

Team Performance in Cross Cultural Project Teams: The Moderated Mediation role of Consensus, Heterogeneity, Faultlines and Trust

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Structured Abstract:

Purpose – We test the conditional effect of team composition on team performance; specifically, how collective team orientation, group consensus, faultline configurations and trust among team members explain the objective performance of project teams in cross cultural contexts.

Design/methodology/approach – Employing path analytical framework and bootstrap methods, we analyze data from a sample of 73 cross cultural project teams. Relying on ordinary least-squares regression, we estimate the direct and indirect effects of the moderated mediation model.

Findings – Our findings demonstrate that the indirect effect of collective team orientation on performance through team trust is moderated by team member consensus, diversity heterogeneity, and faultlines' strength. By contrast, high dispersion among members, heterogeneous team configurations and strong team faultlines lead to low levels of trust and team performance.

Research limitations/implications – The specific context of the study (cross cultural students' work projects) may influence external validity and limit the generalization of our findings as well as the different compositions of countries of origin.

Practical implications – From a practical standpoint, these results may help practitioners understand how the emergence of trust contributes to performance. It will also help them comprehend the importance of managing teams while bearing in mind the cross cultural contexts in which they operate.

Social implications – In order to foster team consensus and overcome the effects of group members' cross cultural dissimilarities as well as team faultlines, organizations should invest in improving members' dedication, cooperation and trust before looking to achieve significant results, particularly in heterogeneous teams and cross cultural contexts.

Originality/value – Our study advances organizational group research by showing the combined effect of team configurations and collective team orientation to overall team performance and by exploring significant constructs such as team consensus, team trust, and diversity faultline strength to examine their possible moderated mediation role in the process.

Keywords: Collective team orientation; Team trust; Team consensus; Faultlines configurations; Team performance; Moderated mediation.

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Running Heads: Cross cultural Project Teams

When a new team project is established, members bring their personal traits and previous experiences, as well as the tendency to act in different ways at different moments depending on the effects of other members' interactions. Several conditions should be met for teams to excel (Kozlowski and Ilgen, 2006; Mathieu, Maynard, Rapp and Gilson, 2008). Among these, the ability to interact effectively with other team members is of paramount importance if team goals are to be achieved (Oosterhof, Van der Vegt, Van de Vliert and Sanders, 2009).

The aim of this paper is to gain an in-depth understanding of the impact that team trust has on performance, and examine how contextual factors that relate to the team composition influence the group dynamic and outcomes.

Trust is one of the critical factors for effective team processes and performance (Ashleigh and Prichard, 2012). Prior research has examined the positive states that emerge from exchanges and interactions that build intra-team trust and have positive effects on group functioning and outcomes (Langfred, 2007; Mannix and Jehn, 2004; Mathieu et al., 2008). We argue for critical examination of the conditions under which these states are more likely to emerge or be weakened due to the complex social exchanges caused by members' heterogeneities.

Diverse group composition has effects on group dynamics and performance (Horwitz and Horwitz, 2007; Jackson and Joshi, 2011) and interpersonal trust is the basis for cooperation and social exchange in organizations (Blau, 1964; McAllister, 1995). It is critical to understand how team composition influences team trust and cooperation within cross cultural project teams, where members with different cultural origins work together towards a common goal (Kirkman and Shapiro, 2005). Indeed, team members from different cultural backgrounds will have noticeable differences, which could determine whether they will be inclined to follow cooperative team norms, exert themselves on behalf of the team regardless of the differences, and favor the whole group over the subgroup (van Knippenberg, De Dreu and Homan, 2004).

Although the impact of demographic diversity varies considerably when studied individually, these dissimilarities may play complementary roles in explaining group dynamics. When combined, this variety might also explain more of the within-group diversity outcomes. For this reason, we build on diversity faultlines literature, which proposes seeing team composition not from the perspective of a

single attribute but rather as a complex composite of different team configurations (Lau and Murnighan, 1998). Moreover, the team's collective orientation may serve as a proxy of underlying cultural dissimilarities among members (Alavi and McCormick, 2007; Wagner, 1995), given that the effects of certain diversity attributes may be more pronounced in some cultures than in others (Stahl, Maznevski, Voigt and Jonsen, 2010).

This study advances cross cultural diversity team research in several ways. First, we respond to calls to measure the combined effect of diversity attributes (Harrison and Klein, 2007; Jackson and Joshi, 2011). Consequently, we model our framework and test it using conditional process modeling (Hayes, 2013). Second, we explore significant constructs – collective team orientation and team trust – to examine their possible moderated mediation role in the process. Lastly, we examine the moderated-moderator role of team consensus, diversity attributes and faultline configurations in the relations among collective orientation, team trust and team performance.

Theoretical Background and Hypotheses

What makes a group of people perform effectively? Recruiting individuals who achieve superior performance levels does not guarantee a high level of team performance (Klein and Kozlowski, 2000). A team's composition, understood as the configuration of the team members' attributes, is particularly influential on the team's interactions and outcomes (Harrison, Price, Gavin and Florey, 2002; van Knippenberg and Schippers, 2007). The propensity to work collectively, and the preference for doing so, as well as the emergence of trust among team members, influence teams and their functioning (Ferrin, Bligh, and Kohles, 2007; Mohammed and Angell, 2004), both positively and negatively (van Knippenberg and Schippers, 2007). Contextual factors such as membership configuration, shared agreement and subgroup creation may also influence the outputs and performance (Bell, 2007; Chan, 1998; Lau and Murnighan, 1998).

Contextual factors of team functioning: Membership diversity configurations

Previous research on team diversity has neglected the combined and interactive effects of multiple dimensions of team diversity (Jackson and Joshi, 2011; van Knippenberg and Schippers, 2007). Team membership diversity is the distribution of differences among team members on any specific personal attribute that members might use to describe how they and other teammates are different (Harrison and

Klein, 2007; Williams and O'Reilly, 1998). Thus, it reflects the degree of differences within the teams (van Knippenberg and Schippers, 2007). All teams experience differences, but not all differences are relevant to the situation in which the team is functioning. Diverse work teams function differently to homogeneous teams (Earley and Gibson, 2008; Jackson and Joshi, 2011; Williams and O'Reilly, 1998). Heterogeneity within groups reduces trust (Polzer, Crisp, Jarvenpaa and Kim, 2006), provokes stereotyping of others, and interferes with group functioning (Ely and Thomas, 2001). Members tend to perceive those not within their subgroups as out-group individuals and as potential antagonists with incompatible objectives, beliefs and teamwork habits (Randel and Jaussi, 2003; van Knippenberg et al., 2004). Prior research produced mixed and contradictory findings in linking cultural dissimilarities, or team trust (Chattopadhyay, 1999) with team performance (Bowers, Pharmer and Salas, 2000; Chrobot-Mason and Aramovich, 2013; Guillaume, Brodbeck and Rikketa, 2012).

Heterogeneous groups may also influence team functioning through interpersonal perceptions based on the degree of similarity and attraction. According to Social Identity Theory (Tajfel, 1982) and the associated Social Categorization Theory (Turner, 1987), people use social psychological classification mechanisms to categorize themselves and others as belonging to the same or different subgroups. Categorization processes might produce subgroups, disturb group dynamics, and contribute to problematic relations among subgroup members (van Knippenberg et al., 2004).

Furthermore, the Similarity Attraction Paradigm (Byrne, 1971) suggests that sharing similar attitudes and values increases interpersonal attraction and bonding (Jackson and Joshi, 2011; Riordan, 2000). People assume that they consistently and coherently share a common vision with teammates if they have similar demographic attributes and they infer similar attitudes and values. They experience greater attraction to these other similar members, which in turn reinforces their beliefs, and make them more dedicated to teamwork (Harrison, Price and Bell, 1998; Tsui, Egan, and O'Reilly, 1992). These similarities also promote a sense of team identity (van Knippenberg et al., 2004; Williams and O'Reilly, 1998).

Cross cultural project teams: The underlying heterogeneity.

Demographic dissimilarities influence team outcomes in different ways (Horwitz and Horwitz, 2007; van Knippenberg and Schippers, 2007). Scholars have emphasized the importance of considering

factors beyond visible differences. However, underlying differences in attitudes and values have received considerably less attention in the literature as this type of diversity is more difficult to observe (Bowers et al., 2000; Harrison et al., 1998). Results from a meta-analysis (Bell, 2007) provide evidence on the importance of members' values that can benefit teamwork; this includes collective team orientation (Earley and Gibson, 1998; Oyserman, Coon and Kimmelmeier, 2002, Zhou and Shy, 2011).

Team members' collective orientation is an important factor for effective team performance (Wagner, 1995). Members' preference to function as part of a team is a culture-based value (Triandis, 1995). Collective orientation has been studied at the cultural level (Hofstede, 2001), but also as a factor influencing individual differences within team settings (Alavi and McCormick, 2007; Eby and Dobins, 1997; Kirkman and Shapiro, 2005). In fact, collectivist and individualist dimensions of culture represent sets of individuals' beliefs and values concerning the independence from and interdependence among other team members (Alavi and McCormick, 2007).

