

**Cultural intelligence, entrepreneurial intentions and the moderating role of the
institutional environment**

Authors

Kromidha, Endrit

Altinay, Levent

Madanoglu, Gulsevrim Kinalli

Nurmagambetova, Armiyash

Madanoglu, Melih

Abstract

Purpose: Entrepreneurial intentions have traditionally been linked to an entrepreneur's personal ability to take advantage of opportunities. Yet, entrepreneurs' perceptions of contextual factors, which extend beyond one's control, deserve equal attention. We look at the role played by cultural intelligence and the institutional environment in shaping entrepreneurial intentions.

Methodology. The role played by cultural intelligence in entrepreneurial intentions and the mediating role played by the institutional environment were studied quantitatively by analyzing 224 young potential entrepreneurs who had participated in a business plan competition. We used cross-sectional data, developing an original full collinearity assessment approach to check for any common method bias.

Findings. This study reveals a positive relationship between cultural intelligence and entrepreneurial intentions. Likewise, any favorable perceptions of the institutional environment tend to increase the probability of engaging in entrepreneurship and further strengthen the positive effect of cultural intelligence on entrepreneurial intentions.

Originality. Our study provide a holistic view of the relationship between the entrepreneur and the context in which ventures are created, explaining the role played by cultural intelligence in entrepreneurship based on evidence drawn from a developing country. This contributes to a critical reflection on personal and environmental factors and the antecedents of entrepreneurial intentions.

1. Introduction

Entrepreneurship makes a key contribution to continuous economic growth and development by creating jobs, increasing spending, facilitating knowledge transfers, and driving innovation (Meyer and de Jongh, 2018). As a result, entrepreneurial phenomena have often been conceptualized within macro-level institutional variables (Bruton et al., 2010). From a macroeconomic perspective, entrepreneurial activity can lead to a concentration of wealth, thus increasing savings and investments (Quadrini, 2009). At the same time, it contributes to the social aspects of the environment in which it evolves (Zahra and Wright, 2016). This intersection of the institutional and individual mindset is where more research and theoretical conceptualization is needed (Wicks, 2001; Collins, 2014; Bruton et al., 2010). The informal and social context of entrepreneurship, in which such phenomena can be observed, deserves more theoretical conceptualization (Ferreira et al., 2019); hence, this study's focus on creative entrepreneurship in the context of an emerging economy.

Personality traits have been used to explain the relationship between entrepreneurial intentions and the institutional environment (Schlaegel et al., 2021). This study took a different approach, focusing on the nexus between the social field conditions, such as cultural intelligence, found in an institutional context to explain entrepreneurial intentions. The literature on entrepreneurship and small businesses has rarely considered these constructs concurrently, thus leaving a gap in the body of knowledge. In attempting to fill this gap through this study, we also needed to be more mindful of sectorial characteristics (Power et al., 2017), such as creative entrepreneurship (Arici and Uysal, 2022), rather than of the general conditions of a country.

Entrepreneurial activity often emerges from the environment in the form of responses to institutional forces, perceptions, fear of failure with differences across countries and regions (Wyrwich et al., 2016). Rooted in institutional theory (Urbano and Alvarez, 2014; Pacheco et al., 2010; Bruton et al., 2010), this study's approach was aimed at helping explain how the institutional environment impacts human behaviors, including the decision to engage in entrepreneurship (North, 1990). Generally, the institutional environment of every country consists of three forces (regulatory, cognitive and normative) that influence

entrepreneurial activity (Busenitz et al., 2000; Scott, 1995), with combinations of these dimensions defining the specific institutional profile of a given country. Cognitive and behavioral factors are important in improving entrepreneurial self-efficacy in order to start a new business (Bachmann et al., 2021). However, our understanding of the relationship between the forces of the institutional environment and entrepreneurship remains inconclusive, particularly in developing countries and emerging markets (Ju and Zhou, 2020). We contend that the overall perceptions of the three institutional forces have a positive influence on the intention to start a business. In such contexts, to better understand the impact of the institutional environment on entrepreneurship intentions, it is important to consider the entrepreneur and his/her decision-making processes. However, the relationship between the two has largely been overlooked in the literature because such processes are considered an individual-level ability, while institutions are viewed as a country-level construct. To address this gap, this study involved an examination of the relationship between cultural intelligence and perceptions of the institutional environment, as well as the moderating role played by institutional environment forces on entrepreneurial intentions. Intentions to start a business are considered to be among the best predictors of entrepreneurial activity (Krueger Jr et al., 2000), whether as a result of planned behavior (Ajzen, 1991) or as a response to entrepreneurial events occurring in a social context (Shapiro and Sokol, 1982). However, while entrepreneurial intentions have traditionally been linked to psychological aspects such as personality traits (Bachmann, et al., 2021; de Janasz et al., 2007; Zhao et al., 2010), alternative views point at social forces such as family tradition (Altinay et al., 2012; Palmer et al., 2021) or learning (De Clercq et al., 2013) to be taken into account. Multiple literature review studies on entrepreneurial intentions (Liñán and Fayolle, 2015; Bird, 2015; Krueger Jr et al., 2000) have revealed a broadening of research around the concept of and the increasing importance accorded to understanding entrepreneurial phenomena. What is still missing is a better understanding of the space within which psychological abilities and social forces converge, including cultural aspects and multiculturalism (Dheer and Lenartowicz, 2018), creativity (Hu et al., 2018) and emotional intelligence (Miao et al., 2018). More research is needed on the role played by macrolevel factors in entrepreneurial intentions (Nakara et al., 2020), and also on the

effects of the institutional environment beyond the economic context. This study addressed this gap by investigating entrepreneurial intentions in relation to the institutional environment in the light of cultural intelligence.

Cultural intelligence is “an individual's capability to function and manage effectively in culturally diverse situations and settings” (Ott and Michailova, 2018: 99). It can be broadly explained by personality–environment fit theory, which postulates a match between a given individual’s characteristics and abilities and the environment (Muchinsky and Monahan, 1987). Unlike emotional intelligence, which is viewed as either a trait or an ability (Xu et al., 2019), cultural intelligence is deemed only to be an ability. However, there is a dearth of research on the relationship between cultural intelligence and entrepreneurial intentions, with only one study having hitherto examined the cognitive aspects of cultural intelligence and entrepreneurial intentions (Dheer and Lenartowicz, 2018). Thus, in relation to entrepreneurship, we posited that the overall construct of cultural intelligence would be useful in predicting entrepreneurial intentions above and beyond the common personality traits, such as locus of control and risk-taking propensity, that have been shown to influence them. As both personal abilities and institutional environment forces are expected to exert a positive influence on entrepreneurial intentions, the interaction between an ability such as cultural intelligence and entrepreneurs’ perceptions of the forces exerted by the institutional environment should further boost the likelihood of engaging in entrepreneurship.

The first contribution of this study is a clarification of the role played by cultural intelligence in entrepreneurship based on evidence from a developing country. Previous research in this context has exhibited limitations from both the conceptual and empirical standpoints. Its second contribution lies in its exploration of the joint effect of cultural intelligence (as a psychological construct) and the institutional environment (as a social sciences construct) on the intention to launch a business. We postulated that and tested whether the positive relationship between cultural intelligence and entrepreneurial intentions would be further strengthened by positive perceptions of the institutional environment. This study’s final contribution is a critical reflection on the personal and environmental context and on the antecedents of entrepreneurial intentions, striking a balance between individual entrepreneurial determinism and conformity with norms and

institutions. Such an approach helps explain the effect of both internal (intelligence) and external factors (institutional forces) on the gestation of entrepreneurship.

