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Three Essays on Diversity-Performance Relationship from a Positive Psychology Lens

Manpreet Kaur
University of Wisconsin-Milwaukee

THREE ESSAYS ON DIVERSITY-PERFORMANCE RELATIONSHIP

FROM A POSITIVE PSYCHOLOGY LENS

by

Manpreet Kaur

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ABSTRACT

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by

Manpreet Kaur

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Workplace diversity is an incessant notion in today's world. Scholars have examined different aspects of diversity (e.g., demographic, cultural, and informational) in the context of varying processes and outcomes (e.g., satisfaction, innovation, creativity, and performance). Diversity has been proposed as a double-edged sword, but the overall effects of diversity have been inconclusive, necessitating the investigation of more contextual variables. Efforts have been made to focus on this paucity of diversity research, however, the emphasis has been on objective variables and the positive characteristics of an individual or a team are neglected.

Thus, the purpose of this three-essay dissertation is to address this gap by integrating the positive organizational behavior theme with the diversity literature. I aim to amalgamate positive psychology components in the diversity-performance relation and identify its fruitful effects. As a foundational step, the first essay offers insights on the extant patterns and research trends of diversity research at two levels – individual and team. In this comprehensive literature review, I analyze different variables used to investigate the effects of both, relational demography and diversity, on performance. The study highlights theoretical underpinnings, distinguishes the analytical approaches, and offers guidelines for future research.

In Essay 2, I theorize a multi-level model highlighting the direct and interaction effects of relational demography and positive psychology traits on individual outcomes. I propose that the detrimental effects of surface- and deep-level diversity on individual team members will be alleviated by the positive effects such as cultural intelligence and psychological empowerment at the individual-level and empowerment and psychological capital at the team-level. A longitudinal investigation of more than 480 participants constituting 139 teams at two major research universities provides evidence for the interesting effects of these positive traits. Results demonstrate that cultural quotient of an individual has a positive significant interaction effect on psychological empowerment and intrinsic motivation. Also, the level of psychological empowerment has a direct positive effect on the sense of thriving at work.

In a similar setting, in Essay 3 a team-level model is proposed to identify the effect of surface- and deep-level diversity with social integration and team learning. I investigate the interaction effects of collective psychological capital, team goal orientation, and team empowerment. Further, the direct effect of psychological capital and team processes on team performance is also analyzed. Findings from this study suggest that team goal orientation acts as a positive moderator for both social integration and team learning behavior. Likewise, team psychological capital has a positive interaction effect on the two team processes.

Overall, this dissertation highlights the importance of considering the positive psychological capacities of individuals to overcome diversity-related challenges. This research makes a critical contribution by including the unexplored positive psychological traits in the diversity literature and illustrating its virtues. Findings from the studies generate several fruitful implications for theory and practice. Future research directions are suggested.

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ACKNOWLEDGEMENTS

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Introduction to the Three Essays

Diversity is a global condition governing through its different dimensions, including race, gender, functional background, tenure, personality, values, to name a few, and is investigated from different perspectives in many contexts. Diversity has been researched for its effects at individual- and team-level. Some seminal contributions to the field are Harrison and colleagues' (1998) study where the authors propose the concept of surface-level and deep-level diversity and investigate its effect on group cohesiveness under the influence of time, proposing that time neutralizes the effect of surface-level diversity while it strengthens that of deep-level diversity. Another study is by Jehn and colleagues (1999) that explores three types of diversity (social category, informational, and value) for their effect on workgroup outcomes and the role of task type and task interdependence in this relationship. Next, Pelled, Eisenhardt, and Xin (1999) termed diversity as the black box and examine the relation between informational and demographic diversity and performance, mediated via conflict (task and emotional) and the role of task routineness.

Similar contributions are made to the relational demography literature (e.g., Jackson *et al.*, 1991; Tsui *et al.*, 1992; Riordan & Shore, 1997). Further, the diversity-performance relation has been explored in light of numerous contingency factors, such as subgroup status (Jackson *et al.*, 1991), supervisory support of equal opportunity (Vecchio & Bullis, 2001), group longevity (Pelled, Eisenhardt, and Xin, 1999), outcome interdependence (Schippers *et al.*, 2003), among others. However, virtually none of the studies explore how positive psychology can act as a contextual factor and possibly counteract the challenges posed by diversity; this gap exists for both individual- and team-level investigations.

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The purpose of my dissertation is to address this void by integrating different positive psychology variables in the diversity literature. I aim to view the diversity issues from a positivity lens and offer insights into how intrinsic psychological assets can help deal with such issues. This is important because the current state of diversity research exhibits a bias towards studying the negative effects of diversity more than the positive (Stahl *et al.*, 2010). This narrowed vision has restricted our understanding of aspects that illustrate the advantages of diversity. This need is further emphasized by a recent meta-analysis (Stahl & Tung, 2015) testifying that research on international business has a pervasive tendency to accentuate adverse outcomes associated with cultural differences more than the positive effects. Thus, to better understand the diversity-performance relationship from positive scholarship viewpoint, beyond what is explained by the current literature, I will conduct three essays.

The first essay is a comprehensive review of the relational demography literature over the past 26 years (1990-2015) comprising of empirical studies searched through multiple databases. Analysis of the reviewed studies provides the time graph and journal spread of the published literature. Key operational constructs are identified, theoretical underpinnings are distinguished and future research areas suggested. This review is replicated for diversity research at the team level. In Essay 2, I propose a multi-level empirical study that investigates the effect of surface- and deep-level perceived differences in individual performance, in light of different positive psychology virtues. Essay 3 has a similar theme with the team as the unit of analysis, additionally exploring the direct effect of collective psychological capital on team performance. In both essays, I investigate whether infusing positive psychology in diversity literature will offer its conventional benefits.

This dissertation makes several contributions to the extant literature on relational demography, diversity, and positive psychology. First, as part of the literature review process, I analyze the relational demography literature, which is a foundational step as there is a dearth of review studies that summarize research on the relational demography-performance link. This is a vital building block as relational demography has been investigated over the past few decades. However, there are no guidelines on the historical developments and the current state of research on the topic due to lack of a synthesized review. This void also hampers determination of research methodologies and identification of future research questions. Thus, the first essay should help find answers to some of these questions and pave the way forward.

Second, I integrate the diversity literature with that of positive psychology and offer a new lens to view and manage the challenges posed by diversity. I analyze its effects both at the individual- and team-level, thereby contributing to the relational demography and diversity literature. I also conduct a multi-level investigation, further supplementing the diversity effects at the individual level. Additionally, Positive Organizational Behavior (POB) has grown in the recent past. However, an exploration of its impact needs to be fine-grained. In an attempt to do so, I interweave these two diverse approaches and thus expand the positive psychology literature as well.

Third, for the empirical investigation at both the levels, I institute unconventional variables. This is a departure from the usual practice of using conflict, information sharing, communication, perceived similarity, to name a few, as mediating variables. The variables employed in the empirical analysis synchronize with the theme of positive psychology virtues and offer a fresh perspective to examine the diversity effect. Further, Psychological Capital (PsyCap) has been extensively explored in the recent years. However, a meta-analysis (Newman

et al., 2014) indicates that its role has not been scrutinized in the context of relational demography and diversity.

Finally, the effects of diversity are explained based on social identity theory (Tajfel & Turner, 1986), social categorization theory (Turner, 1987), and similarity-attraction paradigm (Byrne, 1971), asserting that people tend to group with similar others leading to the harmful effects of diversity. Further, some of its benefits are explained based on information processing theory. I introduce a new theoretical perspective to the diversity literature by employing the Conservation of Resources Theory (Hobfoll, 1989), Broaden and Build Theory of Positive Emotions (Fredrickson, 1998, 2001), Social Comparison Theory (Festinger, 1954), and motivation theories (Expectancy Theory; Vroom, 1964; Self-Determination Theory, Ryan & Deci, 2000). These are used to explain how individuals can utilize their positive intrinsic virtues to face and resolve challenges. To summarize, this dissertation broadens our research horizon of relational demography and diversity literature by introducing new theoretical viewpoints to the topic.

ESSAY 1

DIVERSITY-PERFORMANCE RELATIONSHIP: AN ASSESSMENT OF THE EXPLORED AND OVERLOOKED

Workforce around the world has become more diverse with the advent of globalization and fierce market competition. Companies group employees into teams from different backgrounds, knowledge, and skill-sets to increase their competitive advantage. Theoretically, managing work in teams with different talents seems to be an effective strategy, in practice, however, diverse teams pose numerous challenges and reduces performance. Although diversity at the workplace can create a positive synergy, the same heterogeneity can lead to issues related to satisfaction and emotions and behaviors, resulting in conflict (e.g., Vecchio & Bullis, 2001; Pelled *et al.*, 1999; Chattopadhyay *et al.*, 2010) and other similar issues. In spite of the benefits that diversity bears, research indicates that people prefer homophily (e.g., Goldberg, 2003; Lin *et al.*, 1992); thus, managing diversity and its effects is an arduous task.

Diversity has gained considerable attention over the past few years in both research and practitioner communities. This is evident from the increasing number of published research on the topic and organizations taking initiatives to accommodate and deal with the heterogeneous workforce. There are numerous ways in which diversity is conceptualized and operationalized and affects firms on various outcomes. This necessitates that literature on the topic is analyzed and summarized. To the best of my knowledge, there is one literature review on the topic (Riordan, 2000) which is a book chapter and was published over 15 years back. There is another study that is a recent review article (Shemla *et al.*, 2014) and offers a classification framework and meticulously synopsizes literature. However, its scope is narrowed to perceived diversity and objective diversity aspects are overlooked. This confines our understanding of concepts and

theoretical underplay and also limits research potential. Thus, a systematic or evidence-based approach is needed to overcome any perceived weakness and offer an updated and holistic framework. As in the words of Tranfield *et al.* (2003), undertaking a literature review to provide the best possible presentation for apprising theory and practice is a key research objective. Therefore, to summarize the work on the topic so far, I conduct two systematic literature reviews – one for relational demography research and second on diversity literature, for studies over the past 26 years (1990-2015). Over the course of time, several mediating processes and contingency factors are explored for possible participatory effects. Analyzing literature based on this review, key operational constructs are identified, theoretical underpinnings distinguished, common methodological approaches discerned, and future research areas recommended.

Relational Demography Literature

I will start the literature review with relational demography literature. Relational demography proposes that individuals compare their demographic characteristics with those of others in their work unit to determine if they are similar or dissimilar to the work unit regarding these traits (Tsui et al., 1992; Tsui et al., 1989). This level of similarity or dissimilarity with the work unit, in turn, is suggested to influence the individual's work-related outcomes. Some seminal works in relational demography area are as follows– first, Tsui and O'Reilly (1989) investigated demographic variables (age, gender, race, education, company tenure, and job tenure) in a supervisor-subordinate dyad. The authors found evidence that increasing dissimilarity in the dyad's demographic characteristics is associated with lower effectiveness, less personal attraction, and increased role ambiguity. Another study by Tsui and colleagues (1992) examine the effects of demographic diversity on organizations on an individuals' psychological and behavioral attachment to the organization. Findings of the study reveal that

work-unit diversity has a negative relation with the level of psychological attachment among group members. Next, Harrison and colleagues (1998) segregated individual characteristics and proposed the concept of surface-level (demographic) and deep-level (attitudinal) diversity to examine how time weakens the effect of former and strengthens that of later.

Relational demography is an important notion and is persistent in today's business world. The topic has received immense scholarly attention and continued to grow till date (e.g. Jackson *et al.*, 1991; Riordan & Shore, 1997; Pelled *et al.*, 1999; Schaubroeck & Lam, 2002; Chattopadhyay et al, 2004; Liao *et al.*, 2008; Avery *et al.*, 2012; David *et al.*, 2015), however, it is at a juncture where a review of its extant literature is needed to identify the current trends and offer future guidance. In the next section, I elaborate the article selection and inclusion criteria, followed by identification of key concepts, theories employed, analytical approