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The impact of cultural resources on multicultural team performance

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LA INFLUENCIA DE LOS RECURSOS CULTURALES EN LOS RESULTADOS DE UN EQUIPO MULTICULTURAL

RESUMEN: La presente investigación surge en respuesta al creciente uso de equipos de trabajo por parte de las empresas multinacionales y, consecuentemente, a la mayor interacción entre empleados de diferente nacionalidad que se produce en las mismas. Sobre la base de este hecho, en este artículo se analiza la importancia de la coexistencia de diversos valores nacionales y su repercusión en los resultados de los equipos multiculturales. A tal objeto, llevamos a cabo un estudio exploratorio que utiliza un esquema recursos-procesos-resultados e incluye variables relativas a los recursos culturales y a los procesos sociales para explicar los resultados de tales equipos. La investigación llevada a cabo permite ofrecer a la literatura nuevas medidas de los recursos culturales del equipo, así como conclusiones relativas a su influencia en los resultados de los mismos.

PALABRAS CLAVE: heterogeneidad cultural, equipo, resultados, cultura nacional.

L'INFLUENCE DES RESSOURCES CULTURELLES SUR LES RÉSULTATS D'UNE ÉQUIPE MULTICULTURELLE

RÉSUMÉ: La présente investigation est effectuée en raison de l'utilisation croissante d'équipes de travail par les entreprises multinationales et de l'interaction intensifiée entre employés de différentes nationalités engendrée par ce processus. Sur cette base, l'article analyse l'importance de la coexistence de valeurs nationales différentes et sa répercussion sur les résultats des équipes multiculturelles. À cet effet, une étude d'exploration est réalisée, utilisant un schéma ressources-processus-résultats, avec inclusion de variables relatives en ce qui concerne les ressources culturelles et les processus sociaux pour l'explication des résultats de ces équipes.

L'investigation effectuée permet de proposer de nouvelles mesures des ressources culturelles de l'équipe, ainsi que des conclusions relatives à leur influence sur les résultats obtenus.

MOTS-CLEFS: hétérogénéité culturelle, équipe, résultats, culture nationale.

A INFLUÊNCIA DOS RECURSOS CULTURAIS NOS RESULTADOS DE UMA EQUIPE MULTICULTURAL

RESUMO: A presente pesquisa surge em resposta ao crescente uso de equipes de trabalho por parte das empresas multinacionais e, consequentemente, da maior interação entre empregados de diferentes nacionalidades, que ocorre nas mesmas. Baseando-se neste fato, neste artigo analisa-se a importância da coexistência de diversos valores nacionais e sua repercussão nos resultados das equipes multiculturais. Com esse objetivo, realizamos um estudo exploratório que utiliza um esquema recursos-processos-resultados e inclui variáveis relativas aos recursos culturais e aos processos sociais para explicar os resultados de tais equipes. A pesquisa realizada permite oferecer à literatura novas medidas dos recursos culturais da equipe, assim como conclusões relativas à sua influência nos resultados dos mesmos.

PALAVRAS CHAVE: heterogeneidade cultural, equipe, resultados, cultura nacional.

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ABSTRACT: The work appears in response to the greater interaction among employees of different nationalities. This interaction results from the growing use of teams in multinationals. Thus, we examine the importance of diverse national values to the performance of a multicultural team. To that end, we conduct an exploratory study that utilizes a resources-processes-results framework and includes variables of cultural and social processes to explain the performance of such teams. Our research results provide new measures of the cultural resources of the team and conclusions regarding their influence on the team performance.

KEY WORDS: cultural heterogeneity, team, performance, national culture.

INTRODUCTION

The unceasing cross-border movement of the working population is the result of market globalization and the changes that international labor legislation has undergone (Maznevski, 1994). This movement promotes contact within organizations among people with different training, skills, experience and values (Milliken & Martins, 1996). At the same time, teams have become a tool more and more used in companies (Campion et al., 1993; Langfred, 2000; Pearson, 1992), which has led to an increase in the time that workers spend with colleagues in their particular work-team (Milliken & Martins, 1996). The combination of the above-mentioned tendencies gives rise to an increasing literature stimulated by the debate about the effects that diversity has within the teams (Cox et al., 1991; Hambrick et al., 1998; Hopkins & Hopkins, 2002; Watson et al., 1993).

Diversity or heterogeneity, in its broadest sense, is considered a double-edged sword, because it increases the opportunity to improve the productivity and satisfaction of the team members while at the same time increasing the probability that they will be dissatisfied and unable to identify with the team (Milliken & Martins, 1996). However, the diversity of a team can be considered and analyzed from many variables (Bell, 2007): surface-level composition variables, such as age, gender, education, religion; and deep-level composition variables, such as personality factor, individual values,

and national values. In this work, after a detailed study of all of those was carried out, we opted to focus mainly on the diversity generated by national values since, while the other variables have been measured in many studies, neither national values (Salk & Brannen, 2000; Hambrick et al., 1998; Snell et al., 1998; Snow et al., 1996; Canney Davison, 1994) nor their effect on team performance (Earley & Mosakowski, 2000) have been sufficiently considered in the literature on teams. In addition, although demographic differences may be important, deep-level composition variables can have a stronger influence on team performance (Bell, 2007). What is more, some authors have found that age-based and gender-based employee group belonging do not override nationality-based belonging with regard to different interpersonal relations –e.g., leadership preferences (Zander & Romani, 2004). In addition, most of the cultural research within teams was developed in the theoretical field; for that reason, the bibliographical review revealed hardly any publication that expressly tackle the problem of cultural diversity within teams by conceiving it as a continuous independent variable to analyze its effect on their performance (e.g., Earley & Mosakowski, 2000; Vodosek, 2007).

However, a team's performance results from the different interactions or processes that take place within it, such as transition, action and interpersonal processes (see meta-analysis of LePine et al., 2008), which include decision-making, cooperation or conflict management processes –social processes– (e.g., Gaertner et al., 1990; McCain, 1996; Tjosvold et al., 2003). Those interactions are influenced by the cultural characteristics of the individuals comprising the team together with other resources of the organizational environment (e.g., organizational culture, team structure, incentive system), although the latter are not the subject matter of analysis in this study. Thus, we aim to respond to the following two issues: (1) *How do national values influence the social processes that take place in the team?* and (2) *How do the social processes of a multicultural team influence the results achieved by the team?*

To that end, we review the literature on national values, social processes and results of multicultural teams, which enable us to formulate the hypotheses that are the aim of the empirical work. In the second part of this work, we present the main characteristics of the methodology, taking into consideration the peculiarities and gaps mentioned in the literature on multicultural teams. More specifically, the vast majority of the empirical works reviewed used laboratory teams as the basis for studying the validity of their propositions (Cox et al., 1991; Earley & Mosakowski, 2000; Watson et al., 1993; Watson & Kumar, 1992). Those

works assume the limitations of those samples, which are isolated from the effects of the organizational environment while, at the same time, avoiding the difficulty involved in attaining an appropriate number of teams to extract conclusions (Cox, 1990). Therefore, we conduct this research in the multinational company and respond to the call of Cohen and Bailey (1997) for more empirical works in natural contexts. The third part of this work contains the results of the statistical analyses on which the conclusions are based.