Furthermore, people high in collectivism orientation tend to put aside their own self-interest in deference to the interest of their group. Conversely, people low in collectivism (i.e., more individualistic orientation) tend to put forth and promote their own welfare over the interests of their group (Hofstede, 2001; Triandis, 1995).

Drawing on this logic, teams whose members have heterogeneous values will be more prone to experience concerns regarding difficulties in their interpersonal communication and, therefore, perceive a negative impact on integration and team performance (Stahl et al., 2010). Conversely, team-oriented members profit from group interactions and favor the pursuit of the group's interest, leading to improved team cooperation and performance (Alavi and McComick, 2007; Eby and Dobbins, 1997). Collectively oriented members will be more likely to prefer procedures that promote consensus and commonality (Earley and Gibson, 1998), subsequently they will be loyal to their in-group and pursue the group's aims instead of their own (Triandis, 1995). They will also promote the cooperation needed for effectiveness (Eby and Dobbins, 1997) and thus develop trust between members.

Conversely, in cross cultural project teams such as in our study, where students come from different countries of origin, the likelihood that their differences imply diverging values, attitudes and beliefs is huge. These dissimilarities might cause distinct social categorizations and lead to favoritism

towards similar in-group members and intolerance towards dissimilar out-group members (Guillaume et al., 2012; van Knippenberg et al., 2004). People also tend to hold stereotypes and behavioral expectations about others from different countries of origin. Members will categorize each other based on their provenance because they view in-group members as more trustworthy and willing to cooperate (Frazier, Johnson, Gavin, Gooty, and Snow, 2010). As a result, we expect that the greater the heterogeneity regarding team members' countries of origin, the greater the likelihood that different perspectives will appear and affect team performance.

The moderating effect of shared agreement among team members.

Consensus about collective team orientation can be understood as differences among members in their perceptions regarding the way teamwork should function. Minimal within-group dispersion represents a high consensus between members. High levels of dispersion regarding team members' collective orientation suggest the absence of a shared reality and, therefore, a greater likelihood of misunderstanding and subsequent decrease in team trust. These dispersion properties are seen as moderators that account for the differential effects of the mean levels of shared team orientation and team trust (e.g., Colquitt, Noe, and Jackson, 2002; Gonzalez-Roma, Peiro, and Tordera, 2002).

We expect that little consensus regarding team orientation will result in negative outcomes, or weaken the relationship between team trust and performance. Building on climate literature (Lindell and Brandt, 2000), we argue that consensus regarding team orientation has a moderating effect on the level of trust among teammates.

Therefore, we anticipate that teams will have different degrees of consensus about collective team orientation when they are composed of members from different countries of origin. For this reason we expect,

H1: Collective team orientation (mean team level) leads to team trust (mean team level).

H2: The consensus regarding team members' perceptions of collective orientation moderates the positive relationship between team orientation and team trust, such that, when consensus is high, the relationship is positive and, conversely, when consensus is low, this relationship is weakened.

H3: The consensus and the country-of-origin will moderate the positive relationship between the team's collective orientation and team trust, such that, when consensus is high and there is a low variability in countries-of-origin among members, the relationship will be positive and, conversely, when consensus is low and there is a high variability in countries-of-origin, this relationship is weakened.

Emergent Team Trust and Performance

Shared trust in a team setting provides the conditions for outputs to take place and it serves as a facilitator of work attitudes, perceptions, behaviors and outcomes (Dirks and Ferrin, 2001). It develops through repeated social interactions (Blau, 1964), and is based on an individual's expectations that others will behave in ways that are helpful or at least not harmful (McAllister, 1995). It encourages cooperative behavior among members by increasing their ability to work together (Ferrin et al., 2007). Beliefs about group members' trustworthiness can facilitate the building of trust even in diverse groups (McKnight, Cummings and Chervany, 1998).

Team trust has a significant influence on the individual's as well as the team's performance (Cohen, Ben-Tura and Vashdi, 2012; Mach, Dolan and Tzafrir, 2010). Trust enhances performance by increasing the efforts made, the positive attitudes, and cooperation among group members (Costa, 2003; Mannix and Jehn, 2004). Trust influences group performance as it increases members' efforts and dedication towards group achievements and their willingness to work cooperatively (Marks, Mathieu and Zaccaro, 2001; Mathieu et al., 2008; Simon and Stürmer, 2003).

We expect trust to play a mediator role in cross cultural project teams when the level of collective orientation is high. Trust will be easier to generate and sustain in forming a collective identity when members share similar values and cultural backgrounds, and that will affect team performance. Therefore, we hypothesize:

H4: Team trust will mediate the relationship between the team's collective orientation and performance such that the level of team orientation will be positively related to trust, and trust will be positively related to performance.

Team trust dispersion.

When consensus exists about team trust and trustworthiness among members, more positive attitudes and perceptions may occur; conversely, when disagreement exists, outcomes will be weakened (De Jong and Dirks, 2012). In keeping with this logic, we can determine four different configurations.

When trust dispersion is minimal within a team, members understand trust-related events in the same way, leading to more homogeneous impressions and expectations and members experiencing a shared degree of agreement (Chan, 1998; Lindell and Brandt, 2000). It follows that, when dispersion is minimal and the mean perception of trust is high, we would expect positive outcomes such as shared awareness of constructive interactions within group dynamics. Likewise, when dispersion is minimal and team trust is low, we would expect weakened or negative outcomes due to the fact that there will be a shared understanding that non-constructive interactions have been occurring within the team (De Jong and Dirks, 2012).

When team trust dispersion is relatively high within a team, members will experience ambiguity and uncertainty because their perceptions will reflect a lack of understandings among members (Simon and Stürmer, 2003). Thus, high trust dispersion may imply disagreement between teammates. It follows that, when dispersion and the mean perception of trust are both high, we should expect moderate positive outcomes, although disjointed understanding among teammates could be transformed into weakened outcomes over the short term. In the same vein, when trust dispersion and the level of team trust are low, this configuration may reflect inconsistent expectations, low social integration and poor group processes, thus damaging collective group outcomes (Simon and Stürmer, 2003). In contrast, when the agreement and level of trust are high, it is likely that performance will also be high. These hypothetical configurations and expected outputs lead to the following hypothesis:

H5: The consensus of team members' perceptions about team trust moderates the relationship between the levels of team trust and performance such that, when consensus is high, the relationship between trust and performance will be positive and, when consensus is low, this relationship will be weakened.

The moderating role of team members' configurations.

Readily detectable diversity attributes are associated with the self-categorization process (e.g., van Knippenberg et al., 2004), given that they can be estimated after brief interpersonal contact. Drawing on

the logic of social and self-categorization perspectives, easily distinguishable dissimilarities can play a social role in categorizing members into subgroups (McGrath, Berdahl and Arrow, 1995; Tsui, Porter and Egan, 2002) and will thus influence intra-team dynamics negatively and lessen performance (Harrison et al., 2002).

Given the mixed results of the demographic diversity domain (Horwitz and Horwitz, 2007; Joshi and Roh, 2009; van Knippenberg and Schippers, 2007), researchers have begun to explore other compositional patterns, such as team faultlines configurations (Jackson and Joshi, 2011). The diversity faultline is based on team members' demographic alignment along multiple attributes (Thatcher and Patel, 2011). Demographic faultline findings have been found to influence team processes and outcomes more than those findings found by examining demographic diversity single dimensions (Lau and Murnighan, 2005). This suggests that the structural configuration of diversity is an important constituent of team dynamics (Thatcher and Pattel, 2011).

The focus of the faultlines perspective is on the structure or configuration of team members' diversity attributes (Jackson and Joshi, 2011). Thus, the faultlines perspective stresses that dissimilarities among team members are most likely to have significant consequences when they cause the formation of distinct subgroups (Lau and Murnighan, 1998).

Given that individual differences are abundant in cross cultural project team compositions and that these differences may affect the level of trust among members, examining the factors that assist in lessening these effects is of special interest. Specifically, we expect that the existence of strong faultlines will have an intervening negative effect on team trust. Hence, we propose an interaction effect hypothesis:

H6: There is a three-way interactive effect of team trust (mean), diversity faultline and team trust (dispersion) on team performance, such that the relationship between team trust (mean) and team performance is stronger when consensus is high and diversity faultline is low.

We test a seventh hypothesis consisting of the overall conditional model (a moderated moderation mediation model) to capture the indirect effect of team collective team orientation, team trust, consensus among members and diversity configuration faultlines, where team orientation (dispersion) will moderate (together with country of origin) the indirect effect of team orientation (level) on team

performance through team trust (level). Furthermore, team trust (dispersion) will also moderate (along with the diversity faultline) the relationship between team trust and performance (second path of the moderation). Combining the above set of hypotheses, we depict the overall model in figure I: The cross cultural conditional model of trust.