2. Theoretical background

2.1. Psychological and sociological aspects in a model of practice-oriented entrepreneurship research

The psychological perspectives on entrepreneurship often focus on personality traits, cognitive abilities, and intentions. An internal locus of control, risk-taking, the need for achievement, the tolerance of ambiguity, self-confidence, and innovativeness are some of the key entrepreneurial personality traits (Altinay et al., 2021; Esfandiar et al., 2019). Of these, only risk taking seemed to be significantly related to entrepreneurial intentions in the context of the creative industries on which this study was focused (Altinay et al., 2021). The criticism of entrepreneurial personality traits has increased with the realization that, when taken to their extremes, they can become problematic, leading to aggressiveness, narcissism, ruthlessness, or irresponsibility (DeNisi, 2015; Miller, 2015). Cognitive perspectives look at the way entrepreneurs think, which is broadly characterized by an ability to interpret facts in an opportunity-driven and innovative way that justifies both entrepreneurship and themselves (Baron, 1998). A more recent literature review conducted on cognitive perspectives in entrepreneurship research suggests a weaker focus on the antecedents related to resources and mental representations, and a stronger one on how entrepreneurial cognition works across levels of analysis (Grégoire et al., 2011). This led us to focus on entrepreneurial intentions (Krueger Jr et al., 2000) in practice-oriented entrepreneurship research. In addition, in a study to predict firm performance, Palmer et al. (2021) developed an integrated model of firm level as well as individual level variables. The findings of the study support an integrated view on firm performance as dominance and self-efficacy of CEOs serve as essential individual factors in addition to strategic decisions aligned to entrepreneurial orientation (EO)

The sociological perspectives on entrepreneurial activity are broadly concerned with the role played by the entrepreneur in society, the social environment that affects entrepreneurship, and decision-making in a social context (Reynolds, 1992). Such research

identifies a tension between social control and the entrepreneur's will to explore, innovate, and seize opportunities, a tension that can be reconciled through interactions and emotion (Goss, 2005). A relational sociology perspective highlights the importance of learning for entrepreneurship in innovation ecosystems (Khurana and Dutta, 2021; Steyaert and Katz, 2004).. Yet, it should not be forgotten that the disequilibrating role played by entrepreneurship in society is determined by social interactions and contributions, which, in turn, both shape and are shaped by an entrepreneurial culture (Kaufmann, 2009). This means that a symbiotic relationship exists between culture, as a societal construct, and entrepreneurship (Morrison, 2000), which is something we intended to investigate further through the lens of cultural intelligence.

From both the practical and theoretical standpoints, research on entrepreneurship is considered a nascent field (Claire et al., 2020) that attempts to operationalize the psychological, sociological, and other perspectives by offering relational, material, and processual views of entrepreneurial activities (Thompson et al., 2020; Michaelis et al., 2022). The earlier literature reviews of this approach suggest the use of multiple theories to capture the complex relationships between the entrepreneur, the venture, and the environment. From a practical perspective, entrepreneurship is strongly related to connecting (Anderson et al., 2012). In the practical sense of the business model, this means linking resources, transactions, and value through entrepreneurial cognition, opportunities, and outcomes (George and Bock, 2011). To understand the influence of psychological and sociological forces on entrepreneurial practices, this study looked at the institutional environment as the space within which entrepreneurial intentions and cultural intelligence intersect.

Cultural intelligence and entrepreneurial intentions are psychological processes related to entrepreneurial decision-making and to the entrepreneur. Yet, this link has received very limited scholarly attention in entrepreneurship research. Therefore, the primary aim of the conceptual framework presented in Figure 1 was to explore this link. As discussed in the hypotheses section and in line with the findings of Dheer and Lenartowicz (2020), we expected to find a positive relationship between cultural intelligence and entrepreneurial intentions.

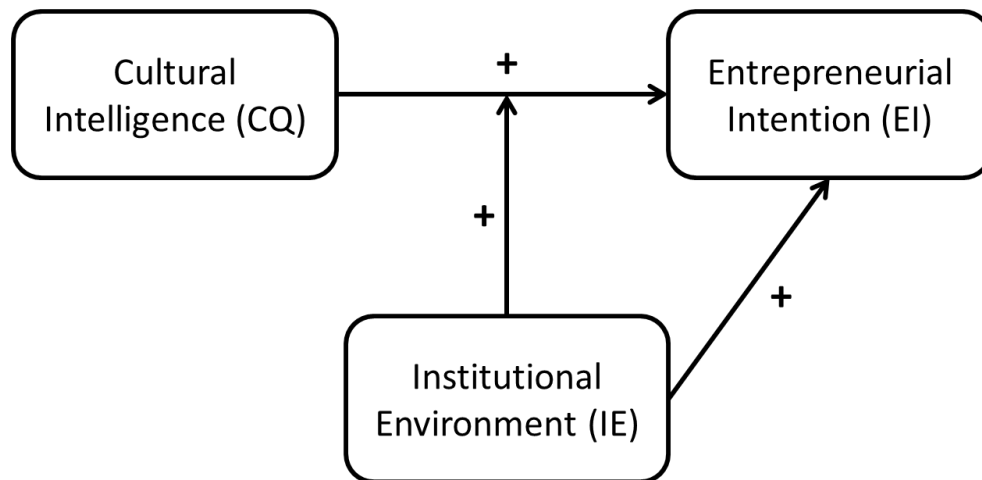


Figure 1. Conceptual model

At the same time, we contended that the relationship between the institutional environment and entrepreneurial intentions deserves more scholarly attention. On the basis of previous research (Urbano and Alvarez, 2014), we expected this relationship to be positive and the institutional environment to act as a moderator in the relationship between cultural intelligence and entrepreneurial intentions. This is approach differs from that of mainstream thinking, in which the institutional environment is taken for granted as an independent variable that works in isolation. A critical interpretation of the literature we reviewed earlier shows that entrepreneurial intentions and firms co-evolve with institutional changes in transition economies (Ahlstrom and Bruton, 2010). What remained unclear, and we intended to explore, was the role that institutional environment forces play in strengthening the relationship between cultural intelligence and entrepreneurial intentions.

2.2. Entrepreneurial intentions

Starting a new business is a planned activity that involves entrepreneurs going through several stages (Krueger Jr et al., 2000; Liñán et al., 2011). Among these, entrepreneurial intentions is one of the key drivers of an individual's behavior in launching a new venture (Kautonen et al., 2013; Liñán and Chen, 2009). From a psychosocial perspective, Ajzen's (1985) theory of planned behavior has been used in a number of studies to explain the

relationship between entrepreneurial intentions and action (Krueger and Carsrud, 1993; Kautonen et al., 2015). Krueger and Carsrud (1993) contended that the formation of intentions towards certain behaviors depends on attitudes, beliefs, and perceptions. Similar approaches related to the entrepreneur have also considered other factors, such as creativity, personality proactiveness, and entrepreneurial alertness (Hu et al., 2018). Multiple configurations of the big five personality traits—extraversion, agreeableness, openness, conscientiousness, and neuroticism—as well as entrepreneurial self-efficacy help to explain entrepreneurial intentions (Şahin et al., 2019). More specifically, the entrepreneurial personality (Zhao et al., 2010) and entrepreneurial traits such as tolerance of ambiguity, locus of control, and risk-taking propensity (Altınay et al., 2012) are related to the same psychological school of thought focused on the entrepreneur (de Janasz et al., 2007), internal processes, and perceptions.

Another stream of social study research has considered entrepreneurial intentions as a product of the environment. Inspired by Giddens' (1984) structuration theory and according to this school of thought, entrepreneurship is where the individual and opportunity meet (Chiasson and Saunders, 2005; Sarason et al., 2006). A practice-based approach to entrepreneurship tries to bring together these views by capturing and analyzing the dichotomy between agency and structure (Teague et al., 2021; Thompson et al., 2020), wherein practice refers to what happens in real life and the social ontologies to make sense of them. To overcome the agency–structure dualism, entrepreneurship research has adapted a relational perspective in which reality is portrayed as an assemblage of distinctive interdependent layers (Chiasson and Saunders, 2005; Özbilgin and Kyriakidou, 2006). For example, environmental forces can involve entrepreneurial exposure (Zapkau et al., 2015) or role models (Nowiński and Haddoud, 2019). Learning orientation and passion for the work are additional environmental factors that support entrepreneurial intentions (De Clercq et al., 2013). In a broader context, national cultures (Bogatyreva et al., 2019) and multiculturalism (Dheer and Lenartowicz, 2018) are important in order for entrepreneurial intentions to become actions. Institutional theory can explain the determinants of human behavior (including entrepreneurial intentions) in a given environment because institutions set and regulate the 'rules of the game' found in a society (North, 1990; Shahid et al.,

2018). Therefore, in studying an entrepreneur's intentions to start a business, there is a need to consider not only his/her personality traits but also his/her perceptions of the environmental context. This motivated us to look more carefully at cultural intelligence, as illustrated in the following section.

2.3. *Cultural intelligence*

Over the past two decades, a steady stream of research has been conducted in the field of intelligences, including social, emotional, and cultural intelligence (Crowne, 2008). Among these, cultural intelligence (commonly abbreviated as CQ, which stands for cultural quotient) has come to the forefront alongside globalization. CQ is defined as an individual's capability to act and interact effectively in diverse cultural settings on the basis of cognitive, metacognitive, motivational, and behavioral components (Ang et al., 2007), which represent mental/cognitive (metacognitive CQ and cognitive CQ) and action-focused (motivational CQ and behavioral CQ) aspects (Bücker et al., 2016). The behavioral dimension of CQ captures the interpersonal skills an individual exhibits in interacting with others by adjusting his/her actions (Ang et al., 2006; Crowne, 2009). The other three dimensions tend to represent the intrapersonal ability of individuals who possess cultural knowledge, can interpret cultural cues, know how to process cultural information, and are motivated to learn about other cultures (Crowne, 2009).

In recent years, CQ has been the focus of increasing attention in vibrant multidisciplinary scholarly conversations (Ott and Michailova, 2018). In the management and business fields, CQ is typically linked to leadership and internationalization (Alon and Higgins, 2005; Rockstuhl et al., 2011). Such studies build on the link—long-established in management research—between leadership and personality traits, either cross-culturally (Bennett, 1977) or in general (Lord et al., 1986; Van Seters and Field, 1990). CQ has been used to explain why some managers endowed with a higher international outlook do better than their local counterparts (de la Garza Carranza and Egri, 2010). An in-depth approach explains that CQ mediates the relationship between prior intercultural contact and international leadership potential (Kim and Van Dyne, 2012). In support of this view, Lorenz et al. (2018) found the two cognitive aspects of CQ to be positively related to

opportunity recognition in international contexts. More recently, Dheer and Lenartowicz (2020) reported that the cognitive aspects of CQ act as a mediating mechanism between bicultural identity integration and entrepreneurial intentions.

It should be noted that CQ is expressed along four dimensions. The first is cognitive CQ, which includes an individual's knowledge acquisition and the honing of the capabilities needed to grasp models of cultural norms (Ng et al., 2009; Tuleja, 2014). The second is metacognitive CQ, which pertains to the possession of knowledge of the systems (social, economic, and legal) prevalent in different cultures (Triandis, 1994). Motivational CQ, the third dimension, is an individual's ability to manage his/her personal energy and resources to address cross-cultural contingencies (Peng et al., 2015). Behavioral CQ, the fourth dimension, consists of an individual's ability to alter his/her verbal and nonverbal behaviors to match the expectations of individuals from other cultures (Ang et al., 2007).

In our study of creative entrepreneurs we took a holistic view on CQ, considering it an antecedent, rather than a mediator (Şahin and Gürbüz, 2020), of entrepreneurial intentions. This perspective challenges the dominance of the common personality traits perspective (Gartner, 1989) taken in entrepreneurship research; it does so by considering the social context in which entrepreneurship happens, which offers important conceptual implications. In viewing entrepreneurship as a connecting activity (Anderson et al., 2012), our view of cultural intelligence involved the assumption that entrepreneurs constantly transform both tangible and intangible forms of capital—i.e., cultural, symbolic, economic, and social ones (Çakmak et al., 2019). In our study, this view enabled the establishment of a logical connection between the institutional environment and entrepreneurial intentions. On the empirical front, the key issue that remained unresolved was whether CQ can explain the additional variance in entrepreneurial intentions, above and beyond long-standing personality traits.

2.4. Institutional environment

Historically, institutions have been defined in many different ways, ranging from group habits and customs (Hamilton, 1932) to norms that regulate relations among individuals (Parsons, 1990). The general consensus is that the institutional environment consists of two

types of institutions: formal and informal (North, 1990). Formal institutions exert a regulatory power that involves codified rules such as laws, whereas informal institutions encompass norms and attitudes. These two types of institutions have been further refined into three dimensions or pillars - regulative, normative, and cognitive-cultural (Scott, 1995) - which were empirically tested by Busenitz et al. (2000) in relation to entrepreneurship in reference to country-level institutional profiles. These pillars have both direct and indirect effects on an individual's perceptions of the desirability and feasibility of entrepreneurial activities (Fayolle and Liñán, 2014), but more research is needed around the institutional environment in which entrepreneurs operate (Bruton et al., 2010). Evidence from emerging economies link the institutional environment to entrepreneurial intentions (Urban, 2013), but the relationship between the stabilizing role of institutions and entrepreneurship as a force of change can be divergent (Sottini and Cannatelli, 2022). To succeed, entrepreneurs should be able to contextualize and exploit innovations (Garud et al., 2014), which are particularly relevant for creative entrepreneurs who operate at the intersection of culture and business (Lazzaro, 2017) while being influenced by the institutional environment.

A key question that remains unanswered is whether an institutional environment should be studied as a unidimensional construct (i.e., an institutional country profile) or whether it is necessary to examine its components separately. This dilemma resembles the construct of entrepreneurial orientation (EO), which is analyzed either as an overall construct or in terms of each of its dimensions. Many scholars argue that studying EO as a unidimensional construct is more appropriate because it is difficult to interpret the combination of any negative relationships exhibited by some dimensions and the positive effects of others (Wales, et al., 2021; Covin et al., 2006; Wiklund, 1999; Wiklund and Shepherd, 2003). Similarly, research on the role played by the institutional environment on entrepreneurship often takes a unidimensional but focused approach on the particular context of the study. For example, according to research on social entrepreneurship, a supportive institutional environment seems to foster intentions to start a business (Urban and Kujinga, 2017). Additionally, when explored through the lens of human capital, the institutional environment has the ability to positively impact perceived entrepreneurial abilities and intentions (Sedeh et al., 2020). In this study, we also adopted a unidimensional

approach to the institutional environment as a research construct, but we broadened its application in the context of cultural intelligence and entrepreneurial intentions.

The complex nature of the relationship between the institutional environment and entrepreneurial intentions is revealed by the fact that the findings in this direction, particularly in the case of emerging economies, remain inconclusive. Some research suggests that, in developing countries, unfavorable conditions, conflicting institutional pressures, and different constraints explain the insignificance of the relationship between regulatory, cognitive, and normative institutional dimensions and entrepreneurship (Urban, 2013). A study conducted in Cyprus, however, demonstrated that only the cognitive dimension is significantly related to entrepreneurial intentions and that, contrary to expectations, this relationship is negative (Hadjimanolis, 2016). A study of academic entrepreneurs conducted in China revealed that, among the four dimensions, regulatory and cognitive institutions are positively related to entrepreneurial intentions, but that the relationships with normative and conducive institutional environment forces are insignificant (Ju and Zhou, 2020). One of the few studies to find support for all three dimensions was conducted using data on 30 countries drawn from the 2008 Global Entrepreneurship Monitor (Urbano and Alvarez, 2014). However, it is important to note that the measures of the institutional environment were based mostly on country-level variables. The dependent variables of the studies were entrepreneurial outcomes such as... . The research samples of the studies included individuals who are in the early stages of setting up a business and those who own a business that is less than 3½ years old (Urbano and Alvarez, 2014). To address the shortcomings and intricacies discussed above, we took a holistic approach to the institutional environment forces in a developing country context.