THEORETICAL BASES

The multicultural team in the multinational company

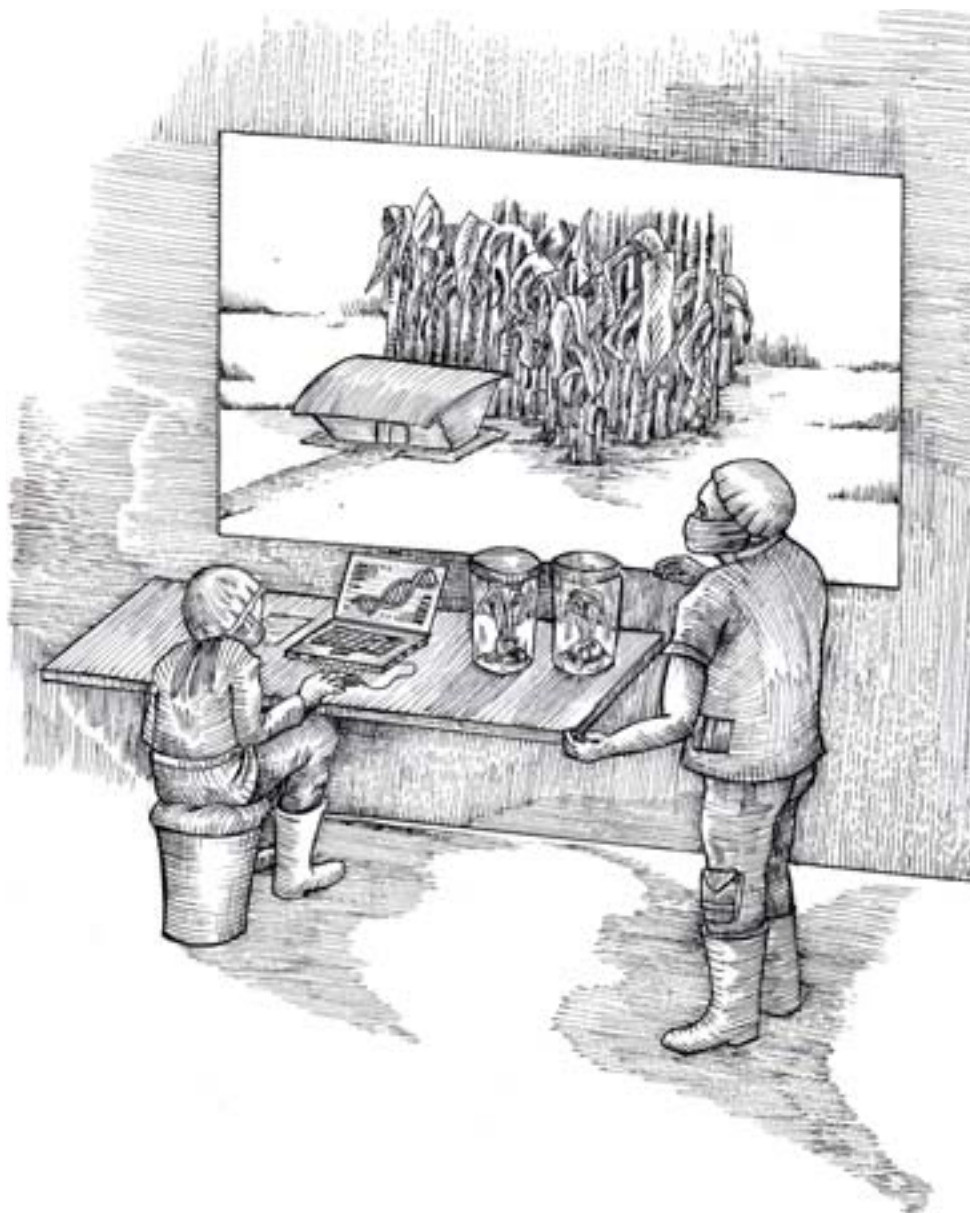
Multinational firms are creating teams that are heterogeneous in nationality, to generate synergies or integrate and coordinate their multiple subsidiaries, among other aspects. However, the constitution and efficient functioning of those teams has not always been simple and, in fact, multinationals have implemented them “[...] sometimes with great success and sometimes severe frustration” (Hambrick et al., 1998, p. 181).

In this research, we interpret teams as sets of individuals with complementary skills, who are committed to a common purpose for which they are responsible, who make a coordinated effort and whose performance is higher than the sum of the individual contributions (Greenberg & Baron, 1997; Katzenbach & Smith, 1993). Thus, the concept of team comprises a wider range of attributes than that of the group, interpreted as social alliance that involves interaction (McGrath, 1984), although much of the accumulated knowledge about teams stems from research on groups with similar dynamics to teams (Klimoski & Mohammed, 1994). Therefore, in the theoretical review we occasionally refer to groups. Moreover, we consider another attribute in the conceptualization of the team, namely heterogeneity of nationality. This reflects the presence of individuals of different national origins within the team.

National differences in cultural values

Culture is a complex and difficult term to define (Groeschl & Doherty, 2000). However, most of the concepts coincide in understanding culture as the values shared by the individual components of a human group (e.g., societies, ethnic groups, races, etc.) that influence on the behavior of those individuals and the social relations established between them in organizations.

In that respect, Schwartz (1992) analyzes the values of individuals in 25 countries using a sample of secondary school



teachers and students. Schwartz (1994) further analyzed his data at the cultural level and found seven culture-level value types, which were summarized into three dimensions –i.e., embeddedness versus autonomy, hierarchy versus egalitarianism, mastery versus harmony. Smith et al. (1996) also identify dimensions of cultural variation from employees of business organizations in 43 nations –i.e., values related universalistic versus particularistic obligations, achievement versus ascription orientation, and individualism versus collectivism structure. Ronen & Shenkar (1986) classify countries according to the work-related values. The differences in national culture identified by Hofstede in samples of IBM employees (Hofstede, 1984), and some

later works using student samples (Hofstede & Bond, 1988; The Chinese Culture Connection, 1987), allow him to identify five independent dimensions that explain differences in terms of national culture. Finally, the GLOBE project (House et al., 2004) analyzes culture by focusing on the values to which employees aspire («should be»), although it also includes the visible/explicit level of cultural analysis by studying real behaviors and organizational practices («as is»).

Hence, there is great deal of literature available on national culture, on cultural dimensions and typologies, and on variables that allows an empirical study of such national values.

One piece of work that stands out from that literature is the typology proposed by Hofstede (2001; 1984), due to its widespread use in all areas of international management research. More specifically, he establishes that the cultural dimensions of power distance, uncertainty avoidance, individualism, masculinity and term orientation permit the characterization of a particular national population. The GLOBE project (House et al., 2004) expands and clarifies those dimensions and provides a total of nine dimensions (see Table 1).

On the basis of those two approaches, the following dimensions –uncertainty avoidance, power distance, individualism, masculinity and term orientation– are chosen in this work for several reasons: (1) they constitute dimensions that determine the degree to which individuals promote or avoid certain practices and behaviors within social groups, which enables us to support our arguments about the individual's action in favor of the team, and (2) they are all based on the cultural dimensions initially proposed by Hofstede (2001; 1984), and thus their wider use in research has given rise to numerous publications that discuss their fundamentals and repercussions in the context of the firm and work-teams. Our research serves to expand those works that make empirical use of Hofstede's framework and Søndergaard (1994, p. 448) provides the reasons that led us to that: "[...] relevance and rigour". Of course, we also find works that criticize that framework (e.g., Jeanquart-Barone & Peluchette, 1999; Schramm-Nielsen, 2000; Tayeb, 2001), leading to Hofstede (1998) making an individualized response to each of them. Those criticisms apart, *Culture's Consequences* provides a framework, concepts and definitions that are firmly established and widely known in the academic context. Moreover, that framework offers a common platform for debating matters related to cross-national management (Schramm-Nielsen, 2000). The cultural dimensions considered in this study are detailed below.

TABLE 1. Correspondence between national cultural dimensions.

Hofstede (1984), Hofstede and Bond (1988)	House et al. (2004)
Uncertainty avoidance	Uncertainty avoidance
Power distance	Power distance
Individualism	Collectivism (I): social collectivism
	Collectivism (II): in-group collectivism
Masculinity	Equality of genders
	Assertiveness
Term orientation •	
---	Orientation to results •
---	Orientation to the future
---	Human orientation

Source: the authors, based on House et al. (2004)

• The GLOBE project's dimension orientation to results includes the component oriented to the future within the long-term/short-term dimension proposed by Hofstede & Bond (1988).

Power distance. Inequality among humans is produced in areas such as prestige, wealth, power or the subordinate-boss relationship in the context of organizations. For Hofstede (2001; 1984), that cultural dimension represents a measure of interpersonal power or influence between the boss and the subordinate and how it is seen by the less powerful of those two.

Uncertainty avoidance. A relevant issue faced by any society is the uncertainty created by unawareness of future events. This basic fact of life means that, faced with that uncertain future, human beings take a position in a continuum that ranges from full acceptance and assumption of that uncertainty to intolerable anxiety about it (Hofstede, 2001; 1984). When individuals have high uncertainty avoidance, the stress caused by uncertainty, for example, makes them want to seek greater stability in their professional career and to avoid risks, so they show longer tenure in their firm (Clugston et al., 2000).

Individualism. Societies differ in the relationship between what is individual and what is collective, the dependence of the individual on the group and, in short, in the meaning given by individuals to the personal pronouns "I" and "we" (Hofstede & Bond, 1988). Collectivism and individualism are opposites in this third dimension of national culture (Hofstede, 2001; 1984).

Masculinity. This value refers to individuals' roughness and competitiveness in the firm, as well as their determination in the pursuit of material success. When masculine values predominate, individuals are assertive, and consider belonging to a social group in which they do not stand out as a result of their own individual merits –being in an undifferentiated average– a failure, so they have a strong need for achievement (Hofstede, 1984). At the opposite extreme, individuals with feminine values put greater stress on interdependence in relationships, feelings, teamwork, quality of life in the firm, and reconciling work and family life.

Term orientation. This dimension refers to the orientation given to life over a period –long or short term–, in other words, whether one lives for the future or for the present (The Chinese Culture Connection, 1987).

