About BAM

The British Academy of Management (BAM) is the leading authority on the academic field of management in the UK, supporting and representing the community of scholars and engaging with international peers.

http://www.bam.ac.uk/
Summary

This research aims to investigate the relationship between shared identity, cultural intelligence, communication and team effectiveness in multicultural teams (MCTs). Our contribution is threefold. Firstly, we propose an integrative model encompassing key factors of team effectiveness in MCTs. Secondly, unlike previous research, we study cross-cultural interactions on the team rather than individual level. Thirdly, building on social identity and self-categorisation theories, we apply the construct of common in-group identity to MCTs, which remains an underexplored approach to date. We surveyed MCTs of students participating in international programs. Our findings show that common in-group identity is positively related with communication effectiveness and team effectiveness. Common in-group identity and communication effectiveness play a significant full chain mediating role in the relationship between cultural intelligence and MCTs' effectiveness. From a managerial point of view, these results suggest the importance of training leaders to develop a team identity.
Introduction

In a globalising world, cross-cultural interactions have become increasingly important in the economic, political, and social arenas (Black & Mendenhall, 1990). In today’s work-related settings, cross-cultural interactions do no longer only occur during short-term business trips to foreign countries and long-term overseas assignments but also during short-term assignments, and work in multicultural virtual and domestic teams (Wood & Peters, 2014). Due to the increasing cultural diversity of Western society, even local workers without international career plans are bound to face situations in which they will have to work in multicultural teams (MCTs) (Fischer, 2011). Thus, on the individual level, intercultural attitudes and skills are valuable assets not only for expatriates but also for local workers and in particular, for university graduates about to enter the labour market (Fischer, 2011). On the organisational level, these assets are key to remaining competitive in an uncertain environment induced by globalisation (Wood & Peters, 2014).

A multicultural team (MCT) consists of “individuals from different cultures working together on activities that span national borders” (Snell et al., 1998) or as “task-oriented groups consisting of people of different national cultures” (Marquardt & Horvath, 2001). In an ever more globalised and interconnected world, individuals from different cultures (and locations) are increasingly working and learning collaboratively, be it in face-to-face interactions or virtually. Multicultural teams are present in numerous organisations such as private companies, military departments, non-profit organisations and research teams (Connaughton & Shuffler, 2007). In business, “many multinational corporations (MNCs) utilize multicultural teams (MCTs) so that members with different nationalities can exchange their unique knowledge in order to capture market share in new locations, exceed competitors’ customer service, secure local resources, or implement successful distribution in emerging economies” (Hajro, Gibson, & Pudelko, 2017).

Up to now, scholars in international business and management studies have mostly studied MCTs in comparison with culturally heterogeneous teams and addressed the question of whether cultural diversity is an asset or a hindrance for team performance (Moon, 2013). On one side, it is alleged that individuals with similar cultural backgrounds tend to attract each other and share more easily values and beliefs, being therefore more effective in their teamwork and communication (Erez et al., 2013; Van der Zee, Atsma, & Brodbeck, 2004). On the other side, cultural diversity is viewed as an opportunity for teams, as it provides more diverse perspectives, experiences, cognitive frameworks and solutions to problem-solving and therefore enhances team creativity (Chen, 2006; Grosse, 2002; Janssens & Brett, 2006; Stahl et al., 2010).

In this paper, we focus on culturally heterogeneous teams and attempt to explain how these MCTs can be effective despite cultural and linguistic differences. More precisely, we examine two factors usually cited in the literature as influencing effectiveness in cross-cultural settings, namely intercultural competence (or cultural intelligence or CQ) and team shared identity. Cultural intelligence is an individual characteristic that allows team members to overcome or sublimate cultural differences in an MCT and thus, to perform effectively. As for a shared identity, it helps reducing intergroup conflict, enhances trust, cooperation and communication and as a consequence, improves MCT effectiveness. We propose to investigate the relationship between these two variables as well as their respective impact on MCT effectiveness. In addition, we consider communication effectiveness, as it is particularly relevant in culturally and linguistically diverse teams and is viewed by numerous scholars as an important factor of
success and positive outcomes in MCTs (Lloyd & Härtel, 2010). Building on the literature, we consider communication effectiveness as a mediator in our model, i.e. as an outcome of cultural intelligence and shared identity on one side, and as an antecedent of team effectiveness, on the other.

In order to test our model, we collected data from a survey with undergraduate and MBA students having taken part in international training programs and worked in MCTs in order to complete group assignments. One of the reasons why we focus on the so-called “millennials” is that this generation is entering now the labour market and will be shaping organisational values and managerial practices in the long run.

