2012), includes intentional refusals to share in response to requests. Up to this date, knowledge hiding remains a novel and unexplored phenomenon. An example of knowledge hiding is when an employee receives a request for knowledge and this employee engages in activities designed to conceal the requested knowledge (Connelly et al., 2012). In other words, employees who possess knowledge decline to share it without the expectation of reciprocity (Davenport & Prusak, 1998).

Prosocial motivation and knowledge hiding

We included the construct of prosocial motivation as a crucial social predictor of knowledge hiding. Prosocial motivation represents a desire to expand effort based on a concern for helping or contributing to other people (Grant, 2007). Prosocially motivated employees are more likely to foster cooperative behavior with their colleagues in teams (Bolino & Grant, 2016; Hu & Liden, 2015). These employees have a high chance of being treated like good and trusted employees. However, these employees could also be exploited by free-riders (Lenway & Rehbein, 1991). Prosocially motivated employees appreciate values, norms, and a positive workplace climate (Ardila, Gouveia. & Diógenes de Medeiros, 2012; Schwartz, 2007; Škerlavaj, Connelly, Černe. & Dysvik, In press). People without social empathy engage in knowledge hiding (Cui, Park. & Paik, 2016). In previous studies, researchers have indicated that prosocial motivation is potentially negatively related to knowledge hiding (Černe et al., 2015).

The research of combination of two constructs prosocial motivation and knowledge hiding is novel. Actually, Černe et al. (2015) were the first ones who were interested in examining this relationship, and supported the fact that prosocial motivation negatively influences knowledge hiding (Černe et al., 2015). Previous research of this link (Černe et al., 2015) was made based on two studies, but with a lower sample (Study 1: n = 115; Study

2: n = 313). The present study on a larger sample, with more participants from different cultures, replicates and strengthens previous research findings. Therefore, we used the following hypothesis as a basis for further hypothesized interactions:

Hypothesis 1: Prosocial motivation is negatively related to knowledge hiding.

Cross-cultural knowledge hiding

In our research, we have focused on the study of cross-cultural aspects in knowledge hiding, especially on how culture could influence behavior within an organization. We have used respondents from two countries and measured their personal cultural tightness and uncertainty avoidance. As many companies operate globally (Williams, Han. & Qualls, 1998), cross-cultural research is gaining important value (Berry, 2002; Hui & Triandis, 1986). Taras, Steel, and Kirkman (2016) found that over 80% of the variations in cultural values were found within countries and less than 20% were found between countries. Therefore, it is important to study each culture separately, to learn which types of behavior and which personal characteristics prevail within each culture (Taras et al., 2016).

Nevertheless, knowledge hiding among employees remains a problem. When employees experience knowledge hiding behavior from their coworkers (Connelly et al., 2012), this leads to a lack of trust and to a bad working environment. Regardless of cultural characteristics, leaders are those who should support knowledge-sharing environment within an organization (Connelly & Kelloway, 2003; De Vries, Bakker-Pieper. & Oostenveld, 2010). In other words, irrespective of the national culture in which an organization exists, leaders and followers should create their own organizational culture (Al-Alawi, Al-Marzooqi. & Mohammed, 2007; Davenport & Prusak, 1998; Oye et al., 2011; Suppiah & Singh Sandhu, 2011). Based on this, cultural aspects are tightly related to organizational behavior. Researchers proved that there is an influence of cultural individualism-collectivism, self-construal, and individual values on communication styles across cultures (Gudykunst, Matsumoto, Ting-Toomey, Nishida, Kim. & Heyman, 1996). In addition, it depends on the cultural aspects of organizational behavior whether individuals will be prepared to share or instead hide their knowledge (Bock, Zmud, Kim. & Lee, 2005).

Two-way interaction: Cultural tightness-looseness and uncertainty avoidance predicting knowledge hiding

In the following, we describe both researched constructs studied in our two-way interaction term research. Firstly, we present the cultural tightness characteristics and how this could influence knowledge hiding. Secondly, we present uncertainty avoidance characteristic and its influence on knowledge hiding. After this, we combined two researched constructs in a two-way interaction term of cultural tightness and uncertainty avoidance predicting knowledge hiding.

Cultural tightness-looseness and knowledge hiding

The prevailing norms of a national culture could influence knowledge hiding. Norms are shared beliefs and expectations of what behavior is appropriate within a culture (Cialdini, Kallgren. & Reno, 1991). Culture is an expression of deeper norms and values in a society. It cannot be directly seen and is quite difficult to identify (Trompenaars & Hampden-Turner, 2011). Observing the particularities of a culture means studying that culture on the individual level (Earley & Mosakowski, 2000; McSweeney, 2002; Salk & Brannen, 2000). Due to the fact that cultural differences are found to occur within a country (Taras et al., 2012), this tells us that it should be studied at the individual level.

Pelto (1968) was the first to divide cultures into tight and loose societies based on their social norms. Cultural norms, values, and cultural differences influence organizational behavior, especially when individuals work in teams (Cox, Lobel. & McLeod, 1991). Cultural tightness is defined as a construct with strong social norms and sanctions for inappropriate behavior (Gelfand et al., 2006; Toh & Leonardelli, 2013; Triandis, 1977; Triandis & Gelfand, 1998). Social norms and sanctions highly influence the behavior of individuals within organizations (Gelfand et al., 2006). Tight societies have clearly defined norms, values, rules, and require strict discipline (Chua et al., 2015; Gelfand et al., 2006; Shin, Hasse. & Schotter, 2015). Examples of tight cultures are the Japanese, Indian, and Hutterite societies (Pelto, 1968).

Chua and colleagues (2015) defined loose cultures as those that have the opposite characteristics of tight cultures. A loose culture lacks discipline, formality, and regimentation, and it has a high tolerance for deviant behavior (Pelto, 1968). Examples of loose cultures are the Finnish and Thai societies (Pelto, 1968). Individuals who possess the requested knowledge have the power, and they decide if they are prepared to share or hide the requested knowledge (Nonaka, 1994). The general characteristics of a culture reveal how people behave overall (Avolio & Bass, 1995; Berry, 1995). Based on the above characteristics, it is expected that cultural tightness could be negatively related to knowledge hiding.

Uncertainty avoidance and knowledge hiding

Hofstede (1980a; 2011) introduced a model of six dimensions of national culture (i.e., individualism or collectivism, power distance, uncertainty avoidance, masculinity or femininity, long term or short term orientation, and indulgence or restraint) to describe the values of people within particular cultures. These six cultural dimensions (Hofstede, 2011) can be used to describe cultural differences, which prevail in a national culture. According to a literature review, one of six cultural dimensions (i.e., uncertainty avoidance) remains largely unexplored (Conner, Reardon, Miller, Salciuviene. & Auruskeviciene, 2017; Hofstede, 2011; Javidan, House, Dorfman, Hanges. & De Luque, 2006; Johnson, Kulesa, Cho. & Shavitt, 2005; Taras et al., 2012).

Countries that exhibit strong uncertainty avoidance are intolerant of inappropriate behavior and ideas. People in cultures with high uncertainty avoidance tend to behave more rationally (Doney, Cannon. & Mullen, 1998; Hofstede, Hofstede. & Minkov 1991; Litvin, Crotts. & Hefner, 2004). The society will try to control the future or just behave in the "let it happen" manner (Hofstede, Hofstede. & Minkov 1991). Hofstede (1983a) described cultures with high uncertainty avoidance as those that strive to have formal and official rules. For these cultures, opposition to rules creates stress. Rules in national culture present feelings of security by helping people to avoid the unfamiliar. Individuals that perceive their cultures as uncertainty avoidant do not want to take risks; they prefer familiar situations (Hofstede, 1983a). Uncertainty avoidance can be understood as a country-level characteristic that affects the appraisal of stressors at the individual level (Debus, Probst, König. & Kleinmann, 2012; Hofstede, 2001). It reflects the extent to which ambiguous situations are considered threatening within a society (Hofstede, 2001).

Previous studies have shown that uncertainty avoidance is a cultural value that explains the variations in national rates of innovation (Shane, 1993). Additionally, uncertainty avoidance is associated with certainty and predictability (Steers, Meyer. & Sanchez-Runde, 2008). Shane (1993) has also shown that national culture influences activity in development and research. Using similar lenses but different foci, researchers have shown that those employees in cultures that have high levels of uncertainty avoidance feel that everything should be clear and organized in advance (Chua et al., 2015; Gelfand et al., 2007; Hofstede, 1980a; Hofstede, 1980b; Pelto, 1968).