3. Hypotheses development

3.1. Cultural intelligence and entrepreneurial intentions

Although CQ and entrepreneurial intention are conceptually and practically related, only limited research has been conducted on their relationship. The entrepreneurship literature (Alvarez and Busenitz, 2001; Foss et al., 2008; Dheer and Lenartowicz, 2018; Shepherd and DeTienne, 2005) recognizes that cognition plays a very important role in the

formation of entrepreneurial intentions. Likewise, high cognitive CQ enables individuals to use their knowledge of the means and resources found in one culture to identify entrepreneurial opportunities in others (Dheer and Lenartowicz, 2018). Individuals endowed with high cognitive CQ are likely to possess specific knowledge of the formal and informal institutions and of the social, technical, and economic workings found in foreign societies, which enables them to generate or explore entrepreneurial ideas (Wadhwa, 2012; Rusinovic, 2008). Similarly, metacognitive capabilities have emerged as important factors in boosting an individual's confidence in his/her ability to decipher any existing opportunities, create new business ventures, and display an optimistic attitude toward entrepreneurship (Johnson, 1990). Similarly, individuals with high cultural metacognitive intelligence can assess and adjust their beliefs based on context (Haynie et al., 2012), thus facilitating a wider acceptance of their ideas and products (Dheer and Lenartowicz, 2018).

Finally, there is a long strand of literature that links motivation to entrepreneurial activity (Johnson, 1990). Motivational CQ encompasses the energy an individual devotes to learning about and thriving in cross-cultural settings (Peng et al., 2015); thus, confidence and self-efficacy emerge as important ingredients of this dimension. Both of these concepts play a pivotal role in an individual's ability to start a business and achieve an effective allocation of resources under enduring challenging conditions (Hayward et al., 2006). Although there is limited evidence for the effect of motivational CQ on entrepreneurship—which we intended to investigate in relation to creative entrepreneurs in this study—it can be assumed that those individuals who display confidence and self-efficacy in cultural settings are more likely to become entrepreneurs.

Finally, individuals with high behavioral CQ can better adjust to intercultural environments (Ang et al., 2007), in which they can thus recognize entrepreneurial opportunities. The literature supports the view that the two cognitive aspects of CQ are positively related to entrepreneurial intentions (Dheer and Lenartowicz, 2018). We argued that the other two dimensions of CQ (behavioral and motivational) will also have a positive effect on entrepreneurial intentions, as such dimensions capture the ability to learn, thrive in, and adjust to multicultural environments and to spot any entrepreneurial opportunities. Previous studies have found that individuals with high levels of CQ tend to use all four

components concurrently (Ang et al., 2006; Earley and Ang, 2003; Ng and Earley, 2006). Hence, we maintained that those individuals who have high levels of overall CQ will be more inclined to launch their own ventures. These considerations lead to our first hypothesis.

H1. CQ is positively related to entrepreneurial intentions to start a business.

3.2. Institutional environment and entrepreneurial intentions

Previous studies have acknowledged the controversial relationship between formal and informal institutional forces and entrepreneurship, as the institutional environment can not only enable entrepreneurship in a country but also hinder its development (Stenholm et al., 2013; Welter and Smallbone, 2011). Particularly, young entrepreneurs may be less familiar with the formal institutions—such as laws and regulations—that may emerge as barriers to entrepreneurial entry. However, the influence of informal institutional forces along the normative and cognitive dimensions may be relevant for both seasoned and prospective entrepreneurs; this is because even the latter may have some views on the desirability and the status of entrepreneurship in a country. The institutional environmental categories play a key role not only at the outset of venture formation but also in relation to the entrepreneurial activities enacted in the later years of a business venture (Manolova et al., 2008).

The constraining effect on entrepreneurship of the formal institutional environment is much more pronounced in transition economies and developing countries—i.e., in transitional environments characterized by turbulent institutional frameworks—in which the institutional fit between the enterprise and the entrepreneur is diverse in terms of perceptions and responses (Welter and Smallbone, 2011). Developing countries—the context of this study—are particularly characterized by unfavorable conditions that exert numerous and often conflicting institutional pressures and constraints (Urban, 2013). In such economies—as in Bulgaria, for example—formal institutional forces can be perceived as constraints that motivate entrepreneurship to emerge as a response and an opportunity to move ahead of the competition (Manolova and Yan, 2002). In transition economies, in

which institutional changes are more intense (Ahlstrom and Bruton, 2010), the institutional business environment co-evolves with entrepreneurial firms because of new policies and regulations implemented by institutions.

The problem of the formal institutional voids found in emerging economies with communist backgrounds, such as Russia and China (Puffer et al., 2010), is important to understand the context of this study. In this respect, these countries are similar to Kazakhstan, the setting for this study. To overcome the liability of institutional voids, trust and learning are important in an environment characterized by emerging goals and opportunities (Fiedler et al., 2017). This is related to the perception of the contextual macro-institutional factors—e.g., economical, legal, ethical, technological, educational, infrastructural, and financial ones (Gangi and Kebaili, 2020). On a more personal level for entrepreneurs, the institutional environment influences the desirability and feasibility of new business opportunities and intentions to start a business (Díaz-Casero et al., 2012). A combination of cognitive and institutional forces plays an important role in entrepreneurial intentions (Farashah, 2015). This can explain how entrepreneurs address any institutional voids by building on the existing institutional context to create or exploit opportunities, thus justifying the following hypothesis.

H2. Perceptions of the forces operating in the institutional environment are positively related to entrepreneurial intentions to start a business.

3.3. The institutional environment as a moderator

The moderating role played by the institutional environment is well-recognized in a number of fields related to entrepreneurship. For example, research shows that innovation is moderated by the institutional environment (Donbesuur et al., 2020; Tian et al., 2020), which thus influences firm performance and investments. At the systemic level, the institutional environment moderates local supply chains (Wang et al., 2016), standards, or corporate social responsibility (Han et al., 2021). At the individual level, the personal characteristics of entrepreneurs (Kannadhasan et al., 2018)—or, more specifically, the

boundaries of trust and risk (Gefen and Pavlou, 2012)—are conditioned by the institutional environment as a moderating factor.

The institutional environment is where CQ and entrepreneurial intentions evolve to the extent that cultural diffusion is often associated with creative entrepreneurship (Rae, 2005). Recent applications of CQ have shifted from a narrow focus on international business leaders to what is happening in and around organizations. An experiential approach has shown that higher levels of CQ enable individuals to perform better in-the-moment adaptations in cross-cultural contexts (MacNab, 2012). In entrepreneurship, the cognitive dimensions of CQ come to the forefront, because individuals can identify opportunities in one culture and exploit them by using their knowledge in other cultures (Dheer and Lenartowicz, 2018). An individual endowed with high cognitive and metacognitive CQ, and also high behavioral CQ, can navigate diverse settings by capitalizing on his/her cultural knowledge, which will help him/her to establish relationships that lead to entrepreneurial activities.

As for the external environment, those individuals who view the cognitive and normative dimensions of the institutional environment as supportive of entrepreneurial activity are more inclined to engage in entrepreneurship (Díaz-Casero et al., 2012). The possession of knowledge of cultures and of an understanding of the knowledge and skills required to conduct business within a given country can further strengthen the joint effect of the cognitive CQ and cognitive dimensions of the institutional environment on entrepreneurial intentions. Likewise, high levels of behavioral and motivational CQ will be boosted by the positive perceptions of laws, norms, rules, and regulations, thus increasing the likelihood of engaging in entrepreneurship. The institutional environment thus plays a moderating role between personal characteristics and the start-up process (Kannadhasan et al., 2018). We contend that this interaction is multiplicative in nature, so we use aggregate constructs for CQ and institutional environment—i.e., the average scores of each of the four dimensions of CQ and the dimensions of the institutional environment.

To summarize, those individuals who have both high CQ and positive perceptions of the institutional environment will be more inclined to launch their own ventures, which leads to the final hypothesis of this study.

H3. Perceptions of the institutional environment will positively moderate the relationship between CQ and the likelihood of starting a business, so that more favorable perceptions of the institutional environment will strengthen the positive effect of CQ on the entrepreneurial intention to start a business.