Our study contributes to the research field in three ways. Firstly, we propose an integrative model which takes into account both cultural intelligence and shared identity. In previous research, these two key factors have been addressed separately in their relation with intercultural effectiveness. Secondly, our study focusses on the team level instead of the individual level. Indeed, scholars usually study the impact of cultural intelligence on individual performance (e.g., job and task performance of expatriates on international assignments, intercultural competences of MCT leaders; Ang, Rockstuhl, & Tan, 2015; Kumar, Che Rose, & Sri Ramalu, 2008). As Moon (2013) put it, only “few studies have demonstrated the effects of team CQ on team performance in culturally diverse situations”. The same applies to shared identity, whose effect in cross-cultural settings has been usually studied on the individual level rather than on the team level (e.g., Lee, 2010; Lisak & Erez, 2015). Yet, we consider that individual cross-cultural interactions do not take place in a vacuum but must be put back and studied in a team context and linked to team processes and dynamics. Thirdly, with regards to shared identity, we build on social identity and self-categorisation theories and apply them to the MCT context. To date, this approach remains underexplored and is questioned by some scholars. We discuss this issue later in this paper.

Team performance or team effectiveness?

In order to conceptualise teamwork and team dynamics, McGrath (1964) proposed the input-process-outcome model (IPO). Mathieu et al. (2008) revised and improved the model providing a more detailed description in terms of process and outcomes. Their IMO model (input-mediators-outcomes) makes a distinction among the mediators between “emergent states” (attitude-related variables such as team empowerment, climate, cohesion, trust, shared mental models) and “processes” (behaviour-related variables such as planning, organising, cooperation, coordination, communication, decision-making) (Mathieu et al., 2008). In comparison with the IPO model, the IMO model also extends the outcome category beyond the construct of performance, in including team process improvement, learning behaviours, innovativeness, member satisfaction, or team viability, to name a few (Mathieu et al., 2008).

Three different conceptual approaches about team performance and team effectiveness seem to emerge from the literature. First, the use of only one or the other construct to describe both team outcomes and processes. Some scholars prefer the term of “team effectiveness”, which they view as encompassing process-related variables (e.g. upper management, career development, rewards, relations, communications, recognition, work load, commitment, trust in management) and outcomes (such as productivity, quantity and quality of outputs) (Campion, Medsker, & Higgs, 1993; Cohen & Bailey, 1997). Others use exclusively the terms of “team performance” in order to designate both goal-oriented behaviours (processes) and results of these behaviours (outcomes) (Beal et al., 2003). A second approach consists in subordinating one concept to the
other. In this perspective, team effectiveness includes team performance (quantity and quality of productivity), as well as other types of outcomes such as team viability, i.e. the capability of team members to continue working cooperatively, and team members’ satisfaction (Barrick et al., 1998; Kozlowski & Ilgen, 2006). Thirdly, some scholars use both terms, each having its own distinctive meaning. In that case, there seems to be a consensus, as team performance refers usually to processes and team effectiveness, to outcomes (Kraiger & Wenzel, 1997; Salas, Cooke, & Rosen, 2008). As Salas, Cooke, & Rosen (2008) put it, “performance is the activities engaged in while completing a task, and effectiveness involves an appraisal of the outcomes of that activity”.

In the present study, we focus on the outcomes of MCTs in a narrow sense, namely the “productivity” of these teams. Therefore, we follow Salas et al. definition and refer to “team effectiveness” instead of “team performance”.

**Intercultural competence**

Intercultural or “cross-cultural competence” is “the ability to function effectively in another culture” (Gersten, 1990). There is a very extensive theoretical and empirical literature on this topic. Leung, Ang, & Tan (2014) identified around 30 different intercultural competence models in the literature and more than 300 related constructs. They classified these constructs into three categories: (1) the intercultural traits “refer to enduring personal characteristics that determine an individual’s typical behaviours in intercultural situations” (e.g., open-mindedness, tolerance of ambiguity, flexibility, inquisitiveness, etc.) (2) the intercultural attitudes (positive vs negative) and intercultural worldviews (ethnocentric vs ethnorelative) “focus on how individuals perceive other cultures” (3) the intercultural capabilities “emphasize what a person can do to be effective in intercultural interactions” (e.g., knowledge of other cultures, linguistic skills, adaptability to communication, etc.) (Leung, Ang, & Tan, 2014). In light of these categories, the authors reviewed four models that are most frequently discussed in organisational studies, plus the Global Leadership Competency model (Bird et al., 2010) which is more recent but nevertheless promising, and compared their related scales and respective characteristics. The Global Mindset Inventory (Javidan & Teagarden, 2011) and the Global Competencies Inventory (Bird et al., 2010) turn out to be the most comprehensive models, as they both encompass all three dimensions of intercultural traits, attitudes/worldviews, and capabilities. The three remaining models and their related scales focus on either intercultural traits (Multicultural Personality Questionnaire; Van der Zee & Van Oudenhoven, 2000, 2001), attitudes and worldviews (Intercultural Development Inventory; Bennett & Hammer, 1998) or competencies (Cultural Intelligence Scale; Ang et al. 2007).

The authors conclude that the Multicultural Personality and the Cultural Intelligence models are most appropriate to capture the concept of intercultural competence, because of the validity of the related scales and the range of psychological, behavioural, and performance outcomes predicted by both models. Matsumoto & Hwang (2013) come to the same conclusion in their comparison of 10 intercultural competence models (Leung, Ang, & Tan, 2014).