Wennekers, Thurik, Van Stel, and Noorderhaven (2007) conducted a study over three years and found important correlations between uncertainty avoidance and some other important economic constructs (i.e., risk, entrepreneurship, GDP per capita). Researchers have also found some good examples of cultures with high levels of uncertainty avoidance: Russia, Korea, Belgium, and Italy (Hofstede, 1993). On the opposite side, there are cultures with low levels of uncertainty avoidance. These cultures have few rules and relatively little structure or stress. Examples of low uncertainty-avoidance countries are India, Indonesia, Singapore, and the United Kingdom (Hofstede, 1993).

In this study, we focus on studying the effect of the national cultural dimension of uncertainty avoidance on knowledge hiding. Researchers have shown that, in high uncertainty avoidance countries, employees accept roles and are innovative, rational, and organized (Chua et al., 2015; Gelfand et al., 2007). Based on these characteristics of uncertainty avoidance, we learn that many cultural values can influence individuals' lives. Furthermore, cultural values also influence whether a person may be prepared to share his or her knowledge. Moreover, sharing of knowledge is especially needed in industry, especially for information technology firms, laboratories, newly opened or start-up firms etc. (Hall & Saias, 1980; Waters, 1980). Moreover, it was researched that knowledge sharing leads to higher levels of creativity and innovation (Damanpour & Aravind, 2012). In these cases, employees who do not want to share the requested knowledge would be considered as inappropriate and unwanted. In particular, hiding knowledge from coworkers is unfair toward those who strive for the success of the whole organization.

Regarding the mentioned, countries that have high levels of uncertainty avoidance, have specific rules and strict norms with sanctions, and they strive to prevent negative behavior (i.e., knowledge hiding).

Combination of cultural tightness and uncertainty avoidance predicting knowledge hiding

The construct of cultural tightness-looseness was established in the 1960s; however, it is still an underexplored construct with some open research questions. Until now, researchers have still not focused enough on understanding whether cultural tightness-looseness can have a determining influence on knowledge hiding or not. Moreover, our combined approach—using the interaction of two national cultural dimensions, cultural tightness, and uncertainty avoidance—has not been explored together (Gelfand et al., 2007; Tsui et al., 2007).

Both of the researched constructs, cultural tightness, and uncertainty avoidance, share common characteristics about strict rules, norms, and values, as well as strong discipline and sanctions for deviant behavior (Chua et al., 2015; Gelfand et at., 2006). However, there are also differences; as an example, cultural tightness relates to cultural strength or intensity, whereas uncertainty avoidance focuses on cultural content. The main reason that tight cultures need strongly defined rules is the presence of human-made social threats in those nations. Employees who have clearly defined rules and norms (i.e., tightness) do not want to take risks to break up those rules (i.e., uncertainty avoidance).

The characteristics of these two constructs are intertwined, and an organization needs to settle them so that employees can follow the written rules. With clearly defined rules and norms, these cultures encourage their populations to behave in an expected way. With strict norms, these cultures can control their populations and coordinate their social actions to ensure survival. For organizations in which rules and sanctions prevail, the sharing of knowledge and information is an encouraging way of behavior. When negative behavior (i.e., knowledge hiding) occurs, it is immediately sanctioned by their leaders or superiors.

The combination of uncertainty avoidance and cultural tightness stimulates positive elements of organizational behavior (Hofstede, 1980a). When the organization does not ensure properly designed rules (i.e., when it has low cultural tightness), people might take risks (i.e., low uncertainty avoidance) and could sometimes break the rules without suffering any sanctions; thus, a high level of knowledge hiding could occur. The term "high level" means that this leads to greater occurrences of knowledge hiding. In other words, a high level of knowledge hiding could occur when an organization has a low level of both cultural tightness and uncertainty avoidance. For that reason, we expect that employees with high levels of both uncertainty avoidance and cultural tightness could prevent high levels of knowledge hiding from occurring. Hence, we propose the following hypothesis:

Hypothesis 2. Interaction of cultural tightness and uncertainty avoidance is associated with lower levels of knowledge hiding.

Three-way interaction: Prosocial motivation, cultural tightness and uncertainty avoidance predicting knowledge hiding

In this part, we focus on how the three previously proposed constructs jointly predict the occurrence of knowledge hiding. The combination of cultural tightness and uncertainty avoidance, in connection with prosocial motivation, could prevent knowledge hiding. The suggested way of behavior could support positive behavior. Previous research has shown that prosocial motivation negatively influences knowledge hiding because of the accompanying desire to help others (Černe et al., 2015).

The second and third researched constructs (i.e. cultural tightness and uncertainty avoidance) share some characteristics. Both constructs focus on culture; both support norms and strict rules with sanctions; and both strive to keep everything in order (Aktas et al., 2015; Chan, 1996; Zhang & Zhou, 2014). Furthermore, cultural tightness and uncertainty avoidance support control and require the organization to avoid doubts. Connecting cultural tightness and uncertainty avoidance with prosocial motivation results in an organization's preferred types of behavior. If an organization implements the suggested three-way interaction of prosocial motivation, cultural tightness, and uncertainty avoidance, it could prevent knowledge hiding. Because both of this combination's cultural constructs have strict rules and both appropriately sanction any unexpected or deviant behavior, such as knowledge hiding (Chua et al., 2015). The suggested three-way interactions can help an organization to establish appropriate behavior.

More precisely, all three researched constructs describe types of individual behavior that are focused on group benefits, motivation to help others, and caring about the common good (Chen et al., 1998; Kagitcibasi, 1997). Each of the constructs plays a positive role in stimulating beneficial organizational-behavior outcomes (cf. Chua et al., 2015; Gelfand et al., 2006; Gelfand et al., 2007; Grant, 2007). We join all three constructs—prosocial motivation, cultural tightness, and uncertainty avoidance—based on individual perceptions in form of a three-way interaction term. Previous studies of Grant (2007), Gelfand et al. (2006, 2007), and Chua with colleagues (2015) found that each of the researched constructs has a positive influence on organizational behavior. Therefore, this term can be expected to have an even stronger effect on appropriate behavior within the organization. The three-way interaction, supporting positive behavior, could prevent knowledge hiding in organizations. To achieve this aim, the organization should ensure that they have high levels of prosocial motivation, cultural tightness, and uncertainty avoidance.

When an organization has low levels of prosocial motivation, low cultural tightness, and low uncertainty avoidance, it has a high potential for knowledge hiding at the highest level in the organization. This happens when uncertainty avoidance and cultural tightness are low; in this situation, individuals have no specific rules regarding appropriate behavior (Taras et al., 2012). Moreover, knowledge hiding happens when norms and sanctions are not provided and when negative behavior is not appropriately sanctioned. In such organizations, individuals are interested in achieving their personal needs, not the organization's needs (Chen et al., 1998; Kagitcibasi, 1997). Individuals, who value

competitive advantages, hide their knowledge to protect their individual value (Černe et al., 2014). For those employees whose knowledge represents a competitive advantage (Milne, 2007; Polanyi, 1997) the knowledge hiding is expected.

Moreover, when individuals have low levels of prosocial motivation, their actions do not benefit others. Those employees prioritize only their own needs and willingness (Grant, 2007). Organizational leaders (Aktas et al., 2015) should aim to provide a three-way interaction to prevent knowledge hiding in advance. If an organization will not support prosocial motivation, will not be uncertainty-avoidance-oriented, and will not have rules or sanctions provided by cultural tightness, it can expect high levels of knowledge hiding among its employees. In the light of the above, we propose the following hypothesis:

Hypothesis 3. A three-way interaction among prosocial motivation, cultural tightness, and uncertainty avoidance is associated with lower levels of knowledge hiding.