4. Methodology

4.1. Research context

Kazakhstan, a Central Asian country and former Soviet republic, has a population of 19 million encompassing more than a hundred ethnic groups, including Kazakhs, Russians, Germans, Koreans, Tatars, Ukrainians, Uzbeks, Azerbaijanis, Poles, and Lithuanians (Sidorenko et al., 2018; Ostrovskiy et al., 2021). Kazakhstan's political and economic environment appears to be 'volatile' due to political incidents and economic downturns leading to instabilities and uncertainties (Isaacs, 2010). The country's governance and political systems are dominated by centralized decision-making, which hinders any entrepreneurial activities and initiatives (Seilov, 2015). Kazakhstan is a leader in the Central Asian region in terms of both economic and small and medium business development. Recently, the country's focus has been on the role played by internationalization (Spence, 2009), information and communication technologies (Petrenko and Shevyakova, 2019), and innovation (Seitzhanov et al., 2020) to diversify the economy. However, administrative barriers, lack of capital funding and high taxes have impeded the development of entrepreneurship in the country (Ahsan and Cheng, 2006). In addition, a lack of awareness of laws and opportunities, corruption in the public administration, and limited access to resources remain serious obstacles to entrepreneurship. Nevertheless, the business climate is improving. Various business financing programs are in operation, including the Business Road Map 2025, Enbek, Damu, Optima, and Economy Simple Things. These are the result of increased governmental awareness of the importance of entrepreneurship ecosystems and innovation for Kazakhstan (Kydyrova et al., 2016), alongside structural and indirect supporting policies such as lower taxes and easier processes for businesses (Abdymanapov et al.,

2016). However, entrepreneurial education and the development of a culture of entrepreneurship based on the cultural and social characteristics of Kazakhstan is far from prominent (Abdramanova et al., 2019; Kamak et al., 2017). As a result, being an entrepreneur is not deemed to be prestigious or advantageous for careers and growth in Kazakh society. Therefore, it is necessary to form a model for creative entrepreneurship and to develop mentoring and entrepreneurship orientation programs for young creative people.

Today, the creative industry and services are among the most attractive and important directions for the development of an entrepreneurial economy in Kazakhstan (Zhuparova et al., 2020). These can provide work for a growing population, even in the presence of limited employment opportunities in the public sector or in the traditional extractive industries (Spence, 2009). At the social and psychological levels, research has also shown that cultural factors and self-creativity play a positive role in developing the entrepreneurial potential in Kazakhstan (Altinay et al., 2021). In order to support, regulate, and formalize creative entrepreneurship, policy-makers have been trying to attract talented and creative young people with innovative business ideas (Zhartay et al., 2020) and have opened the Astana Hub and Almaty Impact Hub sites in the country's two megacities. This strategy is based on the best practices of foreign countries, adapted to Kazakhstani conditions.

With the right support, the creative industries have the potential to generate wealth, employment, and sustainable livelihoods for many even in emerging economies (Abisuga Oyekunle and Sirayi, 2018). What is typical about this sector is that entrepreneurs can start small as freelancers, but grow quickly in the presence of a favorable environment. In Kazakhstan, creative entrepreneurship is seen as a promising alternative to oil, gas, and public sector employment for young people. Earlier studies on this sector and country have analyzed the psychological, emotional (Altinay et al., 2021), and social cognitive (Altinay et al., 2022) aspects of creative entrepreneurs. What these and other studies on creative entrepreneurship (Werthes et al., 2017) have highlighted as being sector-specific is the need for support policies aimed at creating a favorable environment. Such policies are important for creative entrepreneurs to translate their individual talents into business opportunities. To this end, Kazakhstan has taken important steps in in the hope that, in the near future, the

country's creative potential, creative businesses, and creative economy will see substantial development (Zhuparova et al., 2020). To achieve this goal, it is necessary to do more to establish state support, develop programs for financing small and medium-sized businesses, provide more opportunities for entrepreneurial education, and foster entrepreneurial skills and critical thinking in creative individuals.

4.2. *Sampling and data collection*

The sample of this study was made up of young potential entrepreneurs who had participated in a business plan competition. Nascent entrepreneurs in this study range from individuals who are in ideation stage of setting a startup to others who began committing effort and resources to start up a business. In fact, those ones who began committing effort and resources to start up a business (constituted the eighty five percent of the research sample) were online freelancers with IT, engineering, architecture, education and marketing degrees and backgrounds. This research sample is in line with the previous published research investigating the entrepreneurial behaviors of individuals (Altinay et al., 2021; Soutaris et al., 2007).

We conducted a survey of all the participants (224) who had taken part in the contest, implementing a convenience sampling framework in light of the availability and willingness of respondents to participate in the study. The questionnaire was translated into the Kazakh language and then back-translated into English by two independent experts to ensure that the statements would be correctly understood. The participants completed the questionnaire in person on computers provided at a business development center. While all the business contestants responded to the survey, some of them did not complete the section about entrepreneurial intentions or other critical measures. Therefore, the final sample consisted of 193 usable questionnaires. As this study used cross-sectional data, it was therefore necessary to rule out the possibility of common method bias. To this end, the

guidelines of Kock (2015)—who developed a full collinearity assessment approach to check for common method bias—were followed. Given the fact that our usable sample size is considered small ($N < 200$), we used the tailored fit approach of Mai, Niemand, and Kraus (2021) to evaluate our model. We utilized the decision tree in their study to identify the indicator that leads to optimal fit. Based on that decision tree, the estimated model in our study is an established one where confirmatory factor analysis is used, for a sample below 200. As a result, the recommended fit indicator by Mai et al. (2021) for this situation is Standardized Root Mean Square Residual ($SRMR$)_{flex}.

The survey method and quantitative analysis were chosen because both are effective in determining the factors that lead to entrepreneurial intention. As an alternative, the use of a qualitative method would probably have offered deeper insights into the journey that potential entrepreneurs go through; however, it would not have provided answers in regard to the degree to which each of the factors affected the outcome (engaging in entrepreneurship). Using a survey method helped us gauge individual levels of cultural intelligence and perceptions of the institutional environment.

4.3. Measures

4.3.1. Dependent variable

Entrepreneurial intention was the dependent variable in this study of creative entrepreneurs. The way in which entrepreneurial intention is measured can be a contentious issue because some scholars regard it as a binary (yes/no) variable (Krueger and Carsrud, 1993), whereas others see it as a continuum based on probability (Van Gelderen et al., 2008). The former measure may be more appropriate when one aims to distinguish between two groups of individuals. However, when one studies a sample of potential entrepreneurs who have already expressed the desire to launch a business, there is a need to measure such probability because a person's decision to engage in entrepreneurship may lie on a continuum ranging from 0% to 100%. In other words, an individual who assigns a 20% probability of starting his/her own business is in a clearly different situation from someone

who believes that he/she is very (e.g., 95%) likely to engage in entrepreneurship. The participants to this study responded to the statement “Rate your probability of starting your business in the next five years” and our measure for entrepreneurial intentions thus covered a range of probabilities between 0% and 100%. In the questionnaire, these percentages were anchored with blocks of 0%, 25%, 50%, 75% and 100%.

4.3.2. *Independent variables*

The first predictor in this study was cultural intelligence (CQ), which consisted of four subscales: metacognition, cognition, motivation, and behavior (Earley and Ang, 2003). Metacognitive CQ was measured using four items, cognitive CQ encompassed six, motivational CQ was represented by five, and behavioral CQ also by five. Thus, we used an overall 20-item scale of CQ similar to that of Korzilius et al. (2017).

The second independent variable in this study was perceptions of institutional environment forces (INSTENV). We used the instrument developed by Busenitz et al. (2000), which includes the regulatory, cognitive, and normative dimensions of the institutional environment. The regulatory dimension consisted of five items, while the cognitive and normative dimensions were represented by four statements each. All statements capturing CQ and INSTENV were measured on a seven-point Likert-type scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

As both the CQ and INSTENV constructs consisted of subscales (four and three respectively), we conducted several tests to validate these two higher order constructs so that they could be used for further analysis. First, we assessed the convergent and the discriminant validity of the lower-order constructs (i.e., the four dimensions of CQ and the three dimensions of INSTENV). Next, we used the factor scores of these dimensions to evaluate the convergent and discriminant validity of the higher-order constructs (Sarstedt et al., 2019).