Three further reasons led us to opt for the Cultural Intelligence model. First, the intercultural capabilities addressed by the CQ model are more proximal to intercultural effectiveness than personal traits, attitudes and worldviews. Leung, Ang, & Tan (2014) suggest that traits are the most stable of the three components of intercultural competence, and therefore are antecedents of attitudes and worldviews. In turn, personal traits and attitudes/worldviews influence the motivation to improve one’s intercultural capabilities. Finally, intercultural capabilities are
directly linked to intercultural effectiveness (Leung, Ang, & Tan, 2014). Thus, considering solely the most proximal relation, i.e. between intercultural capabilities and intercultural effectiveness, allows for greater explanatory power and a more parsimonious model. Secondly, focusing on capabilities instead of personality traits, attitudes and worldviews allows for more practical recommendations which can be taught in cross-cultural training. Thirdly, CQ model is commonly used by scholars and has proven to explain several aspects of MCT processes and emergent states such as acceptance and integration of new members (Flaherty, 2008), interpersonal trust (Moynihan, Peterson, & Early, 2006; Rockstuhl & Ng, 2008), group cohesion (Moynihan, Peterson, & Early, 2006), shared values (Adair, Hideg, & Spence, 2013; Moynihan, Peterson, & Early, 2006) or the sense of belonging to the global world (Shokef & Erez, 2008).

**Cultural intelligence**

Ang et al. (2007) define cultural intelligence as “an individual’s capability to function and manage effectively in culturally diverse settings”. The authors developed a CQ scale which consists in four dimensions. First, the metacognitive dimension of CQ refers to the individual's awareness of existing cultural differences and his/her ability to plan, monitor and adjust his/her own mental models during and after cross-cultural interactions. Second, cognitive CQ relates to knowledge acquired from education or personal experience about norms, practices and procedures in a given cultural context. Thirdly, motivational CQ reflects the extent to which an individual is interested and willing to adapt in a given cultural context as well as beliefs in his self-efficacy in cross-cultural interactions. Fourth, behavioural CQ focuses on the ability to adapt speech acts, verbal and non-verbal behaviours in cross-cultural interactions (Ang et al., 2007).

CQ is a valuable asset for MCT members as its metacognitive, cognitive, motivational and behavioural dimensions help improving knowledge sharing (Chen & Lin, 2013), communication effectiveness (Bücker et al., 2014; Silberstang & London, 2009; Thomas et al., 2008), shared values (Adair, Hideg, & Spence, 2013), creativity (Chua & Ng, 2017; Crotty & Brett, 2012) and in the end, team effectiveness (Adair, Tinsley, & Talyor, 2006; Groves & Feyerherm, 2011).

When comparing culturally diverse teams and homogeneous teams working on group projects in a large business school in South Korea, Moon (2013) found that the former outperformed the latter in the long run, provided that they had an overall high level of CQ. Moon concludes that a high level of CQ compensates for the negative effects of cultural diversity (2013). Similarly, Moynihan, Peterson & Early (2006) tested the CQ scale on culturally diverse teams having worked for an entire year on various group projects as parts of their MBA courses. The findings show a positive correlation between the team mean level of CQ and the MCT performance. Building on these results, we hypothesise:

**Hypothesis 1:** An MCT mean level of cultural intelligence is positively related to MCT effectiveness.

**Common in-group identity in MCTs**

The second determining factor of MCT effectiveness considered in our model is shared identity. Unlike intercultural competence models, shared identity models in the study of MCTs are scarce and draw most of the time from social identity and social categorisation theories (Tajfel &
According to social identity theory (SIT), individuals define themselves in terms of their membership in social categories. In contrast to a personal identity ("how am I different from him/her?") social identities refer to shared attributes ("how are we different from them?"). The process implies the categorisation of others as in-group or outgroup members. Essential for self-categorisation processes are the needs to enhance self-esteem (Tajfel & Turner, 1979, 1986) and to reduce uncertainty (Hogg & Terry, 2000). Thus, individuals identify particularly with groups that provide a distinctive and positive identity. A particular social identity becomes salient when an individual's self-perception is based on attributes shared with other group members rather than individual characteristics (Turner, 1985; Turner et al., 1987).

Some scholars consider self-categorisation theory as ineffective when it comes to explaining the emergence of a shared identity in MCTs (e.g., see in Erez et al., 2013; Moon, 2013; Stahl et al., 2010). Given that the self-categorisation process in in-groups and outgroups is supposedly based on nationality, cultural origin, language or ethnicity, culturally diverse team members should theoretically identify with their own subgroup and not with the overall team and therefore, a MCT shared identity should not be possible. In our opinion, this is too static a view of the processes of social identification. Indeed, an individual has multiple, multileveled, and changing social identities, each of them becoming salient according to a specific context and conditions.