The conceptual model with hypotheses is presented in Figure 1. The explanation of the figure is as follows. Regarding that prosocial motivation is a desire to help or contribute to other people (Grant, 2007), we hypothesized that it could negatively influence knowledge hiding. Therefore, we have designed hypothesis 1, stating that prosocial motivation is negatively related to knowledge hiding. The hypothesis 1 is present in Figure 1, marked with H1, with its direct effect on knowledge hiding. To continue with the explanation, cultural tightness is the construct with strong social norms, rules, and sanctions for inappropriate behavior. It is closely linked with uncertainty avoidance, which represents intolerance for ambiguity and uncertainty from formal rules. Therefore, we combined these two national cultural dimensions into a two-way interaction with a hypothesis that low levels of a combination of cultural tightness and uncertainty avoidance lead to the emergence of a high level of knowledge hiding. We marked this two-way interaction with H2. The last and the most important three-way interaction is marked with H3, dealing with a combined influence of all three constructs on knowledge hiding.

Figure 1: *The conceptual model of the hypotheses regarding the three-way interactions*
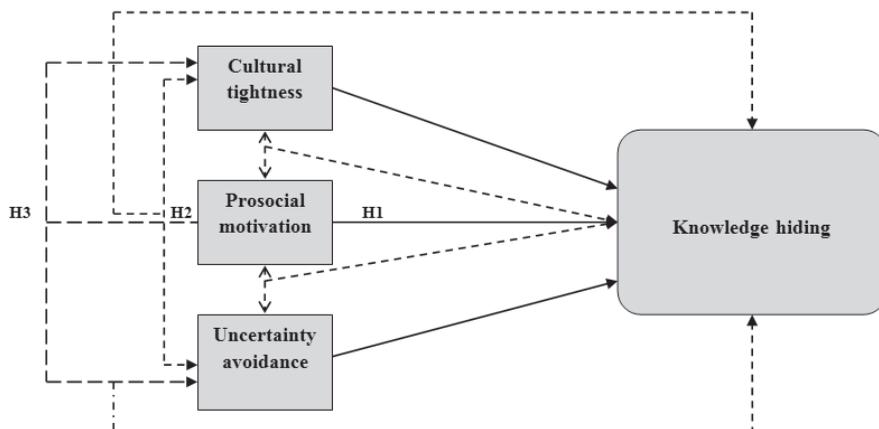
METHODS

To test our hypotheses regarding how the three-way interaction of prosocial motivation, cultural tightness, and uncertainty avoidance predicts knowledge hiding, we collected primary data from Chinese and Slovenian employees ($n = 376$). We obtained data from two samples of working professionals from Slovenia ($n = 123$) and China ($n = 253$). We analyzed the data using confirmatory factor analysis (CFA) and with hierarchical regression analyses, including the three-way interaction.

Sampling procedure

We applied the convenience sampling procedure. A sample contains working professionals from China and Slovenia. For sample 1, in China, data were collected from Chinese employees working in various types of companies. For sample 2, in Slovenia, data were collected from employees working in various sectors and who had various job functions. The country-level score for China cultural tightness is 35.3 and for uncertainty avoidance, it is 30. The country level score for Slovenia cultural tightness is 109.6 and for uncertainty avoidance, is 88. China has a low score on uncertainty avoidance; on the other hand, Slovenia has a high score on uncertainty avoidance (Hofstede, 1983b). Based on the country-level score on cultural tightness, Slovenia has a high score compared to China (Uz, 2015). So far, no research has been made about how social-cultural aspects influence knowledge hiding based on the case of Slovene and Chinese cultures. We approached the survey respondents by sending the web link to employees. We used a web-based online data collection tool and shared the survey links via social media and other online channels (i.e., LinkedIn, Facebook, email address, etc.).

Sample 1: China

We included Chinese culture and Chinese employees in our research, because of the differences from the compared country (i.e., Slovenia). China is becoming a major player in global business and it is a major change in globalization (Stiglitz, 2007). In this study, only employees with e-mail addresses participated. Participants held a wide variety of jobs. They were not likely to know the purpose of our research because the items of this study were presented in a large-scale questionnaire. Traditional Chinese language was used. For Chinese sample, we collected completed responses from 253 employees who worked in 60 teams. About 62% of the participants were female. The age of participants ranged from 18 to 54 years, and the mean age was 29.89 years (SD = 5.596). On average, participants had more than 4.5 years of work experience (mean work experience = 4.75; SD = 4.57), and had worked for less than 3 years with their current supervisors (i.e., dyad tenure; mean = 2.79; SD = 2.29).

Sample 2: Slovenia

In Slovenia, we sampled employees who worked in tax and legal departments, government agencies, accounting firms, academia, electrician trades, administration, pharmacies, etc. In the part of research conducted in Slovenia, some employees were contacted via e-mail, some received the questionnaire in paper form, and some received it through social networks (e.g., LinkedIn and Facebook). The questionnaire for Slovenian employees was the same as the one used in China.

The respondents were not likely to know the purpose of research, because the items of this study were presented in a large-scale questionnaire. We obtained completed responses from 123 employees in various professions. About 61% of the participants were female. The survey included respondents aged between 18 and 55. The majority (56%) of the employees were between 26 and 35 years old. On average, the participants had more than 6 years of work experience (mean work experience = 6.8; SD = 7.45) and a dyad tenure of 3.8 years (SD = 3.62).

Measures

For measuring each construct, we used various item scales. We analyzed participants' responses to a level of agreement with behavior rating scale, as follows. The scales for measuring knowledge hiding, uncertainty avoidance and prosocial motivation were assessed on a 7-point Likert-type scale, ranging from 1 (completely disagree) to 7 (I fully agree). The scale for measuring cultural tightness-looseness was assessed on a 6-point Likert-type scale ranging from 1 (completely disagree) to 6 (I fully agree).

The participants came from countries with different languages (Slovenian and Chinese), therefore we have used a translation/back-translation procedure (Brislin, 1986). To ensure reliable results and to ensure understanding of questions; we translated the questionnaire from English into their national languages. For the Slovenian sample, we translated the items from English into Slovenian and back into English. We mirrored this approach for the Chinese sample.

Knowledge hiding. To measure knowledge hiding, we used the 12-item scale (α = .92) that Connelly et al. (2012) developed. The scale includes items such as "I agreed that I could help my work colleague, but I did not intend to do so"; "I told my coworker that I would help him later, but then I just postponed my help"; and "I told my coworker that I did not know the answer, even though I actually knew."

Prosocial motivation. We measured prosocial motivation with the 5-item scale (α = .90) that Grand and Sumanth (2009) developed. The scale includes items such as "I get energized by working on tasks that have the potential to benefit others" and "I like to work on tasks that have the potential to benefit others."

Cultural tightness - looseness. We measured cultural tightness-looseness using the 6-item scale (α = .76) developed by Gelfand et al. (2011b). The items measured the cultural perspectives, norms, values, sanctions for inappropriate behavior, and rules in the respondent's country of origin. Sample items include "In my country, there are very clear expectations of how people should act in most situations"; "People agree upon what behaviors are appropriate versus inappropriate in most situations in this country"; and "In my country, if someone acts in an inappropriate way, others will strongly disapprove."

Individual perception of uncertainty avoidance. We measured individual perceptions of national cultural dimensions regarding uncertainty avoidance with the four-item scale (α = .98) that Dorfman and Howell (1988) developed. Sample items for uncertainty avoidance include "Leaders expect that employees closely follow the instructions of the procedure"; "Work instructions are important for employees"; and "Standard procedures for employees are very useful in their work."

Control variables. We controlled for five control variables, including gender, age, and level of education, average dyad tenure, and country. The reason why we used average dyad tenure as a control variable is that the length of the supervisor-subordinate relationship can influence work perceptions (Fagenson-Eland, Marks. & Amendola, 1997). We also included the country as a control variable to find if country-level cultural differences influenced our results. China was coded with "1", whereas Slovenia was coded with "2".

RESULTS

The means, standard deviations, and correlations of the pooled Slovenian and Chinese sample, for all studied variables used in the analyses, are shown in Table 1. Reliability indicators - using Cronbach's alphas are also included on the diagonal.