Insert Figure 1 about here

Method

Sample and data collection

Our sample comprised 323 individuals in 73 diverse teams enrolled in both upper undergraduate and graduate programs in a business school at a major university in the United Kingdom. Students were randomly assigned to project teams, working on a mandatory ten-week project that counted for their final grade. Team projects were assessed by the instructor at the end of the course and consisted of an HR case assignment and a strategy game simulation.

Of the teams, 33 consisted of Master's level and 40 were final-year undergraduate students. Members' average age was 23.1 years (21.2 for undergraduates and 25.2 for Master's students). The standard deviation was 3.3; however, ages ranged from 19 to 43 among undergraduates, and from 21 to 40 among Master's students. 48.3% of the participants were female.

Members represented 30 different countries of origin (e.g., Western, Far East and African countries). Teams with four different countries-of-origin accounted for 13.7%; teams with three different countries, 34.2%; teams with two countries of origin, 33%, and 19.2% of the teams were composed of members from only one country of origin.

Team sizes ranged from four to six members ($X= 4.9$; $SD= 0.7$). Teams with four members represented 27.4% of the total; those with five members, 56.2%; and those with six members, 16.4%.

We collected data via survey during the second half of the team project, after a period of team interaction. The final response rate at the group level of analysis was 87.5%, a very high response rate (Baruch and Holtom, 2008). A minimum of three members had to respond in order for that team to be included in our study. Ten teams were dropped because only one or two members returned the questionnaires.

Team members provided information on demographic data, which we also gathered simultaneously from the University's administrative records for every member. This allowed us to double-check team diversity scores and adding the members' missing information (Allen, Stanley, Williams and Ross, 2007).

Measures

Dependent variable. Group performance. We measured this variable as the final objective measure of team performance. We collected data from an independent source a week after the project ended. In HR courses, it was measured by the overall final grade assigned to the group project (the quality of the written team assignment and its oral presentation). Meanwhile, in Strategy courses, each team's overall financial performance (cumulative wins and losses) was used to create a ranking and the team presentation scores were then added to compute the final grade on a 1 to 100 scale. We standardized and normalized the performance scores for each course to allow for comparisons across the performance scores.

Predictor variables. We employed validated multi-item scales aggregated at the team level. Respondents indicated to what extent they agreed with each statement on a seven-point Likert-scale ranging from 1 (strongly disagree) to 7 (strongly agree). To have an accurate picture of the phenomenon, we used a measure of central tendency (mean) and a measure of dispersion (standard deviation). As per the team diversity measures, we used Euclidean distance when aggregated at the team level, and we calculated the team faultline as well.

Collective team orientation (level). We measured this via a self-reported scale developed by Alavi and McCormick (2007). The 14 items capture collective orientation values among members; specifically, it assesses the level of members' self-perception as interdependent with and similar to the other teammates. A high score indicates a higher level of collective orientation. However, given the expectation of dispersion among members' values, we do not adopt Chan's (1998) consensus and referent shift models that mandate agreement among raters because these models treat dispersion among team members as an error variance (Chan, 1998; Harrison and Klein, 2007). Furthermore, direct consensus models have hidden the importance of dispersion in predicting work-related outcomes (Chan, 1998; Kirkman and Shapiro, 2005).

Cronbach's alpha reliability coefficient was 0.73, with a mean intra-class correlation $ICC(2)$ of 0.81, a mean of $ICC(1)$ of 0.50, and a mean $r_{wg(j)}$ of 0.45. These values show weak agreement among team member ratings as expected in a cross cultural context (Blise, 2000; Chan, 1998; Kirkman and Shapiro, 2005). Sample items included, "It is important for me to maintain harmony within the team" and "I would rather depend on myself than on other team members."

Collective team orientation (consensus). According to Chan (1998), dispersion is a group-level property consisting of team member variability. Consensus was operationalized as the standard deviation of the within group, cumulating squared distances between pairs of individuals. The higher scores represent greater dispersion, and zero implies that all team members' responses were identical.

Team trust (level). Members' perceptions of how much trust exists among their teammates were measured by nine items from the *Interpersonal Trust Questionnaire* developed by McAllister (1995). Higher scores represent a high level of team trust. Cronbach's alpha reliability coefficient was 0.88, with a mean intra-class correlation $ICC(2)$ of 0.80, a mean of $ICC(1)$ of 0.48 and a mean $r_{wg(j)}$ of 0.69. Sample items include, "If I share my problems with team members, I know they would respond constructively and caringly" and "Most of my teammates approach their task with professionalism and dedication."

Team trust (consensus). The trust consensus construct was operationalized as the standard deviation of the within group, cumulating squared distances between pairs of individuals. This index is based on the dispersion of data around the group-level means such that higher scores represent greater dispersion, and zero implies that all team members' responses were identical.

Team demographic diversity. We selected overt demographic characteristics such as age, gender, and country-of-origin heterogeneity with the assumption that, in the context of an international business school, these characteristics create divergent perceptions and interests. We then used the individual characteristics to create team-level statistical indicators to capture both the degree of heterogeneity present in every team and the faultlines strength.

We operationalized the team-level heterogeneity index as the separation between a group member and all of his or her peers on every specific demographic characteristic. We wanted to capture within-group differences among types of team composition. As suggested by diversity scholars (Harrison and

Klein, 2007), this operationalization of within-team diversity fluctuates from one member to another as it reflects how group members are distributed with respect to a demographic characteristic by capturing lateral differences and highlighting dissimilarity (Harrison and Klein, 2007).

To calculate the team ratio, we used the *Mean Euclidian Distance*: $\sum \text{sqrt} [\sum (S_i - S_j)^2 / n] / n$. This index averages the dyadic differences between each individual and all the other members within the group; high scores indicate greater distance between a person and the group. These calculations¹ were done for every member and for each demographic attribute. Likewise, this operationalization allowed for the transforming and considering of gender, age, and country-of-origin heterogeneity as if they were nominal variables. Finally, we computed all the scores for dissimilarities for each team (ranging from 0 to .99). Thus, a larger score indicated a greater difference in demographic characteristics within the team (Tsui et al., 1992).

Diversity faultlines configurations. We measured group faultlines along two overt demographic characteristics (age and gender). The strength of a diversity faultline quantifies the extent to which a given team is split into homogeneous subgroups (Lau and Murnighan, 1998). We used a new cluster-based method based on the Average Silhouette Width (ASW) (Rousseeuw, 1987). Given that the silhouette technique² combines the cluster's cohesion and separation, it overcomes the limitations of other current approaches (for a review of existing faultlines methods, see Glenz and Meyer, 2013).

Silhouette widths range from -1 to +1. Positive values for $s(i)$ show that the assignment of a person to his/her cluster is better than the assignment to other clusters. The closer the value of $s(i)$ is to +1 or -1, the stronger the association to the cluster, while values near 0 indicate an ambiguous association (Glenz and Meyer, 2013; Rousseeuw, 1987). Although ASW ranges from -1 to +1, its value is comparable to other methods that usually fall into the range from 0 to 1, because negative ASW values only occur for

¹ Specifically, to assess every demographic attribute, we assigned a value of 1 to the observed difference on a specific demographic variable between an individual and another group member, while non-differences were assigned a value of 0. Then, these differences were averaged across the number of people within the group (e.g., a male in a group of two males and three females would be assigned a value of 0 for being the same as the other male and 3 for being different from each of the three females).

² The ASW (Average Silhouette Width) represents a measure for the quality of a group's partitioning with reference to the within-subgroup homogeneity, the between-subgroup separation and the optimal number of clusters (Glenz and Meyer, 2013). Thus, the larger the numeric value of the faultline, the greater the strength will be in the in-groups. According to Rousseeuw (1987), the question of whether a person i in a clustered condition should be assigned to cluster A or cluster B is contingent on the silhouette width $s(i)$ of person i with respect to clusters A and B. This is given by the formula $s(i) = b_i - a_i / \max(a_i, b_i)$ where a_i defines the average dissimilarity of i to all cluster A, and b_i is the average dissimilarity of i and cluster B. (If there are more than two clusters, b_i is calculated as the minimal average dissimilarity to any cluster other than A as has been explained by Glenz and Meyer, 2013.)

predominantly misconfigured cluster solutions, while all solutions that fit better than random have an ASW value in the 0 to 1 range (Glenz and Meyer, 2013).

Control variables. To reduce the possibility of alternative explanations, we controlled for contextual variables such as the course to avoid bias from instructors' evaluations, and the team size because larger teams tend to have greater heterogeneity (e.g., Bantel and Jackson, 1989; Biemann and Kearney, 2010).

Procedures

To avoid problems associated with common method variance (Podsakoff, MacKenzie, Lee and Podsakoff, 2003) we used different data sources to evaluate input and output measures of team diversity and performance, and self-reported data to assess team dynamics and some of the control variables.

Before testing our hypotheses, we conducted preliminary analyses to check the measures' psychometric properties and their discriminant validity, followed by an assessment of the aggregation analyses. Then, we tested hypotheses at the team level of analysis ($n = 74$). We used the *PROCESS* macro for SPSS v.19 developed by Hayes, which assesses the moderated mediation effects³ (Hayes, 2013). A 10,000 bootstrap re-sample and a bias-corrected 95% confidence interval at each level of the moderator was used for the analyses (Preacher, Rucker, and Hayes, 2007).