Gaertner et al. (1993, 1994, 1996, 2000) argue that factors such as cooperative interactions between groups, identification of a common problem, a common “fate”, or common tasks can lead in-group and outgroup members to develop a common identity. These processes are called “decategorisation” and “recategorisation”. The first occurs when in-group members, through personal interactions and cooperation with outgroup members, begin to view themselves as individuals rather than parts of a whole. The second occurs when the members of both groups identify themselves with a single higher level group (Gaertner et al., 1993, 1994, 1996, 2000). In this case, however, team members do not necessarily need to forsake their original subgroup identity (Gaertner et al., 1993, 1996, 2000). They can develop a “dual identity”, which is an identification with both the subgroup and the superordinate group (Gaertner et al., 1996, 2000; Dovidio, Gaertner, & Saguy, 2008).

To summarise, social identity processes result in four possible outcomes. Firstly, categorisation is the process by which individuals identify themselves and the others as either part of the in-group or the outgroup (i.e., two separate groups). Secondly, decategorisation implies a weakening of group ties and members considering themselves as separate individuals rather than a cohesive group (i.e., separate individuals). Thirdly, recategorisation occurs when members of both groups identify themselves with a single superordinate group (common in-group identity), either by giving up their original subgroup identity (i.e., one single group) or not (i.e., two subgroups nested in one single superordinate group). Gaertner, Dovidio, & Bachman (1996) have developed a scale assessing these four possible outcomes.

Some scholars made assumptions about the positive effects of both a single common superordinate identity and a dual identity on team dynamics in MCTs. Findings show that a single common superordinate identity reduces intergroup bias (i.e., evaluating less favourably outgroup members than in-group members) and conflict, and enhances harmonious intergroup relations, cooperation, productivity (Gaertner et al., 1993, 1994, 1996) and commitment to the team (Van der Zee, Atsma, & Brodbeck, 2004). As for dual identity, however, the results are not significant (Gaertner et al. 1993, 1994, 1996; Van der Zee, Atsma, & Brodbeck, 2004).
Gaertner et al. (2000) suggest that a dual identity model is more efficient when one or more minority groups interact with a majority group. Members of minority groups might want to preserve their ethnic identity (“two separate groups”) while members of the dominant majority group would prefer a single group identity (“one superordinate group”). In that situations, “integrative strategies, such as the dual-identity form of recategorisation that emphasizes both the salience of the superordinate group identity and ethnic subgroup identities simultaneously, may be most effective” (Gaertner, 2000). As the MCTs in our study are ethnically balanced, we should not expect a difference of impact on team performance between a single superordinate group identity and a dual identity. Thus, we propose:

**Hypothesis 2a:** A common MCT in-group identity is positively related to MCT effectiveness.

In addition, we suggest a relation between a common in-group identity and cultural intelligence. Indeed, knowledge of other cultures, awareness of cultural differences, and ability and motivation to adapt to cross-cultural situations help members developing shared mental models and consequently, a shared identity. Research shows that multicultural teams with greater average team member cultural intelligence experience greater cohesion than teams with lower average cultural intelligence (Moynihan et al., 2006). We therefore assume:

**Hypothesis 2b:** Cultural intelligence is positively related to common in-group identity in MCTs.

**Hypothesis 2c:** Common in-group identity mediates the relationship between cultural intelligence and MCT effectiveness.

**Communication effectiveness**

Given cultural and linguistic differences, communication is more difficult in MCTs than in culturally homogeneous teams (Lu et al., 2018). In this context, intercultural communication competences and processes are particularly crucial for team effectiveness (Chen, 2006; Lloyd & Härtel, 2010). Therefore, communication effectiveness is in our model a mediator variable between cultural intelligence and team effectiveness.

To begin with, CQ undoubtedly influences communication effectiveness. Being aware of cultural differences and knowing how to adapt verbal and non-verbal behaviours in cross-cultural interactions facilitate understanding and enable effective communication (Silberstang & London, 2009), improve information sharing (Ang, Rockstuhl & Tan, 2015), and reduce anxiety (Bücker et al., 2014). Therefore, we suggest:

**Hypothesis 3a:** Cultural intelligence is positively related to communication effectiveness in MCTs.

In turn, communication effectiveness influences team effectiveness. Face-to-face interactions in MCTs tend to reduce task conflict, enhance team dynamics, and therefore improve team effectiveness (Connnaughton & Shuffler, 2007). Effective communication impacts on conflict resolution, cohesiveness and team performance (Stahl et al., 2010). As Matveev & Nelson (2004) put it, “the communication skills of individual team members help to establish rapport within the team and to bind team members into one cohesive and high-performing unit”. In light of these considerations, we posit:
Hypothesis 3b: Communication effectiveness is positively related to team effectiveness in MCTs.

Hypothesis 3c: Communication effectiveness mediates the relationship between cultural intelligence and MCT effectiveness.