Table 1: *Means, Standard Deviations, and Correlations of employees within the pooled Slovenian and Chinese sample*

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Knowledge hiding	1.89	0.99	(.92)								
2. Prosocial motivation	5.88	1.02	-.241**	(.90)							
3. Tightness	4.40	1.05	-.150**	.153**	(.76)						
4. Uncertainty avoidance	5.23	2.47	-.176**	.117*	.270**	(.98)					
5. Gender	1.10	1.3	-.108*	.022	.028	.826**					
6. Age	1.64	1.5	- .088	-.014	-.071	.782**	.811**				
7. Education	2.93	2.1	- .013	-.083	-.340**	.658**	.768**	.778**			
8. Average dyad tenure	3.11	3.10	.101	.009	-.072	-.055	.025	.391**	.170**		
9. Country	1.40	0.50	.205**	-.077	-.379**	-.395**	-.267**	-.250**	.061	.146**	

Note: *N* = 376 employees from Chinese and Slovenian cultures. Reliability indicators (Cronbach's alphas) are on the diagonal in the parentheses.
* *p* < .05
** *p* < .01

The Cronbach's alpha for the constructs of knowledge hiding, prosocial motivation, and uncertainty avoidance is above .90 and shows high reliability. The Cronbach's alpha for cultural tightness is above .76 and is acceptable. From the results in Table 1, we could see high mean values for the constructs of prosocial motivation (5.88), cultural tightness (4.40), and uncertainty avoidance (5.23). The mean results show that values on average are high. On the contrary, from Table 1, we can see that mean value for knowledge hiding is 1.89. Turning to correlations, we found a significant negative correlation between prosocial motivation and knowledge hiding (-.241; p = .001). Knowledge hiding has also a significant negative correlation with cultural tightness (-.150; p = .001), and with uncertainty avoidance (-.176; p = .001). Prosocial motivation is in a significant positive correlation with cultural tightness (.153; p = .001) and with uncertainty avoidance (.117). Cultural tightness has a significant positive correlation with uncertainty avoidance (.270; p = .001).

We applied confirmatory factor analysis using the AMOS 21 software package for ensuring validation of the measurement instruments. We used CFA with the aim of ensuring that the designed model fits the data in a sufficient way. In the analysis of the designed model, we used 26 items to measure the four constructs included in this research (knowledge hiding, prosocial motivation, cultural tightness, and uncertainty avoidance). The results

of the CFA—specifying separate factors for each construct—achieved a good model fit (CFI = .910; chi-square = 964.649; RMSEA = .07; df = 266)[5].

The CFA analysis indicated that all the factor loadings of the four constructs were statistically significant, with a mean standardized loading of .75. This further supports the convergent validity of the constructs. The average standardized loading for knowledge hiding was .70, with a range from .45 to .85. The average standardized loading for prosocial motivation was .79, with a range from .75 to .83. The average standardized loading for cultural tightness was .68, with a range from .45 to .84. The average standardized loading for uncertainty avoidance was .94, with a range from .93 to .95.

To test the hypotheses, we used a series of hierarchical regression analyses. In this type of analysis, we test direct relationships and the role of the three-way interaction term (combining three independent constructs—prosocial motivation, cultural tightness, and uncertainty avoidance) in predicting knowledge hiding. The results of the analysis are presented in Table 2.

Our analysis is divided into four models. In Model 1, we entered five control variables: gender, age, education, average dyad tenure, and country. We found a significant relationship and influence of average dyad tenure (β = .09; p < .10) and of country (β = .04; p < .05). In Model 2, we entered the prosocial motivation, cultural tightness, and uncertainty avoidance. Through the hierarchical regression analysis, we found a significant negative relationship between prosocial motivation and knowledge hiding (β = -.21; exact p = .000). Therefore, Hypothesis 1 was supported. In Model 3, we entered two-way interactions (prosocial motivation × tightness; prosocial motivation × uncertainty avoidance; and tightness × uncertainty avoidance). We found a significant negative relationship between the two-way interaction of cultural tightness and uncertainty avoidance on knowledge hiding (β = -.23; exact p = .001). Hypothesis 2 was therefore supported.

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5 The within-construct residuals were allowed to correlate. Without those modification indices, the model fit would be as follows: CFI .884; chi-square = 1194.537; RMSEA = .08; df = 293.

Table 2: *Hierarchical regression analyses predicting knowledge hiding*

	Model 1	Model 2	Model 3	Model 4
Gender	-.05 (.31)	-.03 (.55)	-.02 (.77)	-.00 (.87)
Age	-.05 (.35)	-.05 (.41)	-.04 (.42)	-.04 (.49)
Education	.06 (.39)	.01 (.85)	.00 (.97)	.00 (.96)
Average dyad tenure	.09 † (.09)	.09 † (.08)	.09† (.07)	.09† (.08)
Country	.14 * (.04)	.12† (.08)	.13† (.06)	.13† (.06)
Prosocial motivation		-.21** (.00)	-.23** (.00)	-.25**(.00)
Tightness		-.04 (.51)	.09 (.18)	-.04 (.65)
Uncertainty avoidance		-.08 (.11)	-.10† (.06)	-.09† (.08)
Prosocial motivation x Tightness			.18** (.00)	.16** (.00)
Prosocial motivation x Uncertainty avoidance			.11 † (.04)	.14** (.00)
Tightness x Uncertainty avoidance			-.23** (.00)	-.07 (.43)
Prosocial motivation x Tightness x Uncert.Avoid				-.21**(.00)
R2	.04	.11	.15	.17
F (df)	3.300 (5; 375)	5.565 (8; 375)	5.919 (11; 375)	6.285 (12; 375)

Notes. Team-level n = 375. **p<.01, *p<.05, †p<.10. Standard errors are in parentheses next to standardized coefficients (betas).

Values in bold are relevant to the tests of hypotheses.

In Model 4, we examined the role of the combined three-way interaction term (prosocial motivation × cultural tightness × uncertainty avoidance) in stimulating knowledge hiding. We analyzed the three-way interaction through the use of tests of simple main-effects, e.g., the effect of one variable (or set of variables) across the levels of another variable (Dawson. & Richter, 2004; Kirk, Roger, 1995).

Figure 2: *The three-way interaction among prosocial motivation, tightness, and uncertainty avoidance predicting knowledge hiding*
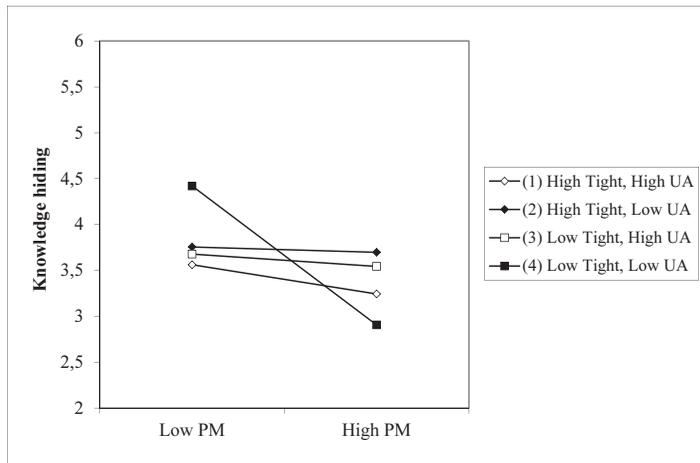
Figure 2 shows that the moderation of the combination of low levels of prosocial motivation, low cultural tightness, and low uncertainty avoidance causes employees to engage in more knowledge hiding in the organization. Based on the analysis of simple slopes, we can see that three lines portray a relationship between prosocial motivation, cultural tightness, and uncertainty avoidance with knowledge hiding. The moderation, which supports Hypothesis 3, is significant ($p < .01$) for both low and high levels of the three-way interaction term.

The three-way interaction term of our research was statistically significant. Moreover, the change of F-value between models is in all cases significant ($p = .000$). The significant results showed us that the combination of low levels of prosocial motivation, low cultural tightness, and low levels of uncertainty avoidance, leads to greater occurrences of knowledge hiding in an organization. In other words, the three-way interaction term moderates and reduces the occurrences of knowledge hiding (the three-way interaction term prosocial motivation × tightness × uncertainty avoidance $\beta = -.21$, t = -2.984, $p = .003$). We controlled for five control variables, including gender ($\beta = -.00$, $p = .873$), age ($\beta = -.04$, $p = .488$), level of education ($\beta = .00$, $p = .957$), dyad tenure ($\beta = .09$, $p = .081$) and country $\beta = .13$, $p = .059$). Only the control variables of dyad tenure and country show influence on the researched relationship.