Discriminant validity check. We conducted a Confirmatory Factor Analysis (CFA) with AMOS.21 to examine the distinctiveness of the scales for the endogenous constructs (team trust, and team collective orientation). Results indicate adequate fit to the data; chi-square, $X^2(309) = 702.88$; $p < .001$; root-mean squared error approximation (*RMSEA*) = 0.064; comparative fit index (*CFI*) = 0.840; and goodness of fit index (*GFI*) = 0.852). Additionally, we examined whether competing alternative models with fewer factors fit the data better; however, alternative models exhibited a poorer fit. Moreover, the chi-square difference test also corroborated this, indicating that the two-factor model yielded a better fit than the one-factor model ($\Delta \chi^2 = 853.11$; $\Delta df = 16$, $p < .001$), Measures are sufficiently divergent from one another to be considered separately.

³ *PROCESS* is a computational tool for path analyses-based moderations and mediation analysis as well as their combination as a "conditional process model" (Hayes and Preacher, 2013). In addition to estimating the coefficients of the model using ordinary least squared (OLS) regressions path analytical framework, *PROCESS* generates direct and indirect effects in mediation models, conditional effects in moderation models, and conditional indirect effects in moderated mediation models (Hayes, 2013). This macro also facilitates the recommended bootstrapping methods (Mackinnon, Lockwood, and Williams, 2004), and provides a means to probe the significance of the conditional indirect effect.

Aggregation at the team level. The aggregation of self-reported data raises special concerns (James, Demaree and Wolf, 1984). We averaged scores for the different team members into each group to adjust the analysis level to the focus of the unit under study. Team performance is a function, an aggregation of the efforts made by the entire team (Kozlowski and Ilgen, 2006). Therefore, we test our hypotheses at the team level.

 Insert Table I about here

Results

Means, standard deviations, reliabilities, and correlations at the group level are provided in Table II. Our findings reveal several significant relationships. As expected, trust has a positive relationship with performance (0.44, $p < .01$) and with collective team orientation (0.30, $p < .05$).

Due to the cross cultural origin of the sample, however, we hypothesized the non-agreement among team members. We tested this question by examining the corresponding analyses of variance F-statistic, the associated intra-class correlations (ICC) coefficients (Bliese, 2000), and the inter-rater agreement (IRA) index (James et al., 1984). Results show a weak agreement between team raters, confirming our contention that these constructs in cross cultural team contexts are an additive construct model (Chan, 1998), or a composition construct model (Bliese, 2000), and do not require agreement to justify aggregation (see Table I for a summary).

 Insert Table II about here

The direct effect of collective orientation on team trust and the moderating effect of collective orientation (consensus). Hypothesis 1 proposes the direct effect of collective team orientation (level) and team trust (level). As can be seen in Table III, the coefficient is 0.42, ($SE = 0.16$) and statistically different from zero ($p < .01$). Meanwhile, hypothesis 2 predicts that the effect of collective team orientation (level) depends on the consensus among team members. The coefficient for the product is -9.51 ($SE = 2.97$) and is also statistically different from zero ($p < .01$). The increase in variance due to the interaction is $R^2 = 0.0383$, $F(1, 61) = 5.206$, $p < .01$, corroborating the effect of both variables; that is,

the level and consensus of collective team orientation in predicting the team trust level. Thus, hypotheses 1 and 2 are supported.

 Insert Table III about here

The moderated moderation effect of collective orientation consensus and country-of-origin diversity. Hypothesis 3 predicts that country of origin moderates the interaction between collective team orientation (level) and collective orientation (consensus). The moderated moderation analyses (see Table IV) are statistically significant: $b = -4.039$, $t(61) = -2.28$, $p = .03$, meaning that there is evidence of a three-way interaction between the collective orientation level and consensus among members and country-of-origin diversity. In other words, the magnitude of the moderation of the effect of collective orientation by its consensus depends on country-of-origin heterogeneity. Furthermore, the three-way interaction explains a significant amount of additional variance (3.83% of the variance).

As shown in Table III, among those teams with “high” and “moderate” levels of country-of-origin heterogeneity (the mean and plus one standard deviation from the mean), the effect of collective team orientation is moderated by collective team consensus; *Effect* = -9.51 , $t(61) = -3.20$, $p = .01$; *Effect* = -15.44 , $t(61) = -3.11$, $p = .01$, respectively, but among those teams with “low” country-of-origin heterogeneity, there is no significant association, thus supporting hypothesis 3.

The indirect effect of team orientation through team trust. Hypothesis 4 predicts the mediation role of team trust (level) on the relationship between collective team orientation (level) and team performance. Carrying out a simple mediation analysis, we see that collective team orientation indirectly influences performance through its effects on team trust. The results detailed in Table IV show the collective team orientation’s influence on team trust ($a = 0.425$) and that of team trust on team performance ($b = 0.43$). A bias-corrected bootstrapping confidence interval for the indirect effect ($ab = 2.98$) based on 10,000 bootstrap samples was entirely above zero (0.61 to 6.28). Furthermore, there is no evidence that collective team orientation influences team performance independently of its effect on team trust ($c' = 0.54$; $p = .51$). This supports hypothesis 4 which predicts the mediating effect of team trust (see the estimates in Table IV).

 Insert Table IV about here

The three-way interaction of trust consensus and diversity faultline on the team trust and team performance relation. Hypothesis 6 predicts the diversity faultline's moderation of the team trust level and consensus interaction. The moderated moderation analyses (see Table IV) are statistically significant, $b = -4.017$, $t(61) = -2.25$, $p = .03$, meaning that there is evidence of a three-way interaction between team trust level and consensus among members, and the team faultline strength. This reflects the fact that the magnitude of the moderating effect of consensus on team trust depends on the diversity faultline. The three-way interaction accounts for a significant amount of additional variance: 4.12%.

As can be seen in the conditional bottom section in Table IV, among those teams with a "low" level of diversity faultline (minus one standard deviation from the mean), the effect of consensus on the level of team trust is slightly significant: $Effect = 45.28$, $t(61) = 1.81$, $p = .08$. However, for teams with "moderate" or "high" levels of diversity faultline, it is not moderate. As some researchers have commonly noted that interaction effects have small effect sizes and their tests of significance frequently suffer from low power, some scholars (e.g., McClelland and Judd, 1993; Mohammed and Angell, 2004) have recommended that significance levels be relaxed to $p < 0.10$ for interaction. We can thus concur with them as hypothesis 5 is also supported.

The overall conditional process model; the moderated moderation mediated model. Hypothesis 7 proposes exploring the overall test of the model; the indirect effect that is also moderated in both paths. We also tested this hypothesis using conditional process analyses (Edwards and Lambert, 2007; Preacher et al., 2007) and using model n. 48 from Hayes's PROCESS templates (Hayes, 2013). According to Hayes (2013: 346), "The individual effects are not necessarily of immediate interest or relevance. What matters is the estimation of the direct and indirect effects, for they convey information about how X influences Y directly or through a mediator and how those effects are contingent to moderators".

As can be seen in Table Va and Vb, both three-way interactions achieve a reasonable level of significance: the coefficient for collective team orientation (level and consensus) and country of origin is -2.42 , ($SE = 1.70$) and statistically different from zero ($p < .09$); while team trust (level and consensus) and diversity faultline is -124.8 , ($SE = 69.9$ and $p = .08$).

As can be seen in Table Vb, the conditional indirect effects of team orientation on performance at values of the four moderators suggest interesting results. Only one third of the potential combinations of conditional moderators reach significance (the 95% bias-corrected bootstrap confidence intervals for the indirect effects, based on 10,000 bootstrap samples, were entirely above zero). However, the direct effect was not statistically significant ($c' = -2,956$, $p = 0.36$), and there was no evidence that the collective team orientation level directly influenced performance, independently of its effects on trust, consensus and diversity configurations.

As these findings suggest, the overall model captures the effects of collective orientation (level), team trust (level), consensus among members, and diversity configuration faultlines, where team orientation dispersion will moderate (together with country of origin) the indirect effect of team orientation (level) on team performance through team trust (level). Additionally, team trust (dispersion) will also moderate (together with the diversity faultline) the relation between team trust (level) and performance (in the second path of the mediation). Specifically, we found that, among teams with lower team orientation dispersion (mean or minus one standard deviation), team orientation (level) has a positive indirect effect on team performance (see the estimates of conditional indirect effects in Table Vb). Hypothesis 7 is thus corroborated.

 Insert Table Va and Vb about here

Overall, these results support the hypothesized model where the effect of collective team orientation on team performance is mediated by team trust and moderated by team members' consensus and contextual diversity heterogeneity (the country of origin, and the team faultlines' configuration). The influence of the indirect effect of collective team orientation on team performance through team trust depends on consensus, the strength of heterogeneity, and demographic diversity, and faultlines' configuration.