4.3.3 *Control variables*

To ensure that CQ and INSTENV were viable predictors of entrepreneurial intentions, we included several control variables used in previous studies. First, we controlled for

gender, the effects of which may vary across industries. For example, whereas some studies report that men tend to be more likely to engage in entrepreneurship (Strobl et al., 2012), female are more likely to be entrepreneurs in creative industries such as design and fashion (Henry, 2009). In this study, we thus coded the female respondents as 1 and the male ones as 0. Second, research has also shown that individuals whose parents or immediate family own a business have a higher propensity to start their own (Altinay et al., 2012). The respondents who had some business family background were thus coded as 1, and the others as 0. Last, in some cultures, the first-born children may be in a better position to pursue their entrepreneurial aspirations (Koh, 1996). Hence, we created a binary variable that was set to 1 for first-born children and 0 otherwise.

To demonstrate the incremental validity of CQ in predicting entrepreneurial intentions, we accounted for some personality traits that have been reported to influence entrepreneurial outcomes. This approach is similar to the one adopted by Ahmetoglu, Leutner, and Chamorro-Premuzic (2011), who found that another type of intelligence (i.e., emotional intelligence) had limited incremental validity once personality traits are taken into account. Accordingly, we performed a robustness analysis, using a set of four personality traits to demonstrate that CQ not only remains significant in that model but also explains additional variance beyond such personality traits. The four personality traits described below were therefore used as control variables in our robustness analysis.

The first trait, tolerance for ambiguity, was measured using four items based on Acedo and Jones (2007). Internal locus of control was measured via the 10-item instrument of Mueller and Thomas (2001), who revised Rotter's I-E scale (Rotter, 1966) to fit the context of entrepreneurship. Our risk-taking propensity scale consisted of 10 items from the revised edition of the Jackson Personality Inventory (JPI) manual (Jackson, 1994). The innovativeness construct was based on the work of Mueller and Thomas (2001), who modified the scale found in the revised edition of the JPI manual (Jackson, 1994). All personality traits were measured using a five-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*).

4.4. Data analysis

We employed both Smart PLS 3 and Stata 16.0 as our statistical software for data analysis. We first conducted a full collinearity assessment and employed the repeated indicators approach—as in Sarstedt et al. (2019)—to validate the use of the two higher order constructs (CQ and INSTENV) by using Smart PLS 3. We also used the tailored fit approach of Mai et al. (2021) to ensure that the measurement model with these two constructs (CQ and INSTENV) fits our data. Next, we utilized Stata 16.0 to run a multiple regression analysis with robust standard errors to test our model. Our modeling approach consisted of several steps. In the first, we checked for heteroskedasticity and multicollinearity. We employed two Stata routines, namely, *imtest* and *hettest*, to conduct our heteroskedasticity tests. *Imtest* used the White test, while *hettest* was based on the Breusch–Pagan test. We also evaluated variance inflation factors for all variables to confirm that our results were not driven by high intercorrelations and that there were no issues pertaining to multicollinearity.

In the second step, we used several models to test our hypotheses. First, we entered only the control variables to form Model 1. Next, we included the two key predictors of entrepreneurial intentions—CQ and INSTENV—to test H1 and H2, respectively. Lastly, we included the interaction term of CQ and INSTENV to build Model 3, which examined the predictions of H3. At each step, we assessed model improvement by measuring the change in R-squared values. Model 3, which included all the variables, can be described as follows: Entrepreneurial intentions = Control variables + CQ + INSTENV + CQ * INSTENV, in which CQ * INSTENV is the interaction term of cultural intelligence and perceptions of the institutional environment.

5. Findings

5.1. Main analysis

The analysis of the first order constructs showed that all four dimensions of CQ were acceptably reliable, as the Cronbach's alpha values were found to range between 0.875 and 0.929 (See Table 1). Likewise, all three dimensions of INSTENV demonstrated high internal consistency, with Cronbach's alpha values ranging between 0.854 and 0.895. All

four dimensions of CQ were found to have Average Variance Extracted (AVE) values higher than 0.5, denoting convergent validity. The Heterotrait-Monotrait (HTMT) ratios were all found to be below 0.85, confirming that the constructs achieved discriminant validity. For the next step, we evaluated the convergent and discriminant validity of the second-order constructs: CQ and INSTENV. As can be seen in the bottom portion of Table 1, both constructs were found to have AVE values above 0.5 and an HTMT ratio of 0.374. Thus, we concluded that CQ and INSTENV had achieved both convergent and discriminant validity.

Table 1. Assessing Convergent and Discriminant Validity of Constructs

Construct	Alpha	AVE	HTMT					
			1	2	3	4	5	6
<i>CQ Dimensions</i>								
1. CQ_Behavioral	0.887	0.690						
2. CQ_Cognitive	0.875	0.610	0.758					
3. CQ_Metacognitive	0.910	0.755	0.66	0.524				
4. CQ_Motivation	0.929	0.777	0.756	0.677	0.636			
<i>INSTENV Dimensions</i>								
5. Cognitive INSTENV	0.872	0.723	0.272	0.248	0.164	0.193		
6. Normative INSTENV	0.895	0.757	0.365	0.257	0.278	0.337	0.548	
7. Regulatory INSTENV	0.854	0.646	0.39	0.277	0.268	0.25	0.624	0.582
<i>Second-order constructs</i>								
CQ	0.858	0.701						
INSTENV	0.755	0.663	0.374					

Notes: EI=Entrepreneurial intention; CQ=Cultural Intelligence, INSTENV=Institutional Environment; Alpha=Cronbach's Alpha; AVE= Average Variance Extracted; HTMT= Hetero monotrait Method

We evaluated the fit of the measurement model with CQ and INSTENV as second order constructs by assessing the value of SRMR based on the approach of Mai et al. (2021). Mai et al. (2021) proposed a derived flexible cut off for $SRMR_{flex}$ value of 0.077, when sample size is below 200. The obtained SRMR for our model is 0.072, which leads us to conclude that our model achieves a good fit.

We also checked for CMB by taking the full collinearity approach of Kock et al. (2015). The variance inflation factor (VIF) values for all three constructs (CQ, INSTENV, and ENTINT) were found to range between 1.062 and 1.186, thus ruling out any concerns pertaining to CM.

The descriptive statistics (Table 2) show that the mean probability to engage in entrepreneurship was found to be about 60%. It is worth noting that, among our 193 respondents, only one individual had marked 0% as his/her probability to launch a venture. The distribution of the remaining four quartiles was as follows: 36 (18.6%), 74 (38.3%), 51 (26.4%), and 31 (16.1%). Approximately 64% of participants were female, a proportion that is typical for prospective entrepreneurs in creative industries. About 45% of our potential entrepreneurs were first-born children. More than one-third of the respondents were from enterprising families. The dependent variable was significantly correlated at the 5% level to the two key independent variables, which exhibited low to moderate intercorrelations, implying that all the variables made distinct contributions to our model. The VIF values were found to range between 1.04 and 1.25, showing that the results were not driven by multicollinearity. The mean for CQ statements was found to be 4.64, and the average for INSTENV 3.97. In the regression diagnostics, the *imtest* results demonstrated that heteroskedasticity was not a concern (Chi-square = 55.39, df = 61, p = 0.678). Likewise, the *hettest* routine indicated the absence of heteroskedasticity (Chi-squared = 2.15, df = 1, p = 0.142).

Table 2. Descriptive statistics, reliability and correlations

Variable	Mean	SD	Alpha	VIF	1	2	3	4	5
1. EI	.597	.017	—	1.04	1				
2. Gender	.639	.481	—	1.04	1				
2. Family owns a business	.365	.482	—	1.09	-.008	1			
3. Birth order	.453	.499	—	1.05	.080	.060	1		
4. CQ	4.648	1.149	.947	1.25	.023	.142*	-.025	1	
5. INSTENV	3.975	1.050	.907	1.22	-.088	-.032	-.068	.358*	1

Notes: EI=Entrepreneurial intention, CQ=Cultural Intelligence, INSTENV=Institutional Environment, SD = Standard deviation, VIF = Variance inflation factor, * $p < 0.05$.