In the following, we describe more in details Figure 3, and Figure 4. Both figures present plotting of two-way interaction, of hypothesis 2. Figure 3 shows the combination of low prosocial motivation and low uncertainty avoidance, which causes employees to be engaged in more knowledge hiding. Figure 4 shows the combination of low prosocial motivation and low cultural tightness, which also causes employees to hide their knowledge from other employees. Based on the analysis of simple slopes, we could see in both figures two lines, which presents a connection with knowledge hiding (e.g. a line of prosocial motivation and uncertainty avoidance; and a line of knowledge hiding on prosocial motivation and cultural tightness). Figure 3 presents a scenario of simple slope analysis referring to the low prosocial motivation and low uncertainty avoidance. Figure 4 presents a scenario of the simple slope analysis referring to the low prosocial motivation and low cultural tightness.

Figure 3: *The two-way interaction of prosocial motivation with uncertainty avoidance predicting knowledge hiding*
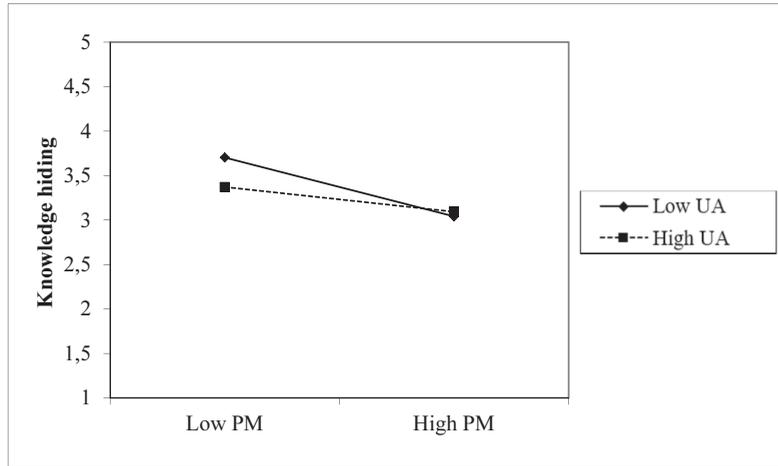
Notes. UA = Uncertainty avoidance, PM = Prosocial motivation.

Figure 4: *The two-way interaction of prosocial motivation with cultural tightness predicting knowledge hiding*
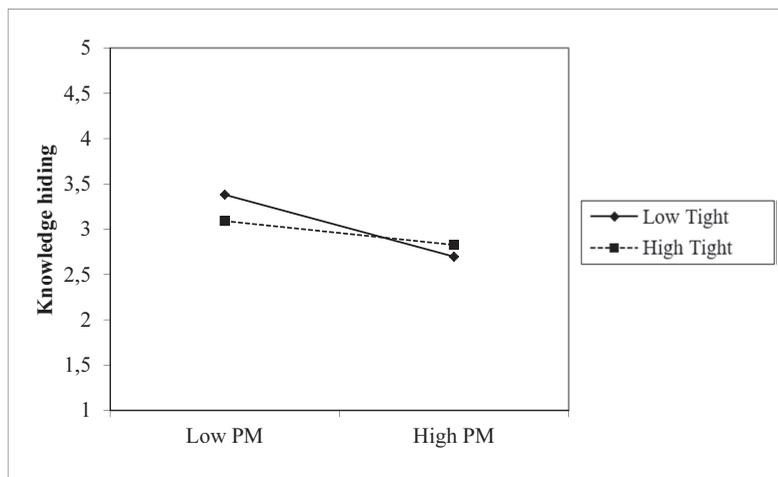
Notes. PM = Prosocial motivation, Tight = Cultural tightness.

DISCUSSION

In the present study, we focused on socio-cultural predictors of knowledge hiding at work. We studied the relationships among social (e.g., prosocial motivation) and cultural dimensions (e.g., cultural tightness and uncertainty avoidance) in predicting knowledge hiding behavior. We collected data from two samples of working professionals in Slovenia and China. As hypothesized, the results showed that prosocial motivation is negatively related to knowledge hiding. Furthermore, as we hypothesized, the results significantly supported the main hypothesis that the three-way interaction among prosocial motivation, perceptions of tight cultures, and uncertainty avoidance would be negatively associated with knowledge hiding at work. Our findings suggest that most knowledge hiding occurs when there are low levels of each element in the three-way interaction term: low prosocial motivation, low cultural tightness, and low uncertainty avoidance.

Theoretical contributions

The concept of knowledge hiding is still novel and remains largely unexplored (Connelly et al., 2012). In this, we make two important theoretical contributions. The first contribution is to the literature of knowledge hiding. We show how socio-cultural aspects influence knowledge-hiding behavior. Research shows that individuals with low levels of all three researched constructs would be more likely to hide knowledge. In previous studies, researchers have focused on knowledge hiding at the individual level and in teams (Babič et al., 2017). Our study extends previous research by focusing on the role of individual perceptions of national culture, specifically examining the interactions among cultural dimensions, its content, and intensity. In particular, low levels of perceived cultural tightness and uncertainty avoidance are related to higher levels of knowledge hiding. Our study thus theoretically contributes to the social-cultural aspects of knowledge hiding. Indeed, with our research, we show how cultural characteristics shape occurrence of knowledge hiding at work.

The second theoretical contribution is as a contribution to cross-cultural organizational behavior research (Brewer & Venaik, 2014; Tsui et al., 2007). This study also emphasizes the importance of understanding knowledge hiding in its socio-cultural context of motivations, cultural tightness, and uncertainty avoidance. We find that personal and cultural components play roles in fostering or stifling knowledge hiding. We aimed to conceptualize and empirically validate the proposed relationship (i.e., the three-way interaction among the micro-level perceptions of national culture content - uncertainty avoidance, and strength - tightness, and prosocial motivation) and its association with knowledge hiding. As Černe et al. (2015), and Babič et al. (2017) have previously shown that increased levels of prosocial motivation are associated with less knowledge hiding, we aimed to empirically test the combined role of social and cultural dimensions.

The third contribution is of empirical nature and answers the call for more micro-level cultural research (Taras et al., 2016). With this paper, we strengthen previous research

based on a larger sample, different participants and cultures participated. In our research, we have used respondents from two countries and measured their individual perceptions of cultural tightness and uncertainty avoidance. This is a strong push away from cultural stereotyping toward a more genuine understanding of individual behaviors (including knowledge hiding), and the way we perceive the world around us – both in terms of social relations as well as cultural postulates. We would hope to see that our study is contributing to launch the stream of micro-based studies of work behaviors in their social and cultural context (e.g., Brewer & Venaik, 2014; Tsui et al., 2007) as perceived by every single individual. Nations and countries are simply too inaccurate placeholders to understand strength and content of values and the way they shape our behaviors. In fact, stereotyping is a dangerous phenomenon that we urge to avoid.

Practical implications

Based on results of our study we suggest the following important practical implications for leaders and working professionals in global organizations. They could all benefit from our findings by understanding the joint effect of cultural and social context and the way it shapes knowledge hiding behaviors. Leaders should be aware of detrimental effects knowledge hiding has for organizations, teams, and individuals with reduced quality of relationships, trust, creativity, and innovation (Connelly et al., 2012; Connelly et al., 2014; Černe et al., 2014; Lewicki, McAllister. & Bies, 1998). As the essence of leadership is to achieve results through others and it is by default a social process, leaders can influence prosocial motivations and behaviors via a variety of approaches, ranging from perspective taking, tools for collaboration, and increasing giving and helping behaviors at work (Bolino & Grant, 2016; Škerlavaj, 2017). An example of an organization that is strengthening prosocial motivations and behaviors of their members is innovation and strategic consultancy IDEO (Amabile, Fisher. & Pillemer, 2014).