Discussion and Conclusions

This research improve our understanding of the impact that team trust has on performance and examine how configurational contextual factors that relate to the team composition influence group dynamics

and outcomes. We tested the influence of team composition on team trust and performance in cross cultural project teams. Our findings demonstrate the conditional indirect effect of collective team orientation on performance through team trust, characterized by team consensus among fellow members, demographic diversity, and faultlines' configuration.

Our findings provide empirical evidence that corroborates our hypotheses: First, the influence of group member's collective orientation on performance has an indirect effect through team trust. Second, the hypothesized mediation relation is contingent on the consensus among team members. Third, we prove the existence of the moderated moderation role of demographic diversity (country-of-origin) and team faultlines' configuration in the effect of collective team orientation on performance; that is, the magnitude of the moderating effect of consensus on collective team orientation depends on the heterogeneity of the country-of-origin composition, and the magnitude of the moderating effect of consensus on team trust depends on the strength of faultlines' configurations (Hayes, 2013).

These empirical results contribute to further understand the impact of teams' structural configurations (Lau and Murnighan, 1998), the effect of within-team heterogeneity (Jackson and Joshi, 2011; Timmerman, 2000) and the antecedent role of team orientation, as well as the role of trust in helping a team function (Frazier et al., 2010). They also explain the performance variance among cross cultural project teams. Taken together, these findings have important theoretical and managerial implications for team management.

Team members' configurations and team trust

Within-group differences regarding the members' demographic attributes may provoke less antagonism if a shared meaning of teamwork exists (van Knippenberg et al., 2004). Our findings suggest that, the more shared the collective team orientation is, the lower the effect of the categorization mechanism. Hence, teammates will exhibit greater engagement to fulfil their goals and enhance overall performance (Alavi and McComick, 2007; Bui and Baruch 2012; Guillaume, van Knippenberg, and Brodbeck, 2014; van Knippenberg et al., 2004). The differences among members' assessments regarding collective team orientation are often below the level of consciousness; thus, some of their effects may not be easily recognized. For this reason, it is not only a question of low consensus or a

lack of awareness among members; some other background differences will also help to explain these misinterpretations, such as members' countries of origin.

Consistent with other researchers' empirical results (Costa, 2003), our study also shows that team trust mediates the relationship between team heterogeneity and performance (Marks et al., 2000; Williams and O'Reilly, 1998). Our findings corroborate the idea that team members may share a certain degree of consensus in their understanding of the team and the task at hand (van Knippenberg and Schippers, 2007; Zhou and Shi, 2011).

Theoretical implications. One of the important contributions of our research is further developing Chan's (1998) typology of composition models and adding complementary variables of the context (Johns, 2006). Treating dispersion as a team level construct does not entirely explain the added variance across teams because dispersion may appear at every level of the mean construct. However, adding a second contextual determinant variable helps provide a more accurate explanation of the phenomenon.

This study also contributes to the management field by providing empirical evidence of the moderating roles that team consensus, team heterogeneity and diversity faultlines' configurations play. We extend the theory of social identity and self-categorization theory (Tajfel, 1982; Turner, 1987) in cross cultural contexts. Likewise, team members' collective orientation works as a counter-mechanism in building team trust and allowing for successful team accomplishment. The combined impact of collective orientation consensus and members' backgrounds on performance as well as the role played by trust consensus and team configuration bring new approach to the field, explaining the hidden mechanisms that potentially influence cross cultural team projects.

Practical implications. These results may help practitioners better understand how the emergence of trust contributes to performance, and the importance of managing cross cultural teams to create the conditions under which trust and cooperation among members are likely to materialize. Managers can encourage interventions that strengthen interpersonal links to promote trust and shared meanings. We also provide further support to the contention that, within teams, trust helps the group function and overcome the effects of dissimilarities among its members. This, in turn, leads to better performance (McKnight et al., 1998; Schippers, Den Hartog, Koopman, and Wienk, 2003).

As for diversity within team configurations, our findings highlight the need to accommodate heterogenic compositions in order to have similar-enough members to work well together, and members who are diverse enough to bring a variety of perspectives and skills to the task (Guillaume, Dawson, Woods, Sacramento and West, 2013; Jackson and Joshi, 2011). Therefore, organizations should be cautious about their expectations from heterogeneous groups (Ely and Thomas, 2001) and invest in training to improve members' dedication, group cooperation and trust before looking to achieve significant results.

Strengths, limitations and future directions. Our study has strengths and limitations, both conceptual and methodological. The validation of our model has benefitted from strong empirical data that support and provide a theoretically consistent set of findings, although complementary models may shed further light on the matter. The number of constructs we employed was limited; however, we avoid problems of common method variance by collecting external measures of team performance and demographic characteristics.

Although the way we integrated the different measures of group diversity composition provides a more accurate picture of the phenomenon, a better refinement of indicators may be applied in future studies. This can be done specifically in terms of the boundaries of collective team orientation, the different compositions of countries of origin, and how cultural identity affects consensus, gender and age roles. The team-level of analysis offers a more coherent perspective with respect of the team functioning and the explanatory power. The sample size is high compared to earlier studies; however, a larger number of teams would allow for analyses that are more robust. The specific context of our study (cross cultural student project teams) may also have undermined external validity and limited the generalization of our findings. Future replication within organizational settings should be encouraged.

The effects of group diversity should be further explored (Biemann and Kearney, 2010). We also suggest further exploring team faultline configurations in terms of both measurement issues and new mediators or moderators. This will allow research to better capture the team composition heterogeneity and its effects on team functioning and outputs.

To conclude. Our findings add to the cross cultural research on culturally divers' teams by showing the combined effect of team configurations and team collective orientation on overall team

performance, and by exploring significant constructs such as team consensus, team trust, and diversity faultlines' strength to examine their conditional role in the process. Low consensus, dissimilarities to fellow team members, heterogeneous team configurations and strong faultlines lead to low levels of trust and team performance. This piece of research provides new insights potentially valuable for those practitioners managing in a cross cultural context.

References

- Alavi, S. B. and McCormick, J. (2007), "Measurement of vertical and horizontal idiocentrism and allocentrism", *Small Group Research*, Vol. 38, pp. 556-564.
- Allen, N. A., Stanley, D. J., Williams, H.M. and Ross, S.J. (2007), "Assessing the impact of nonresponse on work group diversity effects", *Organizational Research Methods*, Vol. 10, pp. 262-286.
- Ashleigh, M. and Prichard, J. (2012), "An integrative model of the role of trust in transactive memory development", *Group & Organization Management*, Vol. 37, pp. 5-35.
- Bantel, K. and Jackson S. (1989), "Top management and innovations in banking: Does the composition of the team make a difference?", *Strategic Management Journal*, Vol. 10, pp. 107-124.
- Baruch, Y. and Holtom, B. (2008), "Survey response rate levels and trends in organizational research", *Human Relations*, Vol. 61, pp. 1139-1160.
- Bell, S. T. (2007), "Deep-level composition variables as predictors of team performance: A meta-analysis", *Journal of Applied Psychology*, Vol. 92, pp. 595-615.
- Biemann, T., Cole, M. S. and Voelpel, S. (2012), "Within-group agreement: On the use (and misuse) of r_{WG} and $r_{WG(i)}$ in leadership research and some best practice guidelines", *The Leadership Quarterly*, Vol. 23, pp. 66-80.
- Biemann, T. and Kearney, E. (2010), "Size does matter: How varying group sizes in a sample affect the most common measures of group diversity", *Organizational Research Methods*, Vol. 13, pp. 582-599.
- Blau, P. (1964), *Exchange and power in social life*. New York: Wiley.
- Blise, P. D. (2000), "Within-group agreement, non-independence and reliability: Implications for data aggregation", in K.J. Klein & S.W.J. Kozlowski (Eds.), *Multilevel theory, research and methods in organizations* (pp. 349-381). San Francisco, CA: Jossey-Bass.
- Bowers, C. A., Pharmer, J. A., & Salas, E. (2000), "When member homogeneity is needed in work teams. a meta-analysis", *Small Group Research*, Vol. 31, pp. 305-27.
- Bui, H. T. M. & Baruch, Y. (2012), "Learning organizations in higher education: an empirical evaluation within an international context", *Management Learning*, Vol. 43, pp. 515-44.
- Byrne, D. (1971). *The attraction paradigm*. New York: Academic Press.