The influence of culture on the results of the multicultural team

The study of teams and the results they achieve has been tackled using descriptive models (Canney Davison, 1995; Cohen & Bailey, 1997; Gladstein, 1984; Kirkman & Rosen, 1999; Langfred, 2000; Maznevski, 1994; Nebus, 1999; Stewart & Barrick, 2000). In general, descriptive models

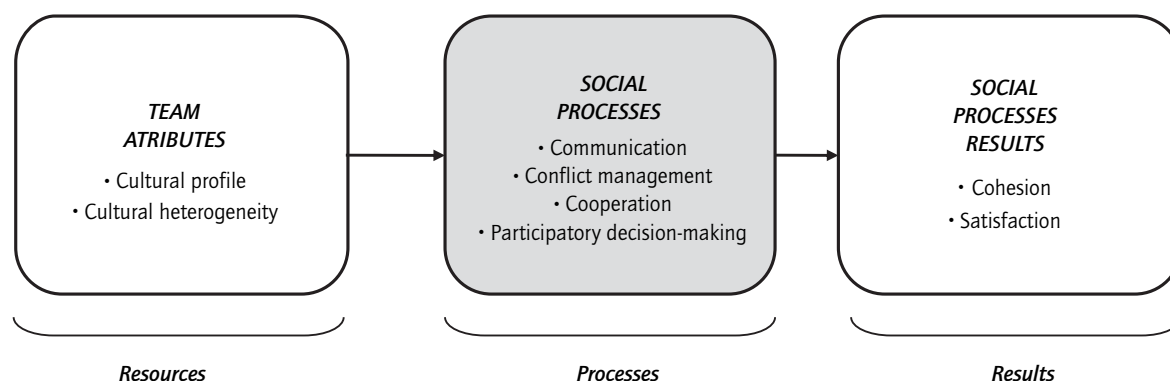
permit an understanding of the team and its results from an overall and intrinsic perspective. These models include a wide set of variables associated with the functioning and characteristics of the teams, whose behavior affects the results they achieve. The most important of these models was developed in 1964 by McGrath, who used a resources-processes-results framework to explore the efficiency of work groups. McGrath proposes that resources –i.e., the elements available to the team to perform its tasks– are combined to affect the processes of the team –i.e., a set of actions that take place in the team–, which, in turn, influence its results –i.e., effects or consequences of the processes. This model is probably the dominant historical vision of groups (Canney Davison, 1995; Cohen & Bailey, 1997; Gladstein, 1984; Kirkman & Rosen, 1999; Langfred, 2000; Maznevski, 1994; Nebus, 1999; Stewart & Barrick, 2000), since most research works share the presumption that the processes influence the relationship between the resources provided to the team and the results achieved (LePine et al., 2008). Therefore, we base this research on that model.

After the theoretical review, we were able to confirm that, although most of the authors have theoretically proposed overall models that include practically all the variables relevant to the study (Canney Davison, 1995; Cohen & Bailey, 1997; Gladstein, 1984; Kirkman & Rosen, 1999; Langfred, 2000; Maznevski, 1994; Nebus, 1999; Stewart & Barrick, 2000), when empirical objectives are set, they analyze a summarized model. In those models, they condense the resource variables –e.g., Stewart & Barrick (2000) consider only the team structure–; the process variables –e.g., Canney Davison (1995) analyze only the communication process–; or both –e.g., Maznevski (1994) selects diversity as a resource and communication as a process. However, they all conclude that, whatever the number and variety of variables, a relationship exists between the resources

available to the teams and the results they achieve. That relationship is also influenced by the processes that take place inside the team (Canney Davison, 1995; Maznevski, 1994; Gladstein, 1984; LePine et al., 2008; Stewart & Barrick, 2000). We follow this approach and select the following study variables: the cultural resources of the team, the social processes, and the results related to those processes (Figure 1).

Cultural resources of the team. The composition variables of the team can be operationalized from individual-level variables by making use of additive measures (e.g., sum, mean, etc.), disjunctive measures (e.g., maximum), etc. (Steiner, 1972). Steiner (1972) recommends the use of the most appropriate aggregation technique for each specific task developed by the team. Nevertheless, the typology of this author is especially useful in laboratory studies where the researcher is able to control the task variable of the team. In field studies, however, given that the teams participating in the study have to carry out various tasks, the joint use of different aggregation forms seems more convenient (Bell, 2007). Then, we study the cultural resources of the team by the joint interpretation of two elements: (1) the cultural profile of the team for each dimension of national culture (i.e., mean of Hofstede's scores for each cultural dimension taking the nationality of the team members into consideration) –which represents the central cultural tendency of the team for each of the above mentioned dimensions– and (2) the heterogeneity or degree of dispersion of national cultures present in the team (i.e., variance, standard deviation) –which represents the total level of diversity or variability existing in the team in each cultural dimension. Thus, heterogeneity shows, in an aggregate fashion, the extent to which each member differs from the rest of the team in each cultural dimension. Certainly, those variables, as we conceptualize them, have neither been measured nor explicitly included in the

FIGURE 1. Descriptive model of multicultural team results.



models to analyze results that we have had the opportunity to study, which leads us to consider this as part of our contribution to the study of multicultural teams. Nevertheless, some previous works in the literature have aimed to study the cultural diversity of the team and its effect on the performance –amongst which that of Vodosek (2007) is identified–, although this analyzes exclusively the cultural diversity of the team for the values of individualism and through the individual's perception on such cultural values. Compared to this research, ours covers a greater range of cultural resources of the team –i.e., cultural diversity and profile, individualism and also masculinity, distance power, uncertainty avoidance. Of even greater significance is our analysis on the culture at a macro-level by means of the existing values in a nation or country. Culture at a macro-level reflects a reality external to the individual, while the culture measured at an individual level reflects the individuals' perception of that reality, so individuals acquire and accept the culture of their society at different levels (Dorfman & Howell, 1988).

The social processes of the team. Amongst the different team processes analyzed in the literature –i.e., transition, action and interpersonal processes (see meta-analysis of LePine et al., 2008)–, the current research chooses communication, conflict management, cooperation and participatory decision-making processes as here the cultural diversity of the team may have a greater impact. The team resource is the purpose of the analysis in this research. These so-called social processes correspond to the interpersonal relationships among team members (Stewart & Barrick, 2000) and explain many of the variations in their results (Hopkins & Hopkins, 2002), amongst which is to be found team member satisfaction (e.g., Cohen et al., 1996; Jehn, 1995; Vinokur-Kaplan, 1995; Weisman et al., 1993). Firstly, communication is defined as the transmission of signals by means of a code common to the sender and receiver. Since the interpretation of that code is influenced by the cultural norms and values of each individual in the team, the communication process depends on the knowledge that the team members have not only of the code used, but also of the cultural norms and values associated with it. This is because communication comprises not only the transmission, but also the understanding of the meaning (Robbins, 2001). Moreover, cooperation consists of working together to a common end and is essential for obtaining the results that have been established (Bettenhausen, 1991). Thus, the interaction that occurs when there is a cooperative group effort represents how the group members work together and what they do to complete the tasks they have been assigned (Watson & Michaelsen, 1988). In turn, conflict

is an important part of the processes in teams; in fact, it is considered inherent to them (Appelbaum & Shapiro, 1998; Bettenhausen, 1991; Smith & Berg, 1987). Conflict within a team occurs when tension between the members becomes apparent “due to real or perceived differences” (De Dreu & Van Vianen, 2001, p. 309). Finally, decision-making involves the identification and selection of alternative solutions that lead to the desired situation. Generally, the process begins with the appearance of a problem and ends when a solution is achieved. However, the quality of the adopted decision is important because it affects the possibilities of the individuals' promotion and contributes to the success or failure of the team.

The results of the social processes. The main consequences of the social processes that take place in teams, in this multicultural case, are the cohesion and satisfaction of their members (e.g., Cohen et al., 1996; Jehn, 1995; Vinokur-Kaplan, 1995; Weisman et al., 1993). Researchers have recently begun to measure cohesion as a multidimensional construct where they distinguish instrumental or task cohesion –i.e., that developed when the group members depend on others to achieve the group's objectives– from social or socioemotional cohesion –i.e., that developed when the individuals feel emotional satisfaction from their participation in the group– (Buelens et al., 2002; Langfred, 2000). Satisfaction is the degree to which the individuals feel happy working in the team (Jehn et al., 1997). It is important for the general welfare and psychological functioning of the individual, and affects the levels of absenteeism and staff turnover and, probably the results obtained (Verkuyten et al., 1993). Therefore, the satisfaction of each team member seems to have a significant impact on the collective welfare (Jeanquart-Miles & Mangold, 2002). Nerkar et al. (1996) identified two constructs related to satisfaction: instrumental satisfaction and social satisfaction. The first centers on the satisfaction of the members of the team with its functioning, while the second is related to the interaction among the team members.

Research hypotheses

Taking the selection of variables into account, we now analyze the relationships between the team's cultural resources –cultural heterogeneity and cultural profile– and the social processes to then analyze the relationship between those processes and the team's results.