Second, to shape cultures that would decrease knowledge hiding, organizations need to emphasize individual perceptions of cultural strength (tightness). If an organization has not designed specific rules for appropriate behavior and sanctions for deviant behavior (Aktas, Gelfand. & Hanges, 2015; Chua, Roth. & Lemoine, 2015), damage of knowledge hiding could be even higher for organizations. In order to prevent knowledge hiding, it is important that managers clearly communicate desired organizational behavior and design sanctions for inappropriate behavior (Gelfand et al., 2007; Gelfand, Nishii. & Raver, 2006) during recruitment, selection, onboarding, training and development, as well as rewarding cycles of organizations. Specifically, managers need to pay attention whether knowledge hiding occurs among their employees and should be aware of low levels of the combination of the three-way interaction among the constructs examined in this study. When knowledge hiding happens, the road to recovery is longer and steeper as relations are harmed, creativity decreased, and trust among employees lost (Černe et al., 2014). Recovery is possible, yet proactive actions are better. Based on research findings, leaders and organizations should set rules of expected organizational behavior and design appropriate sanctions for deviant behavior based on cultural characteristics (Aktas,

Gelfand. & Hanges, 2015). Leaders need to signal that knowledge sharing and helping within their organization is a norm (Bock, Zmud, Kim. & Lee, 2005; Cabrera. & Cabrera, 2005; Staples & Webster, 2008).

Slightly less equivocal is the element of uncertainty avoidance as it is on one hand associated with higher entrepreneurial activity and on the other hand also with increased knowledge hiding. Hence, as developing collaborative norms and supporting helping behaviors is essential for reducing knowledge hiding, increasing entrepreneurial activity, productivity, higher profitability, and many more beneficial outcomes for both organizations and individuals (according to extensive meta-analysis of Podsakoff, Whiting, Podsakoff. & Blume, 2009), we would suggest practitioners to start there.

Limitations and future research directions

Despite the aforementioned theoretical and practical contributions, our paper is not without limitations. The first limitation is related to the study's cross-sectional design, which limits our ability to infer causation. Experimental studies should be conducted to achieve a settled, general conclusion. The second limitation of our study is that we cannot make a general conclusion about the researched relationship, because we included only two cultures in our study. Thus, the generalizability of our current findings across countries and cultures is not clear. Consequently, the future direction is to include other cultures in studies, with the aim to draw final conclusions. Researchers can also include other national-culture dimensions along with the prosocial motivation to study these dimensions' effects on knowledge hiding. This is an important opportunity because the construct of knowledge hiding is still novel and hence interesting field of exploration for both researchers and practitioners.

An experimental or a longitudinal study could strengthen future research on this topic. Such studies that could tap into either causal influence among the variables, or examine how the variables evolve and influence each other over time, would allow researchers to overcome the potential challenge of omitted variables and to rule out both alternative explanations and potentially recursive relationships among the studied variables. New constructs could also be included in future research. We suggest linking knowledge hiding with artificial intelligence, digitalization, modern technology and the virtual world. It will be interesting to see if the "modern world of digitalization" supports or inhibits knowledge hiding with its new technology. Moreover, a multilevel study of national cultures, organizational cultures, and individual behaviors could represent a promising avenue of taking research on knowledge hiding forward.

We suggest that future research studies the national culture and compares it with organizational culture (Davenport & Prusak, 1998; Al-Alawi, Al-Marzooqi. & Mohammed, 2007; Suppiah & Singh Sandhu, 2011). It could be interesting to see how organizational culture with leadership (Oye et al., 2011) influences knowledge hiding. The field of knowledge hiding still has many opportunities to be explored. Organizational culture

influences behavior of employees, probably more than general culture. Therefore, in the future, there should be more research made on how organizational culture could influence employees and their behavior.

Another limitation is that in our research we did not control for the nationality of respondents specifically (i.e., instead of this, a culture was included as a control variable). However, our limitation opens new research questions for future research. One of the limitations of our study is also heterogeneity of a rather small sample size. We collected data from a sample of employees from two diverse yet specific countries (Slovenia and China). Future research should thus collect data from working professionals, pertaining to a larger number of cultures, preferably in a way that even more cultural bands from the GLOBE study would be covered. We suggest for future research implementing the same research or researching other constructs, but on a larger sample. This would allow further insight into the cultural mechanisms, norms, and values influencing the occurrence of knowledge hiding in organizations (House et al., 2004). We believe that our research provides useful theoretical and practical contributions, and we open a call for more individual (micro level) cross-cultural organizational behavior research.

CONCLUSION

Our study focused on understanding how individuals make sense of their cultural and social context in deciding whether to hide or not their knowledge at work. This is the first study to combine the prosocial motivation, cultural tightness, and uncertainty avoidance in their joint interaction with knowledge hiding behaviors at work. Based on two independent samples of working professionals from Slovenian and Chinese organizations we found, that the most knowledge hiding happened when individuals experience low levels of prosocial motivation, low cultural tightness, and low uncertainty avoidance. The high levels of knowledge hiding occur when employees are not motivated by the welfare of others, who are inclined to take the risk and who perceive that deviation from cultural norms might not be sanctioned. Leaders and organizations in global environments should be aware of the occurrences of knowledge hiding related to different cultural characteristics when they work abroad or with employees from other cultures. However, they should avoid stereotyping based on countries as cultural placeholders, but rather focus on individual perceptions of their social and cultural context. To prevent knowledge hiding in organizations, leaders should develop organizations, where prosocial motivation and helping behaviors are a strong norm.

REFERENCES

Aktas, M., Gelfand, M. & Hanges, P. 2015. Cultural tightness–looseness and perceptions of effective leadership. *Journal of Cross-Cultural Psychology, 47*(2), 1-16.

Al-Alawi, A. I., Al-Marzooqi, N. Y. & Mohammed, Y. F. (2007). Organizational culture and knowledge sharing: critical success factors. *Journal of knowledge management, 11*(2): 22-42.

Amabile, T., Fisher, C. M. & Pillemer, J. (2014). IDEO's Culture of Helping. Harvard business review, 92(1-2), 54-61.

Ardichvili, A., Page, V. & Wentling, T. (2003). Motivation and barriers to participation in virtual knowledge-sharing communities of practice. *Journal of knowledge management, 7*(1), 64-77.

Ardila, R., Gouveia, V. V. & Diógenes de Medeiros, E. 2012. Human values of Colombian people. Evidence for the functionalist theory of values. *Revista Latinoamericana de Psicología, 44*(3): 105-117.

Avolio, B. J. & Bass, B. M. (1995). Individual consideration viewed at multiple levels of analysis: A multi-level framework for examining the diffusion of transformational leadership. *The Leadership Quarterly, 6*(2), 199-218.

Babič, K., Cerne, M., Connelly, C., Dysvik, A., Skerlavaj, M. & Zhang, P. (2017). The Interplay among Prosocial Motivation, Cultural Tightness, and Collectivism on Knowledge Hiding. In Academy of Management Proceedings (Vol. 2017, No. 1, p. 13802). Academy of Management.

Batson, C. D. 1987. Prosocial motivation: Is it ever truly altruistic? *Advances in experimental social psychology,* 20, 65-122.

Batson, C. D. 2010. Empathy-induced altruistic motivation. Prosocial motives, emotions, and behavior: *The better angels of our nature,* 15-34.

Berry, J. W. (1995). 20. Psychology of Acculturation. *The culture and psychology reader*, 457.

Berry, J. W. (2002). Cross-cultural psychology: Research and applications. *Cambridge University Press.*

Bock, G. W., Zmud, R. W., Kim, Y. G. & Lee, J. N. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS quarterly*, 87-111.

Bolino, M. C. & Grant, A. M. 2016. The Bright Side of Being Prosocial at Work, and the Dark Side, Too: A Review and Agenda for Research on Other-Oriented Motives, Behavior, and Impact in Organizations. *The Academy of Management Annals*, 1-94.

Brewer, P. & Venaik, S. 2014. The ecological fallacy in national culture research. *Organization Studies, 35*(7), 1063-1086.

Brislin, R. 1986. The wording and translation of research instruments. In W. Lonner. & J. Berry (Eds.), Field methods in cross-cultural research. *Cross-cultural research and methodology series*, Vol. 8: 137-164. Thousand Oaks, CA: *Sage Publications.*

Cabrera, E. F. & Cabrera, A. (2005). Fostering knowledge sharing through people management practices. The International Journal of Human Resource Management, 16(5), 720-735.

Chan, D. K. S. 1996. Tightness-looseness revisited: Some preliminary analyses in Japan and the United States. *International Journal of Psychology, 31*(1), 1-12.

Chen, C. C., Chen, X.-P. & Meindl, J. R. 1998. How can cooperation be fostered? The cultural effects of individualism-collectivism. *Academy of Management Review, 23*(2): 285-304.