The set of control variables constituting Model 1 explained 2.7% of the variance in entrepreneurial intentions, which was found to not be significant at the 5% level (see Table 3). Among the control variables, only family business ownership was found to be significant at the 5% level, which indicates that potential entrepreneurs from enterprising families are more likely to start a business. The inclusion of the two predictor variables (CQ and INSTENV) increased the R^2 value to 15.4% ($p \leq 0.001$). The R-squared difference between Model 1 and Model 2 was found to be approximately 13% ($p \leq 0.001$), implying that the addition of the two key predictor variables accounted for a significant variation in the probability of becoming an entrepreneur. In terms of individual relationships, the results show cultural intelligence to be positively related to entrepreneurial intentions (0.048, $p \leq 0.001$), thus lending support to H1—i.e., that individuals with higher levels of cultural intelligence have a higher probability of starting a business. Likewise, favorable perceptions of the institutional environment lead to a higher probability of starting a business (0.046, $p \leq 0.01$), which is consistent with H2.

The moderating hypothesis H3 was tested by augmenting Model 2 with the interaction term of cultural intelligence and perceptions of the institutional environment (CQ * INSTENV), which resulted in Model 3. This model was found to explain

approximately 19% of the variance in entrepreneurial intentions (Prob > F, $p \leq 0.001$). The R-squared change of approximately 3.5% denoted that the interaction term accounted for additional variance over and above the variance in the probability of starting a business explained by the variables in Model 2. The results indicate that perceptions of the institutional environment positively moderate the relationship between cultural intelligence and entrepreneurial intentions (0.042, $p \leq 0.01$). As shown by Figure 2, in individuals with high levels of cultural intelligence, favorable perceptions of the institutional environment lead to a further increase in entrepreneurial intentions, which confirms H3 both statistically and graphically.

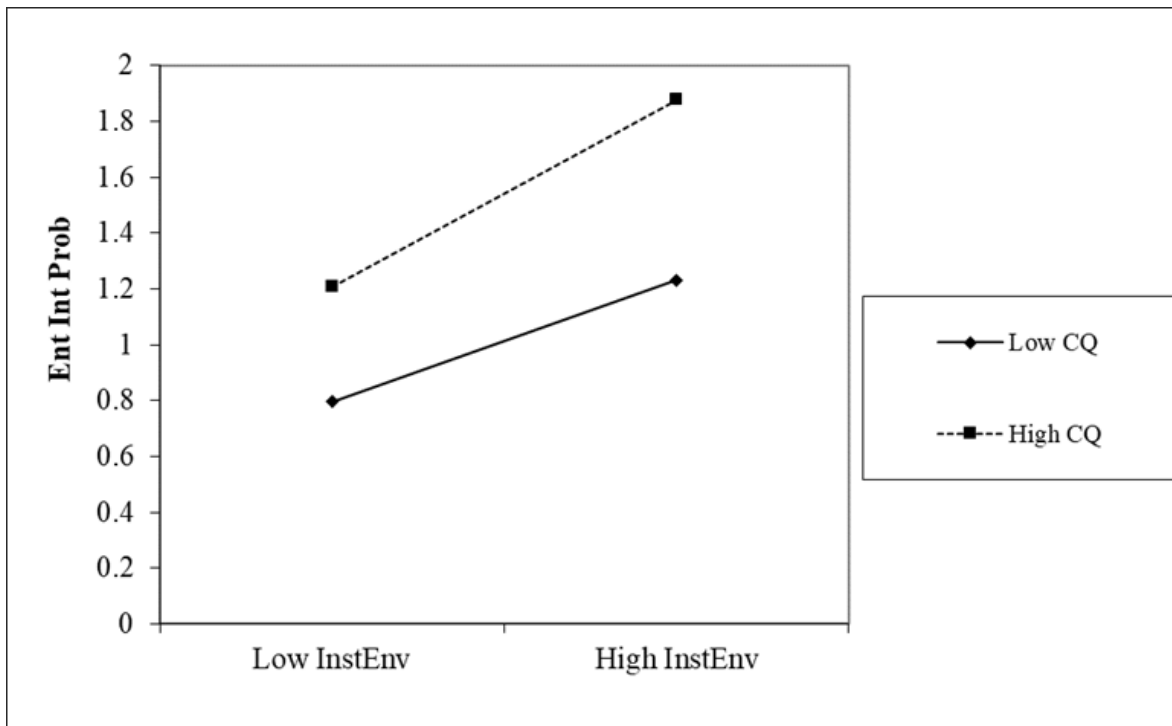
Table 3. Cultural intelligence, institutional environment and entrepreneurial intentions

Variable	Entrepreneurial intentions		
	Model 1	Model 2	Model 3
Gender	-0.023	-0.018	-0.012
	(0.037)	(0.035)	(0.034)
Family owns a business	0.073*	0.060	0.055
	(0.036)	(0.036)	0.035
Birth order	0.024	0.035	0.024
	(0.035)	(0.033)	(0.033)
CQ		0.048**	0.061***
		(0.015)	(0.014)
INSTENV		0.046**	0.034*
		(0.015)	(0.015)
CQ * INSTENV			0.042**
			(0.013)
Constant	0.577***	0.166*	0.137
	(0.034)	(0.077)	0.075

R-squared	0.027	0.154	0.189
Prob > F	(0.170)	(0.000)	(0.000)
R-squared change		0.127	0.034
Prob > F		(0.000)	(0.005)

Notes: * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$. Standard errors are shown in parentheses.

Figure 2. The moderating effect of the institutional environment



Notes: InstEnv = Institutional environment, CQ = Cultural intelligence.

5.2. Robustness checks

To ensure that our results would stand the rigor of alternative analysis, we retested our three hypotheses by using the factor scores of the second-order constructs as predictors of entrepreneurial intention. It should be noted that this was a partial-least squares model, rather than a multiple regression one. The findings revealed that the path coefficients with bootstrapping largely mirrored our main results—i.e., CQ was found to be positively related to ENTINT (0.248, $p \leq 0.001$). Likewise, INSTENV had a positive influence on the

probability to engage in entrepreneurship (0.155, $p \leq 0.001$). Last, the interaction term of CQ and INSTENV had a positive relationship on ENTINT (0.242, $p \leq 0.05$). Hence, all of the original three hypotheses were found to be once again confirmed.

We then tested the incremental validity of CQ by including four personality traits (i.e., tolerance for ambiguity, locus of control, innovativeness, and risk-taking propensity) as control variables. To demonstrate the robustness of our main (Model 2) and moderating (Model 3) models, we first ran a model that included the control variables in Model 1 along with the four personality traits, which we referred to as Model 4. As Table 4 shows, Model 4 explained 4.7% of the variance in the probability of engaging in entrepreneurship ($\text{Prob} > F$, $p \leq 0.05$). Interestingly, none of the personality traits were found to have a significant relationship with entrepreneurial intentions.

Table 4. Robustness analysis with personality traits

Variable	Model 4	Model 5	Model 6
Gender	-0.026	-0.022	-0.016
	(0.037)	(0.042)	(0.035)
Family owns business	0.063	0.056	0.055
	(0.039)	(0.037)	(0.036)
Birth order	0.024	0.035	0.024
	(0.035)	(0.033)	(0.032)
Locus of control	0.034	0.038	0.051
	(0.046)	(0.044)	(0.043)
Tolerance for ambiguity	-0.013	-0.041	-0.038
	(0.031)	(0.029)	(0.029)
Innovativeness	0.067	0.013	-0.006
	(0.044)	(0.044)	(0.044)
Risk-taking propensity	-0.055	-0.067	-0.054
	(0.046)	(0.042)	0.041
CQ		0.060**	0.071***
		(0.017)	(0.017)
INSTENV		0.047**	0.035*
		(0.016)	(0.016)
CQ * INSTENV			0.040**
			(0.014)
Constant	0.509***	0.288*	0.233
	(0.125)	(0.118)	0.118

R-squared	00.046	0.180	0.209
Prob > F	(0.146)	(0.000)	(0.000)
R-squared change		0.135	0.029
Prob > F		(0.000)	(0.010)

Notes: * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$. Standard errors are shown in parentheses.