- Chattopadhyay, P. (1999), "Beyond direct and symmetrical effects: The influence of demographic dissimilarity on organizational citizenship behaviour", *Academy of Management Journal*, Vol. 42, pp. 273-87.
- Chan, D. (1998), "Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models", *Journal of Applied Psychology*, Vol. 83, pp. 234-246.
- Cohen, A., Ben-Tura, E. & Vashdi, D. R. (2012), "The relationship between social exchange variables, OCB, and performance: What happens when you consider group characteristics?", *Personnel Review*, Vol. 41, pp. 705 -731.
- Costa, A. C. (2003). "Work team trust and effectiveness", *Personnel Review*, Vol. 32, pp. 605-622.
- Colquitt, J.A., Noe, R.A. and Jackson, C.L., (2002), "Justice in teams: antecedents and consequences of procedural justice climate", *Personnel Psychology*, Vol. 55, pp. 83-109.
- Chrobot-Mason, D., & Aramovich, P. (2013), "The psychological benefits of creating an affirming climate for workplace diversity", *Group & Organization Management*, Vol. 38, pp. 659-689.
- De Jong, B. A. and Dirks, K. T. (2012). "Beyond shared perceptions of trust and monitoring in teams: Implications of asymmetry and dissensus", *Journal of Applied Psychology*, Vol. 97, pp. 391-406.
- Dirks, K. T. and Ferrin, D. L. (2001), "The role of trust in organizational settings", *Organization Science*, Vol. 12, pp. 450-467.
- Earley, P. C. and Gibson, C. (1998), "Taking stock in our progress on individualism-collectivism: 100 years of solidarity and community", *Journal of Management*, Vol. 24, pp. 265-304.
- Earley, P. C. and Gibson, C. B. (2008), *Multinational work teams: A new perspective*. New York: Routledge.
- Eby, L. T. and Dobbins, G. H. (1997), "Collectivistic orientation in teams: An individual- and group-level analysis", *Journal of Organizational Behavior*, Vol. 18, pp. 275-295.
- Edwards, J. R. and Lambert, L. S. (2007), "Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis", *Psychological Methods*, Vol. 12, pp. 1-22.
- Ely, R. J. and Thomas, D. A. (2001), "Cultural diversity at work: The effects of diversity perspectives on work group processes and outcomes", *Administrative Science Quarterly*, Vol. 46, pp. 229-273.
- Ferrin, D. L., Bligh, M. C. and Kohles, J. C. (2007), "Can I trust you to trust me? A theory of trust, monitoring, and cooperation in interpersonal and intergroup relationships", *Group & Organization Management*, Vol. 32, pp. 465-499.
- Frazier, M. L., Johnson, P. D., Gavin, M., Gooty, J. & Snow, D. B. (2010), "Organizational justice, trustworthiness, and trust: A multifoci examination", *Group & Organization Management*, Vol. 35, pp. 39-76.
- Glenz, A. and Meyer, B. (2013), "Team Faultlines measures. A computational comparison and new approach to multiple subgroups", *Organizational Research Methods*, Vol. 16, pp. 393-424.

- Gonzalez-Roma, V., Peiro, J. M. and Tordera, N. (2002), "An examination of the antecedents and moderators influences of climate strength", *Journal of Applied Psychology*, Vol. 87, pp. 465-473.
- Guillaume, Y. R. F., Brodbeck, F.C. and Rikketa, M. (2012), "Surface and deep-level dissimilarity effects on social integration and individual effectiveness related outcomes in work groups: A meta-analytic integration", *Journal of Occupational and Organizational Psychology*, Vol. 85, pp.80-115.
- Guillaume, Y. R. F., Dawson, F. F., Woods, S. A., Sacramento, C. A., and West, M. A. (2013), "Getting diversity at work to work: What we know and what we still don't know", *Journal of Occupational and Organizational Psychology*, Vol. 86, pp. 123-141.
- Guillaume, Y. R. F., van Knippenberg, D. and Brodbeck, F. (2014), "Nothing succeeds like moderation: A social self-regulation perspective on cultural dissimilarity and individual performance", *Academy of Management Journal*, on line first publication. doi:10.5465/amj.2013.0046
- Harrison, D. A. and Klein K. J. (2007), "What's the difference? Diversity constructs as separation, variety, or disparity in organizations", *Academy of Management Review*, Vol. 32, 1199–1228.
- Harrison D. A., Price K. H. and Bell M. P. (1998), "Beyond relational demography: Time and the effects of surface and deep-level diversity on work group cohesion", *Academy of Management Journal*, Vol. 41, pp. 96–107.
- Harrison D. A., Price K. H., Gavin J. H. and Florey A. T. (2002), "Time, teams, and task performance: Changing effects of surface and deep-level diversity on group functioning", *Academy of Management Journal*, Vol. 45, pp. 1029–1044.
- Hayes, A. F. (2013), *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hofstede, G. H. (2001), *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage.
- Horwitz, S. K. and Horwitz, I. B. (2007), "The effects of team diversity on team outcomes: A meta-analytic review of team demography", *Journal of Management*, Vol. 33, pp. 987-1015.
- Jackson, S. E. and Joshi, A. (2011), "Work team diversity", in S. Zedeck, (Ed.), *Handbook of Industrial and Organizational Psychology*, (Vol. I, pp. 651-686). Washington, DC: *American Psychological Association*.
- James, L. R., Demaree, R. G. and Wolf, G. (1984), "Estimating within-group interrater reliability with and without response bias", *Journal of Applied Psychology*, Vol. 69, pp. 85-98.
- Johns, G. (2006), "The essential impact of context on organizational behavior", *Academy of Management Journal*, Vol. 31, pp. 386-408.
- Joshi, A. and Roh, H. (2009), "The role of context in work team diversity research: A meta-analytic review", *Academy of Management Journal*, Vol. 52, 599-627.
- Kirkman, B. L. and Shapiro, D. L. (2005), "The impact of cultural value diversity on multicultural team performance", *Advances in International Management*, Vol. 18, pp. 33-67.

- Klein, K. and Kozlowski, S. W. J. (2000), *Multilevel theory, research, and methods in organization*. San Francisco: Jossey-Bass.
- Kozlowski, S. W. G. and Ilgen, D. R. (2006), "Enhancing the effectiveness of work groups and teams", *Psychological Science in the Public Interest*, Vol. 7, pp. 77-124.
- Langfred, C. W. (2007), "The downside of self-management: A longitudinal study of the effects of conflict on trust, autonomy and task interdependence in self-managing teams", *Academy of Management Journal*, Vol. 50, pp. 885-900.
- Lau, D. C. and Murnighan, J. K. (1998), "Demographic diversity and faultlines: The compositional dynamics of organizational groups", *Academy of Management Review*, Vol. 23, pp. 325-340.
- Lau, D. C. and Murnighan, J. K. (2005), "Interactions within groups and subgroups: The effects of demographic faultlines", *Academy of Management Journal*, Vol. 48, pp. 645-659.
- LeBreton, J. M. and Senter, J. L. (2008), "Answers to 20 questions about interrater reliability and interrater agreement", *Organizational Research Methods*, Vol. 11, pp. 815-852.
- Lindell, M. K. and Brandt, C. J. (2000), "Climate quality and climate consensus as mediators of the relationship between organizational antecedents and outcomes", *Journal of Applied Psychology*, Vol. 85, pp. 331-348.
- Mach, M., Dolan, S. and Tzafir, S. (2010), "The differential effect of team members' trust on team performance: The mediation role of team cohesion", *Journal of Occupational and Organizational Psychology*, Vol. 83, pp. 771-794.
- MacKinnon, D. P., Lockwood, C. M. and Williams, J. (2004), "Confidence limits for the indirect effect: Distribution of the product and resampling methods", *Multivariate Behavioral Research*, Vol. 39, pp. 99-128.
- Mannix, E. A. and Jehn, K. A. (2004), "Let's norm and storm, but not right now: Integrating models of group development and performance", in M. Neale, E. Mannix, S. Blount (Eds.), *Research on managing groups and teams* (Vol. 6, pp. 11-37). JAI, Greenwich, CT.
- Marks, M. A., Mathieu, J. E., Zaccaro, S. J. (2001), "A temporally based framework and taxonomy of team process", *Academy of Management Review*, Vol. 26, pp. 356-376.
- Mathieu, J. E., Maynard, M. T., Rapp, T. and Gilson, L. (2008), "Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future", *Journal of Management*, Vol. 34, pp. 410-476.
- McAllister, D. J. (1995), "Affect and cognition-based trust as foundations for interpersonal cooperation in organizations", *Academy of Management Journal*, Vol. 38, pp. 24-59.
- McGrath, J. E., Berdahl, J. L. and Arrow, H. (1995), "Traits, expectations, culture, and clout: The dynamics of diversity in work groups", in S.E. Jackson and M.N. Ruderman (Eds.), *Diversity in work teams: Research paradigms for a changing workplace* (pp. 17-45). Washington, DC: APA.
- McKnight, H. D., Cummings, L. L. and Chervany, N. L. (1998), "Initial trust formation in new organizational relationship", *Academy of Management Review*, Vol. 23, pp. 473-490.