Finally, communication effectiveness is linked to group identity. Greenaway et al. (2015) point out that “a sense of shared identity between partners is a key determinant of effective communication” and that “communications with in-group members should be expected—and found—to be easier, more fluent, and more constructive than those with outgroup members”. This is achieved through an affective and a cognitive process. On the affective side, “in-group members are more trusted, respected, and influential than outgroup members” and are more motivated to pay attention to in-group communications (Greenaway et al., 2015). On the cognitive side, a shared identity implies shared mental models and a shared way of thinking which enables a more effective communication (Greenaway et al., 2015). The authors found support for their hypothesis. In addition, they found that the differences in communication effectiveness between in-group members and outgroup members were attenuated when a superordinate identity was introduced (Greenaway et al., 2015). In other words, in-groups and outgroups members identifying with a high-order group communicated like they belonged to the same group. This leads us to the following hypothesis:

Hypothesis 4a: Common in-group identity is positively related to communication effectiveness in MCTs.

Hypothesis 4b: Common in-group identity and communication effectiveness sequentially mediate the relationship between cultural intelligence and MCT effectiveness.

Matveev & Nelson (2004) have developed a model of cross cultural communication competence. This comprehensive model includes: (1) interpersonal skills (e.g., acknowledge of differences in communication and interaction styles, awareness of one’s own cultural conditioning, comfort when communicating with foreign nationals, basic knowledge about the country, culture, and language of team members), (2) team effectiveness (e.g., understanding and defining team goals, roles and norms, discussing and solving problems, dealing with conflict situations, working cooperatively with others), (3) cultural uncertainty (e.g., dealing with cultural uncertainty, patience, tolerance of ambiguity, openness to cultural differences), and (4) cultural empathy (e.g., understanding the world from others’ cultural perspectives, being curious about other cultures, accepting different ways of doing things) (Matveev & Nelson, 2004). Although interesting, the cross-cultural communication competence model is too comprehensive for our research purposes. It includes redundant features in respect of the CQ model (in particular, cf. “interpersonal skills”), as well as team process-related constructs (cf. “team effectiveness”) which are outside the scope of our study.

Instead of a general model of cross cultural communication competences, we chose a model which focus more precisely on communication effectiveness in itself. Liu, Chua, & Stahl (2010) developed a multidimensional conceptualisation of the quality of communication experience (QCE) and tested and validated it through intercultural negotiation simulations. They define the quality of communication experience (QCE) as “a multi-dimensional construct that encompasses the Clarity, Responsiveness, and Comfort that communicators experience during social interaction” (Liu, Chua, & Stahl, 2010). Clarity relates to the degree of comprehension
of the meaning being communicated. Responsiveness reflects norms of coordination and
certainty between the interlocutors. Comfort is the condition of ease and pleasantness when
interacting with each other (Liu, Chua, & Stahl, 2010). These three dimensions of the quality
of communication are key in the sense that they affect the outcomes of business negotiations in
terms of economic gains and aggregated satisfaction. Communication quality is usually lower
in intercultural than in intracultural interactions. However, the impact of communication quality
on negotiation outcomes is stronger in intercultural interactions than in intracultural ones (Liu,
Chua, & Stahl, 2010). In this study, we will operationalise communication effectiveness
according to the QCE model.

Figure 1 summarises the conceptual model that includes the four constructs of cultural
intelligence, common in-group identity, communication effectiveness and team effectiveness
as well as the hypothesised links between them.

FIGURE 1 Conceptual model

Methods

Sample

We selected international programs organised by the University of Applied Sciences and Arts,
Western Switzerland and Shanghai University according to the following criteria: group
assignments must be completed in multicultural teams and during face-to-face interactions. The
duration of the selected programs ranges from 1 to 5 weeks, 2 weeks being the average. The
programs deal with business administration, business engineering, innovation, computer
science and communication systems, public administration, physiotherapy, social work,
nursing, teacher education, and viticulture and oenology.

At the end of each program, participants were invited to complete a questionnaire, which
measures their level of cultural intelligence, identification with their MCT and the overall
international program group, perception of their MCT effectiveness and of their own English
skills, and the communication effectiveness during the completion of the group assignments.

A total of 56 MCTs (177 individuals) participated in the survey. Our sample includes a majority
of Swiss (37.85%) and Chinese (33.90%). The remaining students (28.25%) are from India,
South Africa, France, Portugal, South Korea, Italy, Colombia, Brazil, Israel and the UK.
Measures

Variables used in this study are described below. Most of these variables were adapted from well-established instruments used in the previous studies. All variables were measured in five-point Likert-type scale. Given that the study focuses on group dynamics and that the variable of main interest (the dependent one) is team effectiveness, the analysis is performed on group level rather than on individual level. Thus, individual measures are aggregated by team.

Cultural intelligence

The CQ scale includes 20 items encompassing the four dimensions of cultural intelligence (Ang et al., 2007). The sample of items includes: “I am conscious of the cultural knowledge I apply to cross-cultural interactions” (metacognitive CQ), “I know the cultural values and religious beliefs of other cultures” (cognitive CQ), “I am confident that I can socialize with locals in a culture that is unfamiliar to me” (motivational CQ) and “I change my nonverbal behaviour when a cross-cultural situation requires it” (behavioural CQ). As cultural intelligence is an individual characteristic, results were aggregated to obtain a global score for each MCT. The Cronbach’s alpha coefficient for this scale was 0.875.