Next, the two key predictors were added to the equation to form Model 5. The inclusion of these two variables was found to increase the R-squared value to 18.1%, for an R-squared change of 13.5% (Prob > F, $p \leq 0.001$). More importantly, both cultural intelligence and perceptions of the institutional environment were found to retain their positive significant effect on entrepreneurial intentions. Consequently, both H1 and H2 were reconfirmed. Last, we constructed Model 6 by adding the interaction term of cultural intelligence and perceptions of the institutional environment. The results demonstrated that perceptions of the institutional environment continued to positively moderate the relationship between cultural intelligence and entrepreneurial intentions (0.040, $p \leq 0.01$). Thus, H3 was once again confirmed.

At a first glance, the variance (R-squared value of approximately 18%) explained by our final model (Model 6) may seem low, as almost 80% of the variation in the probability to become engaged in entrepreneurship remains unexplained. However, it is important to emphasize that the performance of our model is in line with previous studies. For example, in their meta-analysis, Schlaegel and Koenig (2014) used four theory of planned behavior constructs as determinants of entrepreneurial intention. Jointly, these four constructs were found to explain 28% of the variance in entrepreneurial intention. In the same study, the authors ran an entrepreneurial event model in which three constructs were found to jointly explain 21% of the variance in entrepreneurial intention. In this study, we demonstrated that the long-standing personality traits jointly explain merely 4% of the variation in probability to engage in entrepreneurship. Our Model 6 thus offers a considerable improvement (more than 16%—more than a fourfold increase) over Model 4.

6. Discussion, limitations and directions for future research

In this study, a practical approach to entrepreneurship was offered as a relational, material and process-related one suited to bring together the psychological and sociological perspectives (Thompson et al., 2020; Michaelis et al., 2022). To do so, the institutional environment, our mediating variable, was considered as the space in which entrepreneurial intentions and cultural intelligence converge. By advancing the arguments proposed by Zahra and Wright (2016) in regard to the role played by entrepreneurship in society, this research was not limited to the narrow context of business start-ups, but considered the broader cultural and institutional dimensions that influence entrepreneurial activity. In business studies, a debate is ongoing on the importance of the social approaches used to explain entrepreneurial intentions (Altinay et al., 2012) or psychological perspectives (de Janasz et al., 2007; Zhao et al., 2010). Entrepreneurial intentions are important predictors of business activity (Krueger Jr et al., 2000) but, due to their complexity, they require a combined psychological and sociological approach. Previous research on national cultures (Bogatyreva et al., 2019) and entrepreneurial exposure (Zapkau et al., 2015) has highlighted the importance of the contextual environment, which we included in this study by using cultural intelligence (Muchinsky and Monahan, 1987) to understand the personality-environment fit of entrepreneurs intending to start a business, and by using institutional theory (North, 1990) to gain a better understanding of the role played by the social environment in entrepreneurial intentions.

This study contributes to entrepreneurship research by pinpointing the roles played by CQ, as a personal ability, and by perceptions of the institutional environment in enhancing individual intentions to engage in entrepreneurship. As discussed earlier, entrepreneurial intentions are important predictors of business activity (Krueger Jr et al., 2000) and should therefore be tested rigorously in various settings and using different variables. Previous research on national cultures (Bogatyreva et al., 2019) and entrepreneurial exposure (Zapkau et al., 2015) have highlighted the importance of the contextual environment, which we included in this study. Thus, the first contribution made by this study resides in its examination of the antecedents of entrepreneurial intentions among young potential entrepreneurs in a transition economy such as that of Kazakhstan. Thus, we can confirm

that CQ is positively related to entrepreneurial intentions, not only in developed countries such as the United States (Dheer & Lenartowicz, 2018) but also in developing ones. CQ remains an important antecedent of an individual's intention to launch his/her own venture, but national culture is important to translate such intention into behavior (Bogatyreva et al., 2019). This finding indicates that CQ is a personal ability that influences entrepreneurial intention over and above common personality traits and, as such, it is a distinct antecedent of entrepreneurship. Methodologically, we showed that well-accepted scales of cultural intelligence and of the institutional environment can be operationalized in entrepreneurship research in countries that are subject to the growing pains characteristic of post-communist business environments.

Second, this study adds to the growing stream of research on the determinants of entrepreneurial intentions by demonstrating the joint impact of internal and external factors. Our findings reveal that potential entrepreneurs' perceptions of institutional forces provide an additional boost to the already positive relationship between CQ and the intention to engage in entrepreneurship. We found that, just as business ventures co-evolve in transition economies, CQ and perceptions of institutional forces create situations in which the sum of the two constructs is larger than its individual constituents. Therefore, positive perceptions of institutional forces emerge as a necessary condition for entrepreneurial intention.

Third, this study contributes to institutional theory and to research on individual ability and intelligence. It was already known that individuals can identify entrepreneurial opportunities and take advantage of them thanks to their knowledge of cultures or cognitions (Dheer and Lenartowicz, 2018); we built on this knowledge by establishing that CQ operates as a first-order construct in which not only the cognitive and metacognitive dimensions of CQ, but also the behavioral and motivational ones are positively related to entrepreneurial intentions. Thus, we contend that all dimensions of CQ are at work in individual plans to start businesses. Our findings shed light on the debate concerning whether institutional forces act as impediments or enablers of entrepreneurship (Stenholm et al., 2013; Welter and Smallbone, 2011) by demonstrating that, in Kazakhstan, individuals who hold positive perceptions of the three institutional forces are more likely to act entrepreneurially.

Those individual who, besides high cognitive and metacognitive CQ, also possesses high motivational and behavioral CQ are more likely to be entrepreneurial in seizing opportunities. In this study, we have confirmed that the institutional environment moderates the above relationship, which suggests that CQ and the institutional environment are co-dependent and co-evolving. A longitudinal approach and cross-cultural analysis are needed to find out more about this, but our findings establish that individuals with high CQ and the ability to perceive and navigate the normative, regulatory and cognitive forces found the institutional environment are more likely to be entrepreneurial. Conceptually, by confirming that the psychological and sociological aspects of CQ and institutions are important for entrepreneurship, this study encourages more business research in which the perspectives from the two fields are applied jointly. This study is not free of limitations, which we acknowledge here. First, our sampling approach precluded us from using random sampling, as we canvassed an entire group of participants in a business plan competition. Future studies should consider using an experimental design whereby only some of the potential entrepreneurs have been exposed to business/entrepreneurship training. Second, the demographic distribution of our respondents was limited to young potential entrepreneurs who, as such, may possess characteristics different from those of the rest of the general population. Future studies could use a sample including potential entrepreneurs belonging to older age groups. Third, we recognize that individual perceptions of an institutional environment may not objectively measure how favorable the business conditions of a country are, particularly in relation to samples, such as ours, exclusively composed of young potential entrepreneurs. Future studies may consider other indicators suited to better capture the conditions of the entrepreneurial ecosystem in a developing country such as Kazakhstan.

To translate the implications of this study into practice, Kazakhstan and similar countries could acknowledge and utilize the diversity and the multiculturalism of their populations through creativity-centered public policies aimed at harnessing cultural diversity and stimulating the utilization of cultural intelligence for creative entrepreneurship. More specifically, such policies could encourage the establishment of different platforms and systems and the introduction of different interventions aimed at

educating and training multicultural young generations in the effective utilization of 'cultural intelligence' for creative thinking and innovation. At the same time, these policies could maintain a focus on changing the institutional environment to the end of creating more enablers for cultural intelligence to flourish and excel both nationally and internationally.

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