- McClelland, G. H., and Judd, C. M. (1993), "Statistical difficulties of detecting interactions and moderator effects", *Psychological Bulletin*, Vol. 114, pp. 376-390.
- Mohammed, S. and Angell, L.C. (2004), "Surface- and deep-level diversity in workgroups: Examining the moderating effects of team orientation and team process on relationship conflict", *Journal of Organizational Behavior*, Vol. 25, pp. 1015–1039.
- Oosterhof, A., Van der Vegt, G. S., Van de Vliert, E. and Sanders, K. (2009), "Valuing skill differences: Perceived skill complementarity and dyadic helping behavior in teams", *Group & Organization Management*, Vol. 34, pp. 536-562.
- Oyserman, D., Coon, H. M. and Kemmelmeier, M. (2002), "Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-Analyses", *Psychological Bulletin*, Vol. 128, pp. 3–72.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y. and Podsakoff, N. P. (2003), "Common method biases in behavioral research: A critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88, pp. 879–903.
- Polzer, J. T., Crisp, C. B., Jarvenpaa, S. L. and Kim, J. W. (2006), "Extending the faultline model to geographically dispersed teams: How collocated subgroups can impair group functioning", *Academy of Management Journal*, Vol. 49, pp. 679-692.
- Preacher, K. J., Rucker, D. D. and Hayes, A. F. (2007), "Assessing moderated mediation hypotheses: Theory, methods, and prescriptions", *Multivariate Behavioral Research*, Vol. 42, pp. 185-227.
- Randel, A. E. and Jaussi, K. S. (2003), "Functional background identity, diversity, and individual performance in cross-functional teams", *Academy of Management Journal*, Vol. 46, pp. 763-774.
- Riordan, C. M. (2000), "Relational demography within groups: Past developments, contradictions, and new directions", *Research in Personnel and Human Resource Management*, Vol. 19, pp. 131–173.
- Rousseeuw, P. (1987), "Silhouettes: A graphical aid to the interpretation and validation of cluster analysis", *Journal of computational and applied mathematics*, Vol. 20, pp. 53-65.
- Schippers, M. C., Den Hartog, D. N., Koopman, P. L. and Wienk, J. A. (2003), "Reflexivity and diversity in teams: The moderating effects of outcome interdependence and group longevity", *Journal of Organizational Behavior*, Vol. 24, pp. 779-802.
- Simon, B. and Stürmer, S. (2003), "Respect for group members: Intragroup determinants of collective identification and group-serving behaviour", *Personality & Social Psychology Bulletin*, Vol. 29, pp. 183-193.
- Stahl, G. K., Maznevski, M. L., Voigt, A. and Jonsen, K. (2010), "Unraveling the effects of cultural diversity in teams: A meta-analysis of research on multicultural work groups", *Journal of International Business Studies*, Vol. 41, pp. 690–709.
- Tajfel, H. (1982), "Social psychology of intergroup relations", *Annual Review of Psychology*, Vol. 33, pp. 1-39.

- Thatcher, S. M. B., Patel, P. C. (2011), "Demographic faultlines: A meta-analysis of the literature", *Journal of Applied Psychology*, Vol. 96, pp. 1119-1139.
- Timmerman, T. A. (2000), "Racial Diversity, age, diversity, interdependence, and team performance", *Small Group Research*, Vol. 3, pp. 592-606.
- Triandis, H. C. (1995), *Individualism and collectivism*. Boulder, CO: Westview.
- Tsui, A. S., Egan, T. D. and O'Reilly, C. A. (1992), "Being different: Relational demography and organizational attachment", *Administrative Science Quarterly*, Vol. 37, pp. 549-579.
- Tsui, A. S., Porter, L. W. and Egan, T. D. (2002), "When both similarities and dissimilarities matter: Extending the concept of relational demography", *Human relations*, Vol. 55, pp. 899-929.
- Turner, J. C. (1987), *Rediscovering the social group: A self-categorization theory*. Oxford: Blackwell.
- van Knippenberg, D. and Schippers, M. C. (2007), "Work group diversity", *Annual Review of Psychology*, Vol. 58, pp. 515-541.
- van Knippenberg, D., De Dreu, C. K. W. and Homan, A. C. (2004), "Work group diversity and group performance: An integrative model and research agenda", *Journal of Applied Psychology*, Vol. 89, pp. 1008-1022.
- Wagner, J. A. (1995), "Studies of individualism-collectivism: Effects on cooperation in groups", *Academy of Management Journal*, Vol. 38, pp. 152-172.
- Williams, K. Y. and O'Reilly, C. A. (1998), "Demography and diversity in organizations: A review of 40 years of research", in B. Staw and R. Sutton (Eds.) *Research in Organizational Behavior*, (Vol. 20, pp. 77-140). Greenwich, C.T.: JAI Press.
- Zhou, W., Shi, X. (2011), "Special review article: Culture in Groups and teams: A review of the three decades of research", *International Journal of Cross Cultural Management*, Vol. 11, pp. 5-34.

Figure I.

The research model – The cross cultural conditional model of trust

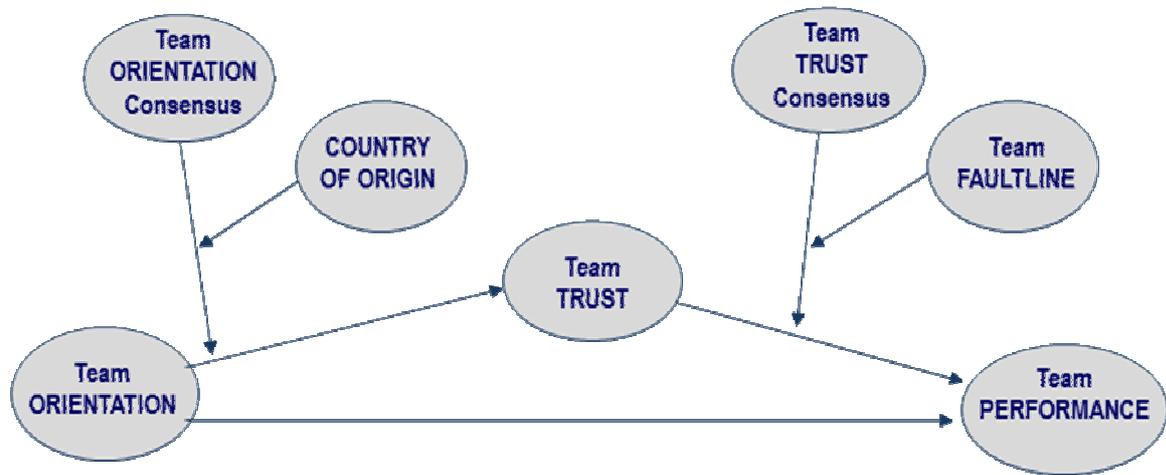


Table I.

Agreement statistics for team trust and collective team orientation

Measures	<i>r</i> WG(J) uniform					<i>r</i> WG(J) measure-specific							
	Mean	Median	SD	Range	Shape	σ^2_E	Mean	Median	SD	Range	F ratio	ICC(1)	ICC(2)
Team Trust	0.90	0.95	0.17	0.06 to 0.98	Moderate skew	2.14	0.69	0.85	0.35	0.21 to 0.98	4.88	0.48	0.80
Collective orientation	0.92	0.95	0.09	0.56 to 0.98	Moderate skew	2.14	0.49	0.67	0.41	0.20 to 0.97	5.17	0.50	0.81

Note. $r_{WG(J)}$ is reported because multi-item measures were used. *SD* = standard deviation of $r_{WG(J)}$ values; *Shape* = the alternative null distribution; σ^2_E = variance of the alternative null distribution. In line with LeBreton and Senter (2008, p. 832), variance estimations for measure-specific null distributions (i.e., moderate skew) were taken (Biemann et al., 2012, p. 71).

Table II.

Correlations and descriptive statistics at the team level

Variables:	1	2	3	4	5	6	7	
1. Team Objective Performance	–							
2. Team Collective Orientation (<i>level</i>)	.01	(.72)						
3. Team Collective Orientation (<i>consensus</i>)	.05	-.21 †	–					
4. Country-of-origin Diversity	-.26 *	.04	-.01	–				
5. Team Trust (<i>level</i>)	.43***	.30 **	-.01	-.25 *	(.91)			
6. Team Trust (<i>consensus</i>)	-.27 *	-.01	.05	.15	-.60**	–		
7. Team Faultlines ^a	-.20 †	.05	-.09	-.09	-.01	-.12	–	
	Mean	62.3	4.73	0.12	3.87	5.05	0.15	0.74
	SD	9.39	.33	.06	1.8	.56	.09	.22

Notes: $n = 73$ teams. Significant at: *** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .1$ (two-tailed).

The Cronbach alphas are shown in the diagonal.

^a Demographic team ratios (age and gender) were first calculated as dissimilarity.

Table III.

The moderated moderation results for each regression path

Moderated Moderations :		(1st path) as a function of team orientation (consensus) and country-of-origin			(2nd path) as a function of team trust (consensus) and diversity faultlines		
Consequent:		Team Trust (Y)			Performance (Y)		
<i>[Model 3]</i>		Coeff.	SE	P	Coeff.	SE	P
	Intercept	5.357***	0.45	.000	--	--	--
	Team Orientation (X)	0.42**	0.16	.009	--	--	--
	Team orientation – Dispersion (M)	-0.595	0.94	.528	--	--	--
	Country of origin (W)	-0.073 †	0.04	.093	--	--	--
	Two-way interactions:						
	(M * X)	-9.51**	2.97	.01	--	--	--
	M * W	0.080	0.14	.572	--	--	--
	(M * W)	-0.036	0.65	.956	--	--	--
	Three-way interaction:						
	(X * M * W)	- 4.039 *	1.77	.026	--	--	--
$R^2=0.552, F(11, 61) = 6.825^{***}, p < .000$							
<i>[Model 3]</i>	Intercept	--	--	--	77.63***	8.91	.000
	Team trust (X)	--	--	--	6.05 *	2.48	.018
	Trust dispersion (M)	--	--	--	- 1.34	18.34	.942
	Team faultline (W)	--	--	--	-9.17†	5.28	.088
	Two-way interactions:						
	(X * M)	--	--	--	10.27	21.31	.632
	(X * W)	--	--	--	1.25	10.47	.905
	(M * W)	--	--	--	-59.42	68.42	.389
	Three-way interaction:						
	(X * M * W)	--	--	--	- 136.8 *	69.47	.050
$R^2=0.351, F(11, 61) = 3.004^{**}, p < .01$							
Conditional effect of X * M interaction at values of W :							
Country of origin (W)				Faultline (W)			
		Effect	SE	P	Effect	SE	P
	-SD	-3.57	2.56	.17	45.28 †	25.07	.07
	Mean	-9.51**	2.97	.01	10.27	21.31	.63
	+ SD	-15.44**	4.97	.01	-24.75	30.20	.42

Notes. $n = 73$ teams. Significant at: *** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .1$; *Coeff.* = Regression coefficients in unstandardized form; *SE* = Standard error; *X* = Antecedent variable; *M* = Primary moderator; *W* = Secondary moderator; *Y* = Dependent variable. Control variables included as covariates were team size and course. Values for the quantitative moderator are the mean and plus / minus one SD from the mean. OLS - Ordinary Least Squares Regression. Results are based on 10,000 bootstrap samples.

Table IV.
Model coefficients for team trust simple mediation analyses

<i>Antecedents</i>	<i>Consequent</i>					
	<i>M (Team trust)</i>			<i>Y (Objective Team Performance)</i>		
	<i>Coeff.</i>	<i>SE</i>	<i>p</i>	<i>Coeff.</i>	<i>SE</i>	<i>p</i>
<i>X (Collective team orientation)</i>	0.425**	0.159	.01	-2.77	3.23	.395
<i>M (Team trust)</i>	—	—	—	6.99**	2.39	.001
<i>Constant</i>	3.41***	0.847	.001	59.9**	18.3	.01
$R^2 = 0.479$			$R^2 = 0.308$			
$F(7, 65) = 8.531^{***}, p < .001$			$F(8, 64) = 3.554^{**}, p < .01$			
<i>Total and Direct effects</i>					<i>Indirect Effect</i>	
<i>Effect</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Boot effect</i>	<i>Boot SE</i>	<i>Bias corrected and accelerated CI</i>
Total effect of X on Y	0.207	3.24	0.64	.949	2.98	1.42
Direct effect of X on Y	-2.77	3.23	-0.86	.395	{ 0.61 , 6.28 }	

Notes. $n = 73$ teams. Significant at: *** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .1$; *Coeff.* = Regression coefficients; *SE* = Standard error; *X* = Antecedent variable; *M* = Mediator; *Y* = Dependent variable. Control variables included as covariates were course, team size and dispersion variables. OLS - Ordinary Least Squares Regression. Results are based on 10,000 bootstrap samples.

TABLE Va.

Model coefficients for the conditional process model of trust – The moderated mediation model of collective team orientation (X) on team performance (Y) through team trust (M) at values of the four moderators

[Model 48]	Consequent:					
	M (Trust in Team)			Y (Objective Team Performance)		
Antecedents:	Coeff.	SE	p	Coeff.	SE	p
X (Team Orientation)	0.50*	0.20	.02	- 2.96	3.20	.36
M (Team Trust)	--	--	--	7.57**	2.50	.00
W (Team Orientation (dispersion))	-0.09	1.20	.94	--	--	--
Z (Country of origin)	-0.11*	0.05	.03	--	--	--
X * W	-5.42	3.77	.16	--	--	--
X * Z	0.19	0.15	.21	--	--	--
W * Z	-0.11	0.61	.86	--	--	--
X * W * Z	-2.92†	1.70	.09	--	--	--
Q (Team Trust dispersion)	--	--	--	2.87	18.3	.88
V (Diversity Faultlines)	--	--	--	-8.46	5.32	.11
M * V	--	--	--	3.54	9.93	.72
M * Q	--	--	--	13.3	21.0	.53
V * Q	--	--	--	-54.18†	67.9	.08
M * V * Q	--	--	--	-124.8†	69.9	.08
constant	-0.31	0.55	.57	78.2***	8.86	.000
C ₁ (Course)	-0.03	0.10	.80	-1.14	1.47	.44
C ₂ (Team size)	0.08	0.12	.52	-2.59	1.59	.10
	$R^2 = 0.226$			$R^2 = 0.329$		
	$F(9, 63) = 2.041^*$, $p < .05$			$F(10, 62) = 3.043^{**}$, $p < .00$		

Note. $n = 73$ teams. Significant at: *** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .1$ Coeff. = Regression coefficients in unstandardized form; SE = standard error; X = Antecedent variable; M = Mediator; Y = Dependent variable; W = Primary moderator first path; Z = Secondary moderator first path; Q = Primary moderator second path; V = Secondary moderator second path;
C = Controls. Values for quantitative moderator are the mean and plus/ minus one SD from the mean.
OLS - Ordinary Least Squares Regression. Results are based on 10,000 *bootstrap* samples.

Table Vb.

Conditional indirect effects for the conditional process model of trust

<i>Moderators:</i>				<i>Conditional indirect effects of X on Y at values of the moderators:</i>		
<i>Team Orientation (consensus)</i>	<i>Country-of-Origin Diversity</i>	<i>Team Trust (consensus)</i>	<i>Team Fault line</i>	<i>Effect</i>	<i>Boot SE</i>	<i>95% BCa Bootstrap CI</i>
-SD	Mean	Mean	-SD	5.685	3.01	0.96 to 13.38
-SD	Mean	+SD	-SD	9.009	4.52	1.76 to 19.93
-SD	Mean	-SD	Mean	5.480	2.42	1.66 to 11.84
-SD	Mean	Mean	Mean	6.457	2.93	1.71 to 13.73
-SD	Mean	+SD	Mean	7.434	4.14	1.06 to 17.91
-SD	Mean	-SD	+SD	8.600	3.72	2.81 to 18.45
-SD	Mean	Mean	+SD	7.229	3.68	1.44 to 16.88
-SD	+SD	Mean	-SD	10.113	5.05	1.75 to 22.65
-SD	+SD	+SD	-SD	16.027	7.66	3.75 to 34.74
-SD	+SD	-SD	Mean	9.749	4.36	2.96 to 21.20
-SD	+SD	Mean	Mean	11.486	5.02	3.05 to 23.86
-SD	+SD	+SD	Mean	13.224	7.09	1.98 to 30.66
-SD	+SD	-SD	+SD	15.299	6.94	4.44 to 33.14
-SD	+SD	Mean	+SD	12.860	6.58	2.31 to 29.55
Mean	Mean	Mean	-SD	3.346	1.92	0.43 to 8.35
Mean	Mean	+SD	-SD	5.303	2.78	0.91 to 12.23
Mean	Mean	-SD	Mean	3.226	1.65	0.63 to 7.39
Mean	Mean	Mean	Mean	3.801	1.87	0.85 to 8.52
Mean	Mean	+SD	Mean	4.376	2.50	0.61 to 11.02
Mean	Mean	-SD	+SD	5.062	2.43	1.17 to 11.20
Mean	Mean	Mean	+SD	4.255	2.30	0.73 to 10.50
Mean	+SD	Mean	-SD	5.572	2.81	1.14 to 13.12
Mean	+SD	+SD	-SD	8.831	4.06	2.50 to 19.50
Mean	+SD	-SD	Mean	5.372	2.63	1.24 to 12.19
Mean	+SD	Mean	Mean	6.329	2.79	1.70 to 12.98
Mean	+SD	+SD	Mean	7.287	3.72	1.38 to 16.48
Mean	+SD	-SD	+SD	8.430	4.01	1.97 to 18.51
Mean	+SD	Mean	+SD	7.086	3.65	1.34 to 16.58

Note. $n = 73$ teams. *Coeff.* = Regression coefficients in unstandardized form; *SE* = standard error; *Boot SE* = Bootstrap standard error; *BCa* = Bias corrected and accelerated; *CI* = Confidence interval; *X* = Antecedent variable; *M* = Mediator; *Y* = Dependent variable. Control variables included as covariates were team size and course. Values for quantitative moderators are the mean and plus / minus one *SD* from the mean. *OLS* – Ordinary Least Squares Regression. Results are based on 10,000 bootstrap samples. Only significant relationships were reported (CIs containing zero are interpreted as non-significant).