Cultural heterogeneity reflects the cultural diversity in the team. Heterogeneity appears to have both positive and negative effects. From a positive point of view, diversity highlights the range of perspectives and the ability to solve problems, generates alternatives and establishes

criteria to measure them thus improving the quality of decisions that are adopted, favors conflict management and generates many interesting ideas to be shared with colleagues (Duriau, 2004; Hambrick et al., 1998; Maznevski, 1994; Milliken & Martins, 1996). However, heterogeneity may give rise to "process losses" in multicultural teams due to communication difficulties, mistrust, interpersonal stress and the possible establishment of cultural stereotypes among team members (Hambrick et al., 1998), which will lead to lower results than those achieved by homogeneous teams (Vodosek, 2007; Watson et al., 1993). In effect, when the team is made up of individuals from different origins, interpersonal dynamics and communication models are more complicated than in a nationally uniform team (Canney Davison, 1994; Mayo & Pastor, 2003). However, although heterogeneity accentuates those communication difficulties (Adler, 1983; Mayo & Pastor, 2003; Watson et al., 1993), various authors state that, with time, it is possible to overcome the disadvantages (Watson et al., 1993). Due to these approaches, the following hypothesis is proposed:

H1. *The cultural heterogeneity existing in a multicultural team that interacts over a prolonged period is associated positively with the social processes that occur in the team.*

Moreover, the teams have another cultural resource that we have denominated *cultural profile*. This permits the relationship between the cultural tendency of the team and the social processes taking place within it to be established. First, cultural profile can influence the type of communication within the team. If we consider the dimensions of national culture, we can indicate that there are two dimensions influencing that social process. It has been stated that, when the power distance is high (the more powerful people/bosses tend to devalue the worth of the performance and criteria of less powerful employees), communication will be limited because workers are afraid to express their own ideas. What is more, as the patterns of power inequality within organizations reflect the values of both parties (authority exists only where it is matched by obedience), employees do not feel that it is natural to speak up (Hofstede, 2001).

On the other hand, when collectivism is predominant, individuals show a clear emotional dependence on groups, which tend to be strong and cohesioned (Hofstede, 2001). The more collectivist the values are, the more the norms—rather than individual attitudes—predict the individual's behavior (Bontempo & Rivero, 1992). Such individuals place great value on accepting group norms (Hofstede, 1984) and behave in accordance with them (Yao & Wang, 2006) because they need be accepted by the group. Then, conformity

is related with collectivist cultures where individual's opinions are predetermined by the groups to which they belong and on which the managers put pressure so that conformity and orderliness exist within. The collectivist values, therefore, may restrict the quality of the communication within the group. However, if individualism is high, it will encourage the efficient communication that enables the work to be done well (Chen et al., 1998). This is possible because the people belonging to individualistic societies expect the team members' personal opinions to be listened to and moreover, they do not tend to conform falsely to their partners or accept the criteria of their group if they do not share those ideas. All the above justifies the following research hypotheses:

H2a. *The greater the cultural value of power distance in a multicultural team is, the lower the communication that occurs in the team will be.*

H2b. *The greater the cultural value of individualism in a multicultural team is, the greater the communication that occurs in the team will be.*

Second, cooperative conduct occurring within the teams is also related to the national values of the team members. Taking the literature review into account, there is support because collectivist values make individuals act more cooperatively with their colleagues (Noordin et al., 2002; Perlow & Weeks, 2002). This is probably true because collectivists are more dependent and reliant on groups, that is, more predisposed to be communitarian and to focus on collective responsibility (Earley & Gibson, 1998). As a result, they consider individual performance as less important than group performance, and subordinate their needs and desires to the requirements of in-groups (e.g., goal achievement). At the same time, individualists emphasize competition (Cox et al., 1991) and display a more restricted pattern of helping due to their having been brought up in a society built on independence and individual contribution (Perlow & Weeks, 2002).

The masculinity dimension is also reflected in the cooperation process in a way that the female cultures are recognized as having a greater ability to develop group dynamics such as cooperation. The concerns for interpersonal relations and life quality in feminine cultures, and for material rewards and competition in the masculine ones, justify that the first are able to treat job and people aspects as interdependent, whereas the latter see these in opposition (Hofstede, 2001). As a result, individuals in a feminine culture emphasize that cooperation is an important process that improves both humanization and performance of the work and, therefore, they make an effort to achieve it. The above leads us to propose the following hypothesis:

H3. *The greater the cultural values of individualism or masculinity in a multicultural team are, the lower the cooperation that occurs in the team will be.*

The cultural profile of multicultural teams shows distinctions about the different forms of conflict management. The literature review indicates that low uncertainty avoidance, which is characterized by openness to the change and new ideas and a greater tolerance of diversity (Hofstede, 2001), is related to an open style of conflict management (Pheng & Yuquan, 2002; Kozan, 1997). That is true because in those cultures a wider acceptance of what the individual brings to the team and greater respect for individuality is assumed. As a result, those values make it possible for the team members to exchange opinions, to discuss new approaches, and to explicitly accept usual disagreements that are necessary to manage the conflicts. However, when the uncertainty avoidance is high (there is more conservatism, a stronger desire for law and order and a greater fear of things foreign and unknown), the open style of conflict management is avoided and ignored (Hofstede, 2001). There, conflict management is based on universalist principles and rules –that is, regulative conflict management– (Kozan, 1997). Thus, this cultural variable can contribute to our understanding the way in which information is transmitted within the group and consequently, the reason why the communication process within the team facilitates or hinders the open management of conflict that appears within.

H4. *The greater the cultural value of uncertainty avoidance in a multicultural team is, the less open management of conflict between the team members there will be.*

The participation of the team members in the decision-making process will be affected by the profile of national culture that characterizes the team. Therefore, a cultural profile that stands out for its low power distance score will show greater disposition towards participatory decision-making because hierarchy is understood as inequality of roles resulting in higher interaction between superiors and subordinates (Bochner & Hesketh, 1994; Bu et al., 2001; Hofstede, 2001; Newman & Nollen, 1996; Schermerhorn & Bond, 1997; Schramm-Nielsen, 2000). This is the same as what will occur if the uncertainty avoidance is low (high participative decision-making), since those cultural values are related to openness to new ideas, willingness to face ambiguity and change, tolerance of diversity and a low work stress. Lastly, when we consider the individualism dimension, the literature review indicates that, the higher the score in this dimension, the lower the individual willingness to participate in decision-making within the team because they prefer an individual

decision-making process (Bochner & Hesketh, 1994; Hofstede, 2001; Pheng & Yuquan, 2002). The above enables us to propose the following research hypothesis:

H5. *The greater the cultural values of power distance, individualism or uncertainty avoidance in a multicultural are, the less participatory team decision-making there will be.*

The individuals comprising the team interact to carry out various processes and tasks in which the execution requires cognitive, verbal and behavioral abilities and it is through developing these processes and tasks that the individuals achieve the collective objectives established for the team (Bell, 2007). Therefore, the adequate development of the team processes demands that the individuals possess the necessary technical knowledge, the values, the skills, etc., in order for those team processes to be successfully developed. According to Arciniega et al. (2008), the team members' interaction entails processes of exchanging information and ideas (*i.e.*, communication), making decisions, etc., in which non-visible personal heterogeneities, such as values, need to go into action. As a result, we can stated that the team processes carry out a mediator's role, as a result of which the national cultural values of the individuals comprising the team (resources) combine and act to achieve the established objectives (results), as is proposed in McGrath's model (McGrath, 1984). By reason of this approach and after analyzing the relationship between the cultural characteristics and the social processes, we study the interaction of the latter with the results of the multicultural team.

Firstly, *communication* has a direct and positive effect on achieving the results established for the team in a way that, while good intra-group communication does not guarantee good results, it seems evident that poor communication leads to disastrous results. Snow et al. (1996) specifically state that the efficiency of the team begins with the development of a group process to communicate functional information necessary to carry out the tasks entrusted to the group. In fact, an efficient communication process enables the team members to be informed of those questions relevant for carrying this out successfully –*i.e.*, assigning specific tasks, changing the work patterns, etc.– (Gladstein, 1984). In this way, when there is an open and frequent communication facilitating prompt access to the necessary information, this will improve not only the team performance but also the team member satisfaction (Baldwin et al., 1997). However, in spite of the communication-efficiency relationship has been considered in many models (*e.g.*, Gladstein, 1984; Pearce & Ravlin, 1987) and

corroborated in laboratory studies, it has not been studied extensively in fieldwork (Campion et al., 1993).

Laboratory studies have been able to confirm that *cooperation* is critical for the team to achieve efficiency and is, therefore, included as a relevant variable in various models (e.g., Gladstein, 1984; Pearce & Ravlin, 1987). However, its isolated influence has not been evaluated in the company context, since the work of Campion et al. (1993) verified the joint relationship between the factor *Communication and Cooperation within the team* and the efficiency achieved by the team. On those lines, Bettenhausen (1991) maintains that establishing and maintaining a cooperative working atmosphere is critical to the team's results. Furthermore, the team member interaction in the cooperation process makes it easier to gain assistance in carrying out the tasks, learning knowledge and skills available in the team, as well as a greater colleague integration all of which may improve the instrumental and social satisfaction of the team members.

The role played by *conflict* within a team is a particularly ambiguous issue (Lovelace et al., 2001; Tjosvold et al., 2003). While some authors have associated conflict with greater innovation and more efficient interpersonal relations (De Dreu & Van Vianen, 2001; Tjosvold et al., 2003), others associate it with lower levels of efficiency and higher staff turnover (De Dreu & Van Vianen, 2001; Vodosek, 2007; Tjosvold et al., 2003). In this respect Jehn (1994) distinguishes between emotional conflict and task conflict, emphasizing the negative role that may be placed by the former in team performance compared to the positive role of the latter. However, the acceptance of conflict permits it to be experienced as an important contribution that favors the functioning and results of the team (Ravlin et al., 2000; Tjosvold et al., 2003), while creating the need for it to be adequately managed is necessary. In fact, Canney Davison (1994) considers improbable that a team avoiding conflict will attain a high level of results. Given the interest in knowing the effects of the cultural dimensions on the team's results, in this work, rather than attempting to clarify whether conflict is positive or negative, we attempt to corroborate that its management influences the instrumental and social satisfaction of the individuals comprising the teams. In this regard, we must emphasize that conflict management assumes recognizing its existence, as well as searching for solutions that, at the end, benefit positively in developing an appropriate work environment, and result in the team member satisfaction.

Participatory *decision-making process* provides a broader set of perspectives and generates better understanding and acceptance of the decisions adopted (Maznevski,

1994). Furthermore, participatory decision-making process allows the individuals to integrate more easily in the team and perceive that their contributions are valued by their colleagues as well as sharing the credit of the achieved objectives, thus making them wish for new goals. However, there are also significant disadvantages associated with the pressure applied by a few to reach an agreement, with the process dominated by a few participants, or with the appearance and consolidation of group thinking. In any case and whatever the form of decision-making within the team, authors treat it as a fundamental variable for achieving the results established for the team (Hopkins & Hopkins, 2002; Salk & Brannen, 2000; Snow et al., 1996). It has also been stated that, although there is a relationship between participative decision-making and results, it is only associated with the quantified results by measuring the satisfaction of the team members (Cohen & Bailey, 1997), which we aim to corroborate for the multicultural teams in our work. As a result, we put forward the following hypothesis:

H6. *The greater the use of social processes is, the better the results achieved by the team will be.*

METHODOLOGY

The works that contemplate cultural diversity in organizations as a research parameter have been conducted in a laboratory (Cox et al., 1991; Earley & Mosakowski, 2000; Polzer et al., 2002; Watson et al., 1993; Watson & Kumar, 1992), especially when the analyzed variables are nationality or ethnic group (Williams & O'Reilly III, 1998). There is a similar tendency when the object of analysis is the multicultural work team, for which there are two reasons (Cox, 1990): (a) the difficulty in finding sufficient cultural diversity in organizations to be able to conduct such studies and (b) the unwillingness of firms to collaborate in works that address the analysis of cultural differences, which many associate with racism, ethnocentrism, etc. However, multicultural teams are created in organizations as a means of achieving objectives and they are very rarely an end in themselves. Thus, if these groups are studied outside the organization, they are isolated from the organizational environment, and then the individual's concern for the team outcome may not emerge (Bell, 2007) which may have a direct influence on the quality of the results obtained (Campion et al., 1993). In Bell's (2007, p. 600) opinion, "Features of the setting could potentially affect the observed relationships between composition variables and team performance, especially those composition variables related to performance by fostering beneficial social process".

We opted to undertake an exploratory field work so that it was feasible to make a contribution to the literature by providing new research hypotheses based on studies in the context of the multinational organization. An exploratory work was advisable given the following: (i) the low willingness of firms to collaborate in multicultural studies (Cox, 1990); (ii) the lack of empirical works that link heterogeneity in national values and results in multicultural teams; and (iii) the difficulty in identifying a set of comparable teams for the research. Given the exploratory nature of the study, we propose to obtain comparable, but diverse, sample units in a way that represents variability while at the same time being quantitatively sufficient to statistically test the proposed hypotheses.

Universe and sample selection

Multinationals were contacted in Spain with the aim of identifying active multicultural teams in those firms. A strict set of requirements with which the teams had to comply was established. Those requirements ensured the multicultural (at least one member must be of a different nationality) and natural (they operate effectively in multinational firms) character, as well as the necessary interaction and interdependence of the members (*e.g.*, sharing a common objective, autonomy to manage and lead its work, hold face-to-face meetings, etc.). Our sample includes not only permanent teams (together for over two years) but also temporary teams having been established for at least 3 months and 100 hours so that the effect of cultural heterogeneity can be analyzed. The relative irrelevance of the activity sector when researching work teams (Kirkman & Rosen, 1999; Stewart & Barrick, 2000), and the above-mentioned difficulties linked to locating the teams, led us to make contact with multinationals operating in different sectors and to use the so-called "by relationships" method to identify the teams. As a result of that effort, we identify 14 teams in 7 multinationals operating in three different sectors (tourism, distribution and manufacturing). To be precise, the 101 individuals of which the 14 teams were comprised were identified and information was accessed on each individual regarding the nationality. Furthermore, each team member received a questionnaire, obtaining a final valid sample of 40.

Information gathering instrument

A standardized, self-administered questionnaire was drawn up in two versions: English and Spanish. Those two languages were decided on for the reason that in the multinationals established in Spain, a great number of the individuals are Spanish or of Hispanic origin, and as regards the other

important group whose language is not Spanish, the official language of communication of the multinational firms participating in the study is English. Because the correct translation of a questionnaire is a key issue in an international research, and therefore, object of concern (*e.g.*, Leung & Bond, 1989; Peng et al., 1991; Vandenberg & Lance, 2000), in the current work, the back-translation technique suggested by Usunier (1998) was used and it has been applied in relevant works such as that of Verkuyten et al. (1993). To apply the technique, in light of the scales constructed and tested in English-speaking countries, scales were formulated in Spanish and were then subsequently translated into English by native professional translators. Subsequently, the original scales taken as a reference point and constructed in English were compared with that obtained after translating our elaborated Spanish version into English. Finally, this questionnaire was tested by collaborating managers with experience in different countries and who mastered both languages, as well as university professors who had spent time in different countries of the European Union. On taking all these precautions, it is possible to guarantee the suitability of the terms, the correct translation and the measurement equivalence in all the variables employed.

The questionnaire was structured in four parts. The first part contains questions related to the demographic description of the team. The second one contains twelve items about the social processes. To be specific, the scale used to evaluate communication within the team is based on that used by Campion et al. (1993). It should be pointed out that the scale used to obtain information about the cooperation process is strictly the one proposed by Campion et al. (1993). Conflict management is measured using the scale proposed and validated by Canney Davison (1995) in her study of multinational teams. Finally, the scale used for participatory decision-making is based on that proposed by Campion et al. (1993) and Watson & Michaelsen (1988). The third one, which deals with the results achieved by the team, includes 14 adapted items regarding the members' satisfaction on belonging to the team (Ancona, 1990; Anderson, 1983; Canney Davison, 1995; Cohen et al., 1996; Williams, 1998) and the internal cohesion achieved in the team (Watson & Michaelsen, 1988). The fourth one includes demographic questions about the individual completing the questionnaire to establish a demographic, cultural and professional profile.

Measurement of cultural resources

The team's cultural resources are defined by the joint interpretation of two elements: (1) the average cultural profile of

the team for each national culture dimension (*i.e.*, average of the national values of the team members) and (2) the cultural heterogeneity, or degree of dispersion of national cultures present in the team. To calculate the two variables for each of the 14 teams participating in the study, the scores of the cultural dimensions that corresponded to the nationality according to the results of Hofstede's study (2001) were assigned to the 101 members in the 14 teams.

The literature review reveals that there is no measure describing the cultural profile of the team, so this research attempts to take a step towards determining that profile. To that end, we establish that the score obtained by each team for a cultural dimension, for example power distance, can be calculated by means of the arithmetical average of the cultural scores established in the work of Hofstede (2001) for that cultural dimension. Thus, a higher score indicated greater power distance as an average cultural value in the team. That procedure is also followed to calculate the average scores of the values of uncertainty avoidance, individualism, masculinity and orientation to the term orientation. We are aware that we are creating an average of the profiles of the national values of the team members, which means (i) that we are giving an individual the score for his/her country of origin, which Hofstede (2001; 1984) called "ecological fallacy", (ii) that there are differences between countries that are not reflected in the numbers (Hambrick et al., 1998), and (iii) that the data collected and treated refers to the dimension *term orientation*, which has not yet been calculated in some of the countries including seven of the twelve nationalities in the sample. As a result, this last cultural dimension was excluded from the analysis. However, this variable, as we conceptualize it, has not been explicitly incorporated in the models to measure the results of multicultural teams. Therefore, we are exploring both the method used and the relationship of this dimension with the social processes.