Communication effectiveness

To measure communication effectiveness, we have selected 12 out of the 15 items proposed by the Quality of Communication Experience Questionnaire (Liu, Chua, & Stahl, 2010), which are more adapted to an academic setting. Sample items measuring the clarity of the communication, respectively at the individual and group level are: “I think the international students understood me clearly” and “I understood what the international students were saying” (total: five questions). Sample items for the responsiveness dimension are: “When the international students raised questions or concerns, I tried to address them immediately” and “The international students responded to my questions and requests quickly during the interaction”) (three questions). The remaining four questions are related to the comfort of the interaction (sample items: “The international students seemed comfortable talking with me” and “I felt comfortable interacting with the international students”). The Cronbach’s alpha coefficient for this scale was 0.968.

Common in-group identity

Common in-group identity was measured with six items adopted from Gaertner et al. (1994). We invited respondents to consider their MCT members as well as all the program participants as either one single group or two separate groups (home and host university). A sample item is: “During the group project/assignment, it usually felt as though we belonged to two different groups: students from my university and from partner university”. The Cronbach’s alpha coefficient for this scale was 0.758.

Team effectiveness

The six items, which were initially developed by Chen & Tjosvold (2014) for teams in the work environment, have been adapted for an academic setting. Sample items are: “Members of my team put considerable effort into their tasks” and “Members of my teams were concerned about the quality of their work”. The Cronbach’s alpha coefficient for this scale was 0.947.
Control variables

We use respondents’ nationality, gender, ability to use English in general and during the program, and past stays abroad (at least six months) as control variables in regression analysis. English ability was measured by two questions. One question is “I feel my ability to use English in intercultural communication is (1= very poor; 5 = very good). Another question is “Apart from this Summer University/program abroad, I use English in intercultural communication: (1= never; 5 = very often).

Analysis and Results

Table 1 shows descriptive statistics and correlations coefficients for all variables in team level. Cultural intelligence and Common in-group identity correlate significantly ($r = 0.354, p < 0.01$). MCT effectiveness correlate significantly with CQ ($r = 0.350, p < 0.01$), common in-group identity ($r = 0.562, p < 0.01$) and communication effectiveness ($r = 0.650, p < 0.01$). Communication effectiveness correlate significantly with CQ ($r = 0.468, p < 0.01$) and common in-group identity ($r = 0.630, p < 0.01$).

TABLE 1. Means, standard deviations and correlations among all variables ($n=56$ teams)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cultural intelligence</td>
<td>3.823</td>
<td>0.278</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Common in-group identity</td>
<td>3.874</td>
<td>0.387</td>
<td>0.354**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Communication effectiveness</td>
<td>4.027</td>
<td>0.629</td>
<td>0.468**</td>
<td>0.630**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4. MCT effectiveness</td>
<td>4.087</td>
<td>0.587</td>
<td>0.350**</td>
<td>0.562**</td>
<td>0.650**</td>
<td>1</td>
</tr>
</tbody>
</table>

*p<0.05, **p<0.01, ***p<0.001

Hypotheses testing

To test our hypothesis, we first performed a series of regression analyses, and then verified the indirect effect using bootstrapping analysis. The regression analyses showed that CQ was positively related with MCT effectiveness ($\beta = 0.350, p < 0.01$), common in-group identity ($\beta = 0.354, p < 0.01$) and communication effectiveness ($\beta = 0.468, p < 0.001$). Common in-group identity also had a positive effect on MCT effectiveness ($\beta = 0.562, p < 0.001$) and communication effectiveness ($\beta = 0.630, p < 0.001$). Besides, communication effectiveness also positively predicted MCT effectiveness ($\beta = 0.650, p < 0.001$). Thus, H1, H2a, H2b, H3a, H3b, H4a were supported.

In order to test the mediating role of common in-group identity between CQ and MCT effectiveness (H2c), bootstrapping analysis (Hayes, 2018) was used. Following the suggestion of Hayes (2018), a simple mediation analysis was conducted by using the ordinary least squares path analysis. We used an SPSS Macro called PROCESS (model 4) provided by Hayes. PROCESS can facilitate estimations of the indirect effect by using the Sobel test and a bootstrap approach to obtain the confidence interval (CI) and to incorporate the stepwise procedure suggested by Baron and Kenny (1986), thus providing more robust results for the mediating test (Hayes, 2018). The number of bootstrap samples used to determine bias-corrected bootstrap confidence intervals (CI) was 5,000. Table 2 shows the bootstrapped estimates for the total,
direct, and indirect effects of CQ on MCT effectiveness considering common in-group identity as mediator. The results showed that CQ has positive and significant effect on common in-group identity ($\beta = 0.493, p < 0.01$). Common in-group identity has also positive and significant effect on MCT effectiveness ($\beta = 0.760, p < 0.001$), further supporting the H2a and H2b. In addition, the results indicated the common in-group identity as mediating variable was significant. Specifically, the indirect effect of CQ on MCT effectiveness through common in-group identity was positively and significant (indirect effect = 0.374, CI: 0.061 to 0.790). Moreover, after controlling for the indirect effect, the direct effects of CQ on MCT effectiveness was no longer significant ($\beta = 0.365, p > 0.05, \text{CI: -0.139 to 0.869}$), suggesting a full mediation role of common in-group identity. Thus, H2c was supported.

<table>
<thead>
<tr>
<th>Path</th>
<th>Unstandardized</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>SE</td>
</tr>
<tr>
<td><strong>Direct Effect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CQ $\rightarrow$ ID</td>
<td>0.493**</td>
<td>0.177</td>
</tr>
<tr>
<td>ID $\rightarrow$ TE</td>
<td>0.760***</td>
<td>0.181</td>
</tr>
<tr>
<td>CQ $\rightarrow$ TE</td>
<td>0.365</td>
<td>0.251</td>
</tr>
<tr>
<td><strong>Indirect Effect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CQ $\rightarrow$ ID $\rightarrow$ TE</td>
<td>0.374</td>
<td>0.184</td>
</tr>
</tbody>
</table>

CQ: Cultural Intelligence; ID: Common in-group identity; TE: Team effectiveness

*p<0.05, **p<0.01, ***p<0.001

The mediating role of communication effectiveness on CQ and MCT effectiveness was also evaluated using the bootstrapping analysis (Model 4, see Table 3 for more detail).

<table>
<thead>
<tr>
<th>Path</th>
<th>Unstandardized</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>SE</td>
</tr>
<tr>
<td><strong>Direct Effect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CQ $\rightarrow$ CE</td>
<td>1.059**</td>
<td>0.272</td>
</tr>
<tr>
<td>CE $\rightarrow$ TE</td>
<td>0.581***</td>
<td>0.110</td>
</tr>
<tr>
<td>CQ $\rightarrow$ TE</td>
<td>0.124</td>
<td>0.249</td>
</tr>
<tr>
<td><strong>Indirect Effect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CQ $\rightarrow$ CE $\rightarrow$ TE</td>
<td>0.615</td>
<td>0.262</td>
</tr>
</tbody>
</table>

CQ: Cultural Intelligence; CE: Communication effectiveness; TE: Team effectiveness

*p<0.05, **p<0.01, ***p<0.001

12
Initial results of a 5000 bootstrapped sample indicated that CQ was significantly related to the mediator, communication effectiveness ($\beta = 1.059$, $p < 0.01$), further supporting H3a. The communication effectiveness is also significantly related to the MCT effectiveness ($\beta = 0.581$, $p < 0.001$), further supporting H3b. In addition, the results indicated communication effectiveness as mediating variable was significant. Specifically, the indirect effect of CQ on MCT effectiveness through communication effectiveness was positively and significant (indirect effect = 0.615, CI: 0.163 to 1.192). Moreover, after controlling for this indirect effect, the direct effects of CQ on MCT effectiveness was no longer significant ($\beta = 0.124$, $p > 0.05$, CI: -0.375 to 0.623), suggesting a full mediation role of communication effectiveness. Thus, H3c was supported.

For H4b, we used bootstrapping analysis in SPSS to test the chain mediation of common in-group identity and communication effectiveness (Hayes 2018, model 6). The results showed that common in-group identity and communication effectiveness sequentially mediates the relationship between CQ and MCT effectiveness. The indirect effect was positive and significant (indirect effect = 0.188, CI: 0.012 to 0.427). Moreover, after controlling for this indirect effect, the direct effects of CQ on MCT effectiveness was no longer significant ($\beta = 0.084$, $p > 0.05$, CI: -0.405 to 0.457), suggesting a full chain mediation role of common in-group identity and communication effectiveness. Thus, H4b was supported. See more detail results in Table 4 and Figure 2.

**TABLE 4.** direct, indirect, and total effects of chain mediation (CQ-ID-CE-TE)

<table>
<thead>
<tr>
<th>Path</th>
<th>Unstandardized</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>SE</td>
</tr>
<tr>
<td><strong>Direct Effect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CQ $\rightarrow$ TE</td>
<td>0.084</td>
<td>0.244</td>
</tr>
<tr>
<td><strong>Indirect Effect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total indirect effect</td>
<td>0.655</td>
<td>0.283</td>
</tr>
<tr>
<td>1. CQ $\rightarrow$ ID $\rightarrow$ TE</td>
<td>0.186</td>
<td>0.135</td>
</tr>
<tr>
<td>2. CQ $\rightarrow$ CE $\rightarrow$ TE</td>
<td>0.280</td>
<td>0.189</td>
</tr>
<tr>
<td>3. CQ $\rightarrow$ ID $\rightarrow$ CE$\rightarrow$ TE</td>
<td>0.188</td>
<td>0.107</td>
</tr>
<tr>
<td><strong>Contrast Effect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1: Indirect effect 1- indirect effect 2</td>
<td>-0.094</td>
<td>0.250</td>
</tr>
<tr>
<td>C2: Indirect effect 1- indirect effect 3</td>
<td>-0.002</td>
<td>0.158</td>
</tr>
<tr>
<td>C2: Indirect effect 2- indirect effect 3</td>
<td>0.092</td>
<td>0.171</td>
</tr>
</tbody>
</table>

CQ: Cultural Intelligence; CE: Communication effectiveness; TE: Team effectiveness
Discussion

Aim of the study was to propose and to test a model including two key factors of team effectiveness in MCTs mentioned in the literature, namely cultural intelligence and common in-group identity. Findings show that team whose members on average strongly identify with the MCTs, as well as all the international program participant group has a significant impact on team effectiveness. As stated in our hypothesis, a common in-group identity reduces conflict and enhances cooperation, commitment to the team and productivity.

As for the average level of CQ in the MCT, it does not have a direct impact on team effectiveness. The impact is only significant through the mediation of common in-group identity and communication effectiveness. As stated in our hypotheses, we first assumed that a high level of CQ among MCT members helps developing a common in-group identity, because MCT members are knowledgeable of the other culture, aware of cultural differences and able to adapt to cross-cultural situations. In turn, a common in-group identity facilitates communication in the MCT, as team members are more attentive and respectful towards each other and because a common identity implies shared mental models, which make communication more effective. Finally, an effective communication in the MCT improves team effectiveness.

Managerial implications

Today’s business practice seems to mostly focus on the development of individual skills and among others, on the development of intercultural competences. There are numerous studies on the effectiveness of cross-cultural training (Alexandra, 2018; Deshpande & Viswesvaran, 1992) and in particular, on its impact on CQ (Eisenberg et al., 2013; Fischer, 2011; Rehg, Gundlach, & Grigorian, 2012; Rosenblatt, Worthley, & MacNab, 2013; Wood & Peters, 2014), cross-cultural training being defined as enabling “the individual to learn both content and skills that will facilitate effective cross-cultural interaction by reducing misunderstandings and inappropriate behaviors” (Black & Mendenhall, 1990).
However, the findings of our study suggest that, more than individual high levels of CQ, a common in-group identity is crucial for a MCT to overcome cultural differences, reduce conflict, enable shared understanding, communication and cooperation and in the end, perform effectively. As group identification in a cross-cultural context is not a straightforward process, identity leadership is key for the development of a shared identity in the MCT and should be taught to managers. According to Steffens et al. (2014), identity leadership consists of four dimensions: identity prototypicality (“being an exemplary and model member of the group”), identity advancement (“promoting the shared interests of the group”), identity entrepreneurship (“creating a sense of belonging to the group, increasing cohesion and inclusiveness within the group”), and identity impresarioship (“developing structures, events, and activities that give weight to the group's existence, making the group matter by making it visible not only to group members but also to people outside the group”) (Steffens et al., 2014). Academia and business must develop identity leadership practices and training in order to favour these processes and emergent states.

**Limits of the study**

First, the duration of the international programs we selected ranges from 1 to 5 weeks, 2 weeks being the average. The short duration of our observation might however not allow capturing the full impact of CQ and shared identity on team effectiveness. For example, Moon (2013) shows that at the beginning of the collaboration, culturally homogeneous teams of students perform better than heterogeneous ones. However, after 15 weeks of collaboration, culturally heterogeneous teams with an overall high level of CQ outperformed culturally homogeneous teams. These results suggest that CQ has an impact on team effectiveness only in the long run and that MCTs must first cope with and overcome their cultural differences before their collaboration becomes effective. As for shared identity, Connaughton & Shuffler (2007) found that a strong shared identity among culturally diverse teams of business students improves team engagement and effectiveness after 10 weeks of working on a common project. From these results, it becomes obvious that decategorisation (from the home country group) and recategorisation processes (into the MCT) take time, even under the conditions of common tasks and goals.

Secondly, based on a survey of international programs students completing group assignments, we drew general conclusions applicable to all kinds of MCTs concerning the relations between cultural intelligence, shared identity, communication, and team effectiveness in MCTs. However, working in a student MCT is not necessarily comparable to working in a professional MCT. The stakes might be perceived as higher in a professional setting (e.g. result and competitiveness requirements at the organisational level, maintaining one’s job or developing one’s career at the individual level) than in an academic setting (e.g. getting a good grade, obtaining a certificate). Moreover, participation to most of the international programs we studied is not mandatory. We can therefore assume that these programs draw specifically cross-culturally aware, knowledgeable and motivated individuals, which is not necessarily the case for non-expatriate employees who are requested to work in MCTs in their own country. Hence, we must assume that different underlying socio-psychological processes are at work in either student MCTs or professional MCTs. Given these considerations, we are considering a further step in this research project consisting in testing our model with MCTs collaborating in a work environment.
Bibliography