Chua, R. Y. In press. Innovating at Cultural Crossroads How Multicultural Social Networks Promote Idea Flow and Creativity. *Journal of Management*, doi: 0149206315601183.

Chua, R. Y., Roth, Y. & Lemoine, J. F. 2015. The Impact of Culture on Creativity: How cultural tightness and cultural distance affect global innovation crowdsourcing work. *Administrative Science Quarterly, 60*(2), 189-227.

Cialdini, R. B., Kallgren, C. A. & Reno, R. R. 1991. A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. *Advances in experimental social psychology, 24*(20): 1-243.

Connelly, C. E. & Kevin Kelloway, E. (2003). Predictors of employees' perceptions of knowledge sharing cultures. *Leadership & Organization Development Journal, 24*(5), 294-301.

Connelly, C. E. & Zweig, D. 2015. How perpetrators and targets construe knowledge hiding in organizations. *European Journal of Work and Organizational Psychology, 24*(3), 479-489.

Connelly, C. E., Ford, D. P., Turel, O., Gallupe, B. & Zweig, D. 2014. 'I'm busy (and competitive)!'Antecedents of knowledge sharing under pressure. *Knowledge Management Research & Practice, 12*(1): 74-85.

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

Conner, S. L., Reardon, J., Miller, C., Salciuviene, L. & Auruskeviciene, V. (2017). Cultural antecedents to the normative, affective, and cognitive effects of domestic versus foreign purchase behavior. *Journal of Business Economics and Management, 18*(1), 100-115.

Cox, T. H., Lobel, S. A. & McLeod, P. L. (1991). Effects of ethnic group cultural differences on cooperative and competitive behavior on a group task. *Academy of management journal, 34*(4), 827-847.

Cui, Y., Park, H. H. & Paik, Y. (2016). Individual and Organizational Antecedents of Knowledge Hiding Behavior. *Journal of the Korean Operations Research and Management Science Society* (대한 경영 학회지), 29(8), 1215-1239.

Černe, M., Babič, K., Connelly, C. E. & Škerlavaj, M. 2015. Team-level knowledge hiding, social leader-member exchange, and prosocial motivation. *In Academy of Management Proceedings*, 2015(1), 16302.

Černe, M., Nerstad, C. G. L., Dysvik, A. & Škerlavaj, M. 2014. What goes around comes around: Knowledge hiding, motivational climate, and creativity. *Academy of Management Journal, 57*(1): 172-192.

Černe, M., Hernaus, T., Dysvik, A., and Škerlavaj, M. (2017). The role of multilevel synergistic interplay among team mastery climate, knowledge hiding, and job characteristics in stimulating innovative work behavior. *Human Resource Management Journal*, 27: 281–299.

Damanpour, F. & Aravind, D. 2012. Managerial Innovation: Conceptions, Processes, and Antecedents. *Management and Organization Review, 8*(2): 423–454.

Davenport, T. H. & Prusak, L. 1998. Working knowledge: How organizations manage what they know. *Harvard Business Press*.

Dawson, J. F. & Richter, A. W. (2004). A significance test of slope differences for three-way interactions in moderated multiple regression analysis. RP0422. Aston University, Birmingham, UK.

Dawson, J. F. & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: development and application of a slope difference test. Journal of Applied Psychology, 91(4), 917.

Dawson, J. F. (2014). Moderation in management research: What, why, when, and how. Journal of Business and Psychology, 29(1), 1–19.

De Vries, R. E., Bakker-Pieper, A. & Oostenveld, W. (2010). Leadership= communication? The relations of leaders' communication styles with leadership styles, knowledge sharing and leadership outcomes. *Journal of business and psychology, 25*(3), 367–380.

Debus, M. E., Probst, T. M., König, C. J. & Kleinmann, M. (2012). Catch me if I fall! Enacted uncertainty avoidance and the social safety net as country-level moderators in the job insecurity–job attitudes link. *Journal of Applied Psychology, 97*(3), 690.

Doney, P. M., Cannon, J. P. & Mullen, M. R. (1998). Understanding the influence of national culture on the development of trust. *Academy of management review, 23*(3), 601–620.

Dorfman, P. W. & Howell, J. P. 1988. Dimensions of national culture and effective leadership patterns: Hofstede revisited. *Advances in International Comparative Management, 3*(1), 127–150.

Earley, C. P. & Mosakowski, E. (2000). Creating hybrid team cultures: An empirical test of transnational team functioning. *Academy of Management Journal, 43*(1), 26–49.

Fagenson-Eland, E. A., Marks, M. A. & Amendola, K. L. 1997. Perceptions of Mentoring Relationships. *Journal of Vocational Behavior, 51*(1), 29–42.

Fischer, R., Ferreira, M. C., Eveline Maria Leal, A., Redford, P. & Harb, C. 2005. Organizational Behaviour across Cultures: Theoretical and Methodological Issues for Developing Multi-level Frameworks Involving Culture. *International Journal of Cross Cultural Management*: CCM, 5(1), 27–48.

Gelfand, M. J., Erez, M. & Aycan, Z. 2007. Cross-cultural organizational behavior. *Annual Review of Psychology*, 58, 479–514.

Gelfand, M. J., Higgins, M., Nishii, L. H., Raver, J. L., Dominguez, A., Murakami, F., Yamaguchi, S. & Toyama, M. 2002. Culture and egocentric perceptions of fairness in conflict and negotiation. *Journal of Applied Psychology, 87*(5), 833.

Gelfand, M. J., Lim, B. C. & Raver, J. L. (2004). Culture and accountability in organizations: Variations in forms of social control across cultures. *Human Resource Management Review, 14*(1), 135–160.

Gelfand, M. J., Nishii, L. H. & Raver, J. L. 2006. On the nature and importance of cultural tightness-looseness. *Journal of Applied Psychology, 91*(6), 1225.

Grant, A. M. 2007. Relational job design and the motivation to make a prosocial difference. *Academy of Management Review, 32*(2), 393–417.

Grant, A. M. & Sumanth, J. J. 2009. Mission possible? The performance of prosocially motivated employees depends on manager trustworthiness. *Journal of Applied Psychology, 94*(4), 927–944.

Gudykunst, W. B., Matsumoto, Y., Ting-Toomey, S. T. E. L. L. A., Nishida, T., Kim, K. & Heyman, S. (1996). The influence of cultural individualism-collectivism, self construals, and individual values on communication styles across cultures. *Human communication research, 22*(4), 510–543.

Hall, D. J. & Saias, M. A. (1980). Strategy follows structure! *Strategic Management Journal, 1*(2), 149–163.

Hofstede, G. 1980a. Culture and organizations. *International Studies of Management & Organization, 10*(4), 15–41.

Hofstede, G. (1980b). Motivation, leadership, and organization: do American theories apply abroad? *Organizational dynamics, 9*(1), 42–63.

Hofstede, G. (1983a). The cultural relativity of organizational practices and theories. *Journal of international business studies, 14*(2), 75–89.

Hofstede, G. (1983b). National cultures in four dimensions: A research-based theory of cultural differences among nations. *International Studies of Management & Organization, 13*(1-2), 46–74.

Hofstede, G. (1993). Cultural constraints in management theories. *The Academy of Management Executive, 7*(1), 81–94.

Hofstede, G. (2001). Culture's consequences (2nd ed.). *Beverly Hills, CA: Sage.*

Hofstede, G., Hofstede, G. J. & Minkov, M. (1991). Cultures and organizations: Software of the mind (Vol. 2). London: *McGraw-Hill.*

Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. Online readings in psychology and culture, 2(1), 8.

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W. & Gupta, V. (Eds.). 2004. Culture, leadership, and organizations: The GLOBE study of 62 societies. Thousand Oaks, CA: *Sage publications.*

House, R., Javidan, M., Hanges, P. & Dorfman, P. 2002. Understanding cultures and implicit leadership theories across the globe: an introduction to project GLOBE. *Journal of world business, 37*(1), 3–10.

Hui, C. H. & Triandis, H. C. (1986). Individualism-collectivism a study of cross-cultural researchers. *Journal of cross-cultural psychology, 17*(2), 225–248.

Javidan, M., House, R. J., Dorfman, P. W., Hanges, P. J. & De Luque, M. S. (2006). Conceptualizing and measuring cultures and their consequences: a comparative review of GLOBE's and Hofstede's approaches. *Journal of international business studies, 37*(6), 897–914.

Johnson, T., Kulesa, P., Cho, Y. I. & Shavitt, S. (2005). The relation between culture and response styles: Evidence from 19 countries. *Journal of Cross-cultural psychology, 36*(2), 264–277.

Johnson, J. P., Lenartowicz, T. & Apud, S. (2006). Cross-cultural competence in international business: Toward a definition and a model. *Journal of International Business Studies, 37*(4), 525–543.

Kagitcibasi, C. 1997. Individualism and collectivism. *Handbook of cross-cultural psychology*, 3, 1–49.

Kirk, Roger E. (1995). Experimental Design: Procedures for the Behavioral Sciences, Third Edition. Monterey, California: Brooks/Cole Publishing.

Lenway, S. A. & Rehbein, K. (1991). Leaders, followers, and free riders: An empirical test of variation in corporate political involvement. *Academy of Management Journal, 34*(4), 893–905.

Leung, K. (1989). Cross-cultural differences: Individual-level vs. culture-level analysis. *International Journal of Psychology, 24*(6), 703–719.

Lewicki, R. J., McAllister, D. J. & Bies, R. J. (1998). Trust and distrust: New relationships and realities. Academy of management Review, 23(3), 438–458.

Litvin, S. W., Crotts, J. C. & Hefner, F. L. (2004). Cross-cultural tourist behaviour: a replication and extension involving Hofstede's uncertainty avoidance dimension. *International Journal of Tourism Research, 6*(1), 29–37.

Liu, D., Jiang, K., Shalley, C. E., Keem, S. & Zhou, J. (2016). Motivational mechanisms of employee creativity: A meta-analytic examination and theoretical extension of the creativity literature. *Organizational Behavior and Human Decision Processes*, 137, 236–263.

Luthans, F., Zhu, W. & Avolio, B. J. (2006). The impact of efficacy on work attitudes across cultures. *Journal of World Business, 41*(2), 121–132.

McSweeney, B. (2002). Hofstede's model of national cultural differences and their consequences: A triumph of faith-a failure of analysis. *Human relations, 55*(1), 89–118.

Miller, J. G. (1994). Cultural diversity in the morality of caring: Individually oriented versus duty-based interpersonal moral codes. *Cross-Cultural Research, 28*(1), 3–39.

Milne, P. 2007. Motivation, incentives and organisational culture. *Journal of knowledge management, 11*(6), 28-38.

Nonaka, I. 1994. A dynamic theory of organizational knowledge creation. *Organization Science, 5*(1), 14–37.

Oye, N., Salleh, M. & Noorminshah, A. 2011. Knowledge sharing in workplace: Motivators and demotivators. *International journal of managing information technology, 3*(4), 71–84.

Pan, W. & Zhang, Q. 2014. A Study on Motivations of Graduate Students' Knowledge Hiding Based on Wuli-Shili-Renli System Approach. *Natural science*, 27, 36.

Pelto, P. J. 1968. The differences between "tight" and "loose" societies. *Society, 5*(5), 37–40.

Podsakoff, N. P., Whiting, S. W., Podsakoff, P. M. & Blume, B. D. 2009. Individual-and organizational-level consequences of organizational citizenship behaviors: A meta-analysis. *Journal of Applied Psychology, 94*(1), 122–141.

Polanyi, M. 1997. The tacit dimension. *Knowledge in organizations*, 135-146.

Salk, J. E. & Brannen, M. Y. (2000). National culture, networks, and individual influence in a multinational management team. *Academy of Management journal, 43*(2), 191–202.

Schwartz, S. H. 2007. Basic Human Values: theory, methods, and application. *Risorsa Uomo*.

Shane, S. (1995). Uncertainty avoidance and the preference for innovation championing roles. *Journal of International Business Studies, 26*(1), 47–68.

Shane, S. 1993. Cultural influences on national rates of innovation. *Journal of Business Venturing, 8*(1), 59–73.

Shin, D., Hasse, V. & Schotter, A. P. (2015). The Effect of Culture on Expatriate Deployment Levels: Cultural Distance and Tightness-Looseness. *In Academy of Management Proceedings, 2015*(1), 15471.

Staples, D. S. & Webster, J. (2008). Exploring the effects of trust, task interdependence and virtualness on knowledge sharing in teams. *Information Systems Journal, 18*(6), 617–640.

Steers, R. M., Meyer, A. D. & Sanchez-Runde, C. J. (2008). National culture and the adoption of new technologies. *Journal of World Business, 43*(3), 255–260.

Stiglitz, J. E. (2007). Making globalization work. WW Norton & Company.

Suppiah, V. & Singh Sandhu, M. 2011. Organisational culture's influence on tacit knowledge-sharing behaviour. *Journal of Knowledge Management, 15*(3), 462–477.

Škerlavaj, M. (2016): Prososial motivasjon: Inspirered av gode gjerninger overfor andre .. og seg selv. In Dysvik, A., Kuvaas, B. and Buch, R. (Eds): Motivasjon, motivasjonsteorier og prestasjonskulturer, Capellen Damm.

Škerlavaj, M., Connelly, C. E., Černe, M. & Dysvik, A. In press. Tell me if you can: The roles of perceived time pressure, prosocial motivation, and perspective taking in predicting knowledge hiding. *Journal of Knowledge Management.*

Taras, V., Kirkman, B. L. & Steel, P. 2010. Examining the impact of Culture's consequences: a three-decade, multilevel, meta-analytic review of Hofstede's cultural value dimensions. *Journal of Applied Psychology, 95*(5), 888.

Taras, V., Steel, P. & Kirkman, B. L. 2012. Improving national cultural indices using a longitudinal meta-analysis of Hofstede's dimensions. *Journal of World Business, 47*(3), 329–341.

Taras, V., Steel, P. & Kirkman, B. L. 2016. Does country equate with culture? Beyond geography in the search for cultural boundaries. *Management International Review, 56(*4), 455–487.

Toh, S. M. & Leonardelli, G. J. 2013. Cultural Constraints on the Emergence of Women Leaders. *Organizational Dynamics*, 42, 191–197.

Triandis, H. C. 1977. Interpersonal behavior. *Brooks/Cole Publishing Company Monterey*, CA.

Triandis, H. C. 1989. The self and social behavior in differing cultural contexts. *Psychological Review, 96*(3), 506.

Triandis, H. C. & Gelfand, M. J. 1998. Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology, 74*(1), 118.

Triandis, H. C. (2000). Cultural syndromes and subjective well-being. *Culture and subjective well-being*, 13–36.

Triandis, H. C. (2004). The many dimensions of culture. The Academy of Management Executive, 18(1), 88–93.

Trompenaars, F. & Hampden-Turner, C. 2011. Riding the waves of culture: Understanding diversity in global business. *Nicholas Brealey Publishing.*

Tsai, W. (2002). Social structure of "coopetition" within a multiunit organization: Coordination, competition, and intraorganizational knowledge sharing. Organization science, 13(2), 179–190.

Tsui, A. S., Nifadkar, S. S. & Ou, A. Y. 2007. Cross-national, cross-cultural organizational behavior research: Advances, gaps, and recommendations. *Journal of Management, 33*(3), 426–478.

Uz, I. (2015). The index of cultural tightness and looseness among 68 countries. *Journal of Cross-Cultural Psychology, 46*(3), 319–335.

Waters, J. A. (1980). Managerial skill development. *Academy of Management Review, 5*(3), 449–453.

Wennekers, S., Thurik, R., van Stel, A. & Noorderhaven, N. (2007). Uncertainty avoidance and the rate of business ownership across 21 OECD countries, 1976–2004. *Journal of Evolutionary economics, 17*(2), 133–160.

Williams, J. D., Han, S. L. & Qualls, W. J. (1998). A conceptual model and study of cross-cultural business relationships. *Journal of Business Research, 42*(2), 135–143.

Zhang, X. & Zhou, J. (2014). Empowering leadership, uncertainty avoidance, trust, and employee creativity: Interaction effects and a mediating mechanism. *Organizational Behavior and Human Decision Processes, 124*(2), 150–164.