Cultural heterogeneity has been measured in different ways. In the empirical research of Earley & Mosakowski (2000) and Anderson (1983), it has been classified according to the number of different nationalities or ethnic groups in each team. Other works have not specified the degree of heterogeneity since they were performed with teams of students who the authors themselves distributed among homogeneous and heterogeneous groups without specifying that degree (*e.g.*, Cox et al., 1991; Watson et al., 1993; Watson & Kumar, 1992). Although Vodosek's work (2007) measures the heterogeneity, it does so through the individuals' perceptions on the cultural values. Consequently, in this research the measurement of the team's heterogeneity is explored, calculating it as the typical deviation of each cultural dimension referring to the average

profile of the team. Note that a higher score indicates a greater distance between the cultural values of each team member and the team's average in that dimension, which means that the heterogeneity is greater for the team. Hence, and using an example of a multicultural team, a low level of uncertainty in the team can be achieved in two ways: either by forming a team of individuals belonging to cultures with low uncertainty avoidance, or by combining individuals so that the team includes individuals with very low levels of uncertainty avoidance and others with moderate levels of uncertainty avoidance. In both cases the cultural profile is the same, but the heterogeneity varies considerably between them. Researchers are increasingly recognizing that dispersion is a construct of interest rather than merely a way of assessing whether aggregation –*i.e.*, average– is appropriate (Randel, 2003) and it is conceptually and empirically different from cultural means and captures social processes that cultural means are unable to capture (Au & Cheng, 2004).

Once the profile and cultural heterogeneity of each of the 14 teams was calculated and the information of the 40 valid cases in which this study is based was acquired, the corresponding values for belonging to a specific team were assigned to each of the 40 individuals in the database.

Data analysis

The statistical tool used to reduce the dimensionality of the scale to measure the team results –individual satisfaction and perception of cohesion– was the principal components analysis with *varimax* rotation. This tool consists in obtaining a reduced number of factors which give an explanation for the greater part of the total variability of the observed variables. To be precise, this technique, requiring no previous hypothesis on the data structure and interrelationships, allows us to obtain synthetic indices from a phenomenon that has been measured through the partial multiple indicators (González, 1991). Compared to other methods of rotation, *varimax* rotation was chosen as it simplifies the number of variables in each factor thus facilitating their interpretation.

Kolmogorov-Smirnov's test was used to contrast the normality of the variables. Furthermore, the statistical power of the information was analyzed and subsequently, Pearson's correlation statistics were applied to contrast the association between variables and test the formulated hypotheses. Finally, and for the particular relations between the social processes of the team and the results, a post hoc analysis was carried out with the aim of identifying the influence that the different social processes may have on the different types of results identified in the principal

component analysis –i.e., intrinsic satisfaction versus extrinsic satisfaction of the individual for his/her participating in the team.

STATISTICAL ANALYSES AND DISCUSSION OF RESULTS

Descriptive analysis of the sample

The results of the descriptive analysis of demographic characteristics of those surveyed showed a sample comprising men (47.5%) and women (52.5%), mostly with an age between 27 and 37 (55%), that had a medium-high education level (high school or vocational training, 37.5%; higher university studies, 25%) and were born mainly in Spain (55%) or Germany (17.5%). When asked about their involvement with multicultural teams, 62 per cent of the participants in the survey indicated that they worked in teams comprising more than six members, while 25 per cent worked in teams of between 4 and 6 members and the rest in smaller teams. The respondents were also asked for the number of teams in which they had worked and the results gave an average of five teams for the sample as a whole. These teams, in 64.3% of the cases, were formed one year prior to the empirical study, 14.3% had been together for between 1 and 2 years, whereas the remaining 21.4%, had been together for over two years.

Dimensionality of the measuring scales: validity and reliability

As Table 2 shows, the factor analysis carried out for the team results indicates the presence of four factors: (1) *identification with the team and pride in belonging to it*; (2) *satisfaction from the personal contribution to the team*; (3) *satisfaction with the team's working atmosphere*, (4) *satisfaction with the team's achievement of results*. The first two factors refer to intrinsic satisfaction –i.e., how satisfied the individual feels on the whole, and what he/she contributes to the team–, while the other two refer to extrinsic satisfaction –i.e., the individual's satisfaction with what he/she receives from the team. Consequently, the factors obtained combine the items relative to task cohesion, socioemotional cohesion, instrumental satisfaction and social satisfaction identified in the literature.

The validity of the scale was also analyzed, that is, the extent to which this is indeed measuring what it should be measuring. Regarding this point, the construct validity is made clear given the principal component factor analysis made it possible to summarize and synthesize the observed phenomenon. Furthermore, the content validity is guaranteed with both the theoretical and empirical literature review as well as the pretest of the questionnaire. The discriminant validity is corroborated as the correlation

TABLE 2. Principal components analysis of the results of the multicultural team.

Variables	Com.	Fact 1	Fact 2	Fact 3	Fact 4
I would like to continue working in the team.	0.745	0.818	0.203	0.061	0.175
I feel proud to be a member of it.	0.743	0.797	0.303	0.105	0.071
I perceive that there is a strong team spirit.	0.703	0.776	0.192	0.232	-0.098
We all, rather than one or two members, jointly exercise leadership skills.	0.609	0.671	0.350	0.184	-0.041
I have had the opportunity to grow as a person.	0.478	0.626	-0.084	0.267	0.089
I am enthusiastic about overcoming new challenges.	0.725	0.602	0.527	-0.159	0.242
I feel that a very high morale of all the team members has been generated.	0.685	0.576	0.391	0.381	0.235
I am comfortable with the role I play in it.	0.872	0.162	0.876	0.089	0.268
I feel free to make negative and positive comments.	0.753	0.343	0.712	0.254	-0.252
My satisfaction as a member is in proportion to the contributions I make to it.	0.652	0.227	0.618	0.314	0.346
I feel good about working in the team.	0.757	0.122	0.205	0.833	-0.078
I enjoy an atmosphere of trust developed in it.	0.841	0.368	0.100	0.827	0.107
I am satisfied that we have achieved the best possible results.	0.764	-0.029	0.020	0.166	0.857
I feel that we can achieve the goals the team has been assigned.	0.748	0.239	0.294	-0.241	0.739
Eigen value		6.024	1.761	1.262	1.027
Proportion of partial variance accounted for		27.488	18.032	14.138	12.307
Proportion of total variance accounted for	71.965				
Sampling adequacy:					
Kaiser-Meyer-Olkin Measure	0.603				
Bartlett's Test of Sphericity	274.946				
Sig	0.000				

between each pair of factors obtained in this analysis has a correlation of 0.000, guaranteeing concepts of variance. Moreover, the global reliability of the scale measured with Cronbach's alpha statistic rises to 0.889.

Finally, since there is no sense in applying a factorial method to scales with three items or less, each theoretical dimension measured by means of three items –communication, cooperation, conflict and decision-making– was transformed into a variable where the values were the average of the values of the items comprising the scale. The new variables were used in the later statistical analyses.

Normality test and statistical power of the data

We corroborate the normality of the variable as a step prior to using the most appropriate statistics to test the research hypotheses. In this respect, the Kolmogorov-Smirnov test is used confirming the normality of all the variables that were object of the study (Table 3).

Subsequently, we calculated the statistical power of the data to carry out the correlation tests. In this respect both the effect size and the sample size were taken into consideration and three levels were calculated. First, an average effect size of 0.37 was considered for the correlations between the heterogeneity and the social processes and a statistical power of 77.64 per cent was obtained. Second, for the cultural profile and those processes, taking an average effect size of 0.34 into consideration, the statistical power rose to 71.88 per cent. Finally, for the correlations between the social processes and the results, the statistical power reached 87.49 per cent for an average effect size of 0.43. Given that values the same or superior to 80 per cent (Cohen, 1992) are considered a high level of statistical power, the levels of power obtained for our study may be considered acceptable in view of the exploratory nature of the current work.

Hypotheses test

The bivariate correlations between the variable heterogeneity and cultural profile of the team and the different social processes (Table 4) respond to the first five research hypotheses.

With reference to the cultural heterogeneity of the team, Hypothesis 1 is partially supported. To be specific, in teams with a high degree of heterogeneity in the dimensions of power distance, uncertainty avoidance and individualism there is a positive relationship between the team's cultural heterogeneity and communication. Hofstede (2001; 1984), Hambrick et al. (1998) and Canney Davison (1995; 1994) stand out among the authors that take that positive relationship into consideration, although in a theoretical and general way that does not make distinctions by dimension, in comparison to what we have attempted to do in this study. Moreover, in our sample, the team members' involvement in decision-making is positively related to the team's heterogeneity in terms of power distance and uncertainty avoidance, which confirms the relationships proposed by Pheng & Yuquan (2002) and Bu et al. (2001). However, the results also show that there is no relationship between the heterogeneity and the processes of cooperation and conflict management in our sample.

Furthermore, the association between the cultural profile and the processes of communication (H2) and participatory decision-making (H5) are also partially confirmed in the sample. Therefore, as Hofstede (2001) states, the more unequally "power" is shared (high distance power) the more intense the differences between individuals become and the more the bidirectional information exchange will be resented (H2a). In addition to the relationships established in the literature, the analyses have also showed that, in the teams where the individuals worked, the degree of uncertainty avoidance also negatively affects communication within the team. As a consequence of anxiety caused

TABLE 3. Kolmogorov-Smirnov's Test.

Constructs and factors	Mean	SD	Z of K-S	p
Social processes				
Communication	3.987	0.730	1.180	(0.124)
Cooperation	4.368	0.688	1.335	(0.057)
Conflict management	3.819	0.863	0.997	(0.273)
Decision-making	3.408	1.267	0.990	(0.281)
Results				
Identification with, and pride in belonging to, the team	0.000	1.000	0.958	(0.317)
Satisfaction with personal contribution	0.000	1.000	0.608	(0.854)
Satisfaction with the working atmosphere	0.000	1.000	0.934	(0.348)
Satisfaction with results achieved	0.000	1.000	0.526	(0.945)

TABLE 4. Team's cultural resources and social processes: associations.

Cultural resources of the team	Communication		Cooperation		Conflict management		Decision-making	
	r Pearson	p	r Pearson	p	r Pearson	p	r Pearson	p
Heterogeneity								
Power distance	0.434	(0.006)	0.157	(0.347)	0.247	(0.146)	0.318	(0.051)
Uncertainty avoidance	0.421	(0.008)	0.157	(0.346)	0.232	(0.173)	0.320	(0.050)
Individualism	0.339	(0.037)	0.194	(0.242)	0.244	(0.151)	0.185	(0.266)
Masculinity	0.242	(0.143)	0.086	(0.608)	0.050	(0.773)	0.214	(0.197)
Average profile								
Power distance	-0.322	(0.049)	-0.117	(0.484)	-0.236	(0.166)	-0.263	(0.111)
Uncertainty avoidance	-0.379	(0.019)	-0.104	(0.535)	-0.265	(0.118)	-0.316	(0.053)
Individualism	-0.145	(0.385)	-0.127	(0.447)	-0.157	(0.359)	-0.071	(0.673)
Masculinity	-0.218	(0.189)	-0.159	(0.340)	-0.034	(0.844)	-0.081	(0.629)

TABLE 5. Association between social processes and the results.

Social processes	Identification with, and pride in belonging to, the team		Satisfaction with personal contribution		Satisfaction with the working atmosphere		Satisfaction with results achieved	
	r Pearson	p	r Pearson	p	r Pearson	p	r Pearson	p
Communication	0.350	(0.042)	0.016	(0.927)	0.117	(0.511)	0.000	(0.999)
Cooperation	-0.028	(0.876)	0.173	(0.327)	0.026	(0.884)	0.045	(0.800)
Conflict management	0.362	(0.039)	0.456	(0.008)	0.206	(0.249)	-0.104	(0.563)
Participatory decision-making	0.484	(0.004)	0.296	(0.089)	0.123	(0.488)	0.274	(0.117)

by the unknown, rules and norms are established to be used as standards (Hofstede, 2001). So, situations of uncertainty and the spontaneous information that could upset the balance brought by the established guidelines is prevented. Besides, the team members may even fear the consequences resulting from openly expressing their thoughts.

The position adopted by the team when faced with uncertain and/or unknown events is also negatively related to the participation of the individuals in decision-making, so that involvement of all the team members occurs when there is low uncertainty avoidance (H5). However, the theoretical review clearly reveals that cooperation processes and conflict management are associated with cultural profiles that are not confirmed in our research (H3 and H4).

Regarding the association between the social processes and results (H6), it can be said that, apart from cooperation, all the personal interactions (communication, conflict management and decision-making) were reflected in the results achieved by the team (Table 5). The empirical works consulted do not establish the association of the cooperation process on its own, but jointly with communication (Campion et al., 1993). This makes clear that, in our sample,

this variable, when isolated, is not related to results. To be specific, the relationship is established between the processes of communication, conflict management and involvement of team members in decision-making with intrinsic and/or extrinsic satisfaction.

The evidence of the exploratory work undertaken in natural teams showed that the transmission of information, which characterizes the process of communication as well as those of conflict management and participatory decision-making, is essential in the processes taking place within teams, as Proehl (1997), Canney Davison (1995) and Maznevski (1994) put forward. Hence, those three above-mentioned processes are positively related to the *identification with, and pride in belonging to, the team* factor in a way that the information flow within the team is important for its members to feel proud of belonging to that team and to wish to continue working together. Furthermore, conflict management and participation in decision-making are positively related to how satisfied the individual is by his/her contribution to the team. For those processes, the individual detects how well he/she is considered within the team, whether in a discussion meeting or in finding a solution. Finally, these results highlight the greater relevance of the two social processes by their relation with

FIGURE 2. Intrinsic satisfaction.

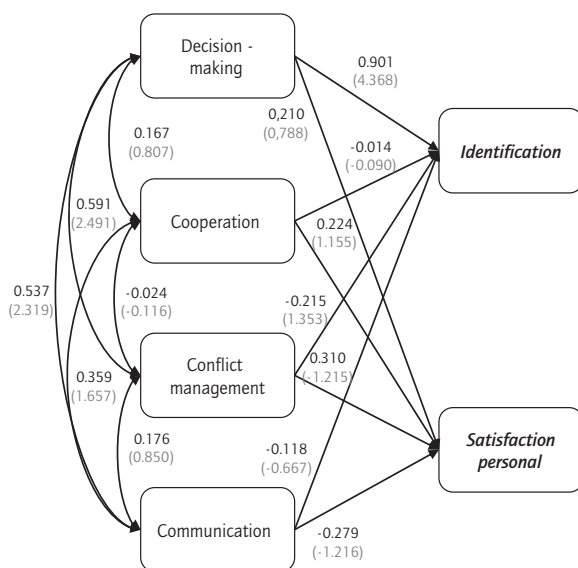
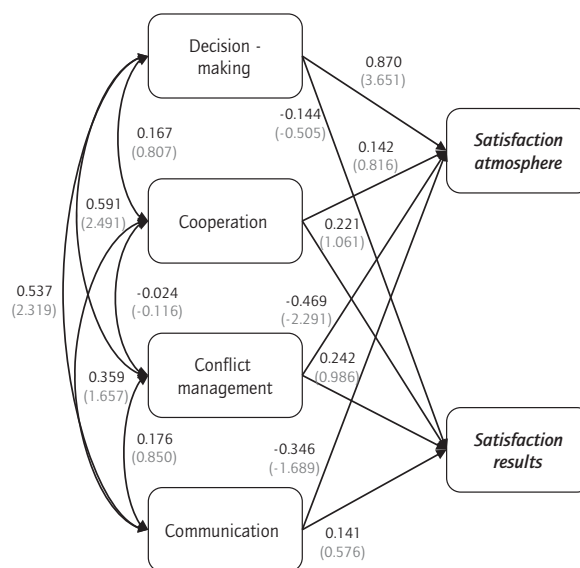


FIGURE 3. Extrinsic satisfaction.



the team results. This possible greater relevance, identified from the analyses carried out, was not established as a research hypothesis due to the absence of literature to analyze it. Various post hoc analyses, carried out to study this in depth, can be seen detailed below.

Post hoc statistical analyses

The post hoc statistical analyses were carried out with the purpose of identifying the influence the social processes may have on the intrinsic and extrinsic satisfaction of the individuals, as measurements of the team results in which those individuals are members. Two path models were carried out where the goodness of fit index, following the recommendations of Hair et al. (1999), was evaluated by means of the absolute fit index (Chi-square and RMSEA), the incremental fit index (TLI and NFI), and the parsimony fit index (CMIN/DF). Both models presented an adequate goodness of fit index for any of the indices analyzed: (1) intrinsic satisfaction (CMIN=0.499, $p=0.480$; RMSEA=0.000; NFI=0.990; TLI=1.229; CMIN/DF=0.499); and (2) extrinsic satisfaction (CMIN=0.277, $p=0.598$; RMSEA=0.000; NFI=0.993; TLI=1.483; CMIN/DF=0.277). The results of the path models (Figures 2 and 3) for intrinsic satisfaction and for extrinsic satisfaction reinforce the significant roles that participatory decision-making and conflict management, compared to the remaining social processes, play in the satisfaction of the individuals in the sample. Specifically, participation in decision-making

represents a relevant element of both the intrinsic and extrinsic satisfaction of the team members. Obviously, to make decisions it is essential to have information available that is accessed and transmitted by means of communication (Watson & Kumar, 1992), making the correlation between the different social processes evident. On the same lines, conflict management provides a better working environment (extrinsic satisfaction) that is recognized by the team members and leads to greater satisfaction.

CONCLUSIONS

This research faced the challenge of developing new operational measurements of the cultural resources of the team –cultural profile and heterogeneity–, as well as realizing empirical research with natural teams with a multicultural character. As a result of that effort, and responding to the first research objective, we can verify that the heterogeneity present in the multicultural teams in our sample is partially and positively associated with the communication process and with the participatory decision-making that both take place in the teams. Therefore, the results obtained confirm that cultural heterogeneity improves the processes by stimulating the sharing of ideas, alternative options and, specifically, perspectives, as Hambrick et al. (1998) and Maznevski (1994) put forward. In this work, we have likewise confirmed that cultural profile is also associated with the processes of communication and of participatory decision-making. However, a breakdown of

that profile into each of the national dimensions reveals that *uncertainty avoidance* is mainly associated with those processes. The *power distance* dimension is directly associated with communication in terms of heterogeneity and cultural profile. These empirical results are consistent with the theoretical approaches proposed by Hofstede, who emphasizes how important the cultural dimensions of uncertainty avoidance and power distance are for the performance of the teams. Then, the overall cultural resources of the multicultural team, which have been operationalized in this work, are related to two of the four social processes analyzed in the research, namely: communication and participatory decision-making.

About the second research objective, we now highlight the importance of participatory decision-making, communication and conflict management due to their relationship with the results achieved by the team, measured in terms of satisfaction and cohesion (intrinsic and extrinsic satisfaction). If we return to the previous conclusions about the relationship between the cultural resources of the team and the processes of communication and participatory decision-making, we are finally able to explain the importance of the cultural profile and heterogeneity of the teams on the results of the social processes that occur within those teams. The decision-making is the main link between the resources and the results analyzed in this study. Thus, the chosen sample has enabled an analysis of the results achieved by multicultural teams based on a descriptive model that responds to the classic pattern of resources-processes-results.

This research work has a series of implications that are both academic and practical for business management. From a *theoretical perspective*, different contributions stand out. Firstly, we propose a model that incorporates the relevant role that certain cultural resources –i.e., uncertainty avoidance, power distance, and to a lesser extent individualism– play in specific social processes –i.e., participatory decision-making and to a lesser extent communication process, necessary for making decisions– and that influence the results of the multicultural team, in terms of intrinsic and extrinsic satisfaction of their members. This model, put together from an exploratory empirical work, must be object to empirical contrastation with a greater sample size as a step prior to its theoretical generalization. Secondly, this work identifies the existing relationship between the uncertainty avoidance level of the team and the communication processes, a relationship for which no previous reference was identified in the literature. Our work, moreover, highlights the negativity of this relationship, in such a way that the greater levels of uncertainty avoidance in the team are detrimental to their

communication processes. In this respect, the relevance of that association must be taken into consideration, as communication underlies the development of the remaining social processes of the team, although these processes are difficult to be undertaken without their existing suitable levels of communication. Thirdly, although it was possible to demonstrate the cooperation in conjunction with the communication that had an effect on the team results, in our work –where the cooperation process was analyzed isolatedly– such an association was not corroborated.

From a *methodological perspective*, we have proposed new forms of operationalizing the team's cultural resources. Specifically, this article expands research on cultural diversity in the team by incorporating two complementary variables– cultural heterogeneity and cultural profile –that offer a more realistic and complete view of the team cultural problems. These constructs are developed, respectively, from the arithmetical average and the standard deviation as means of aggregation to construct variables that define the team resources. Furthermore, both the cultural profile and the heterogeneity are analyzed isolatedly for each of the national cultural values. Compared to a significant part of previous literature, these variables offer two clear advantages: (1) they are based on the measurement of the national cultural values of each team member; and (2) they offer numerical data that can be incorporated as continuous independent variables into a wider range of statistical analysis with the aim of analyzing its effect on the team.

Some previous works have made use of the standard deviation to study the cultural diversity in the team (Vodosek, 2007) and the arithmetical average to know a specific cultural profile (Paulus et al., 2005) using team members' cultural personal values –i.e., individual subjective perception about national values. The measurements we propose, however, are upheld in the conceptualization of national values as a social reality, which are common to all the individuals of a country. It entails new advantages: (1) the measures of cultural profile and cultural heterogeneity are based on data that have been stable throughout time –the classification of the countries carried out recently in the GLOBE project shows hardly any difference from that of Hofstede's initial proposal in spite of a period of almost two decades between both studies–; and (2) with the influence of such cultural resources on the team performance, it seems feasible that work teams are formed in the company with the suitable cultural resources. To carry out detailed studies of the employees' values is not necessary because knowing only the employees' nationality could be enough.

Secondly, our work contributed to filling the empirical gap in organizational environments that characterizes this

field of study in which the number of laboratory works is disproportionately higher than that of those undertaken with natural teams in organizations. Those lab works assume the limitations of those samples, which are isolated from the effects of the organizational environment due to two reasons: firstly, the difficulties involved in attaining an appropriate number of multicultural teams (Cox, 1990), and secondly, because of the need to establish combinations of nationalities to make the study of cultural diversity feasible. In that context, the measures provided in this work offer new possibilities to undertake studies in the organizational context.

From a *practical perspective*, this work has several implications for any company that uses teams as a way of working. Thus, a company can consider the constitution of multicultural teams with suitable cultural resources to achieve the desired results. Although designing such a composition of teams may not be possible in every situation, in Bell's (2007, p. 606) opinion "[...] when feasible (e.g., organizational restructuring, selection for team-based jobs) practitioners can use team composition to increase team performance".

Firstly, companies can consider the creation of multicultural teams with cultural profiles that result in higher team performance. In that respect, participatory decision-making, according to the results of our research, may be promoted by forming teams with low uncertainty avoidance. For example, let us consider a multicultural team created to develop new products. If the cultural profile of that team, calculated from the members' nationalities, is one of low uncertainty avoidance, it can be deduced that the team will produce more and better ideas since such a cultural tendency favors the acceptance of risks (Sivakumar & Nakata, 2003) and an active participation in decision-making. Then individuals show greater satisfaction for belonging to the team. However, the literature review reveals that there are few works that analyze the effect of the profile conceptualized in the way that we propose since research interest has focused on the roles that the individuals of different cultural profiles play within the team (Chen et al., 2002; Watson et al., 2005). Our work furthermore highlights that communication processes in multicultural teams may be promoted by forming teams with low distance power and low uncertainty avoidance.

Secondly, the cultural heterogeneity in work-teams offers the firm possibility of studying and providing the team with the combination of individuals with different cultural profiles that guarantees a suitable level of heterogeneity. Hence, and still using the example of the multicultural team formed to develop new products, a low level of uncertainty in the team can be achieved in two ways: either

by forming a homogeneous team of individuals with low uncertainty avoidance, or by forming a heterogeneous team combining individuals with very low and moderate levels of uncertainty avoidance. The homogeneity that characterizes the first team translates into agreement on the level of risk assumption, gathering of information and the generation of new ideas for the design of new products. However, in the second team, the individuals with very low risk avoidance could contribute more and riskier ideas while those with moderate risk avoidance will question those ideas and seek standards on which they can base discussion of the proposed ideas. One outcome of that process is that the existence of alternative points of view (*i.e.*, heterogeneity) contributes to a better quality decision and a higher level of satisfaction of team members due to the high level of discussion and interaction produced amongst the colleagues.

Finally, this research work has implications not only for companies with team-based corporate philosophies, but also for those whose human resources comprise individuals of different nationalities. Managers in those contexts will have to recognize that the contributions to the organizational environment made by individuals with different national values may create difficulties. However, the heterogeneity generated by those differences must be accepted as an increase of value for the company rather than viewed as a problem. Then, in the era of the global firm, cultural diversity must be recognized, understood and used appropriately in organizations (Adler et al., 1986), especially in the context of work-teams on which organizations increasingly base their activities.

This study has some limitations and certain recommendations can be made with a view to future studies. The principal limitation of this exploratory work lies in the number of sample cases, which determines that the conclusions can only be extrapolated to the population of the study. Therefore, to expand the sample to attain levels of representativeness that make it possible to generalize the results to larger populations is necessary. In addition, we are aware that we are working with new measures of constructs in this line of research and that some of our considerations lack the strong theoretical support. However, we believe that our work opens a new way of studying cultural diversity in multicultural work-teams whose analysis represents a challenge for future research. We are also aware of the limitation of not having taken into account the team external processes and those related to the tasks although we consider them extremely significant and recommend the development of works that include them.

Finally, the conclusions provide new issues of interest that could be analyzed in greater depth and scope in future research works; for example, (1) continuing with the study of suitable levels of heterogeneity for each type of task undertaken by the team; (2) the importance of the national value of uncertainty avoidance as a critical cultural resource in the multicultural team; (3) expanding knowledge of the link between communication and the other social processes; and (4) broadening knowledge of the importance of team members' participation in decision-making to the achievement of results and the development of the other processes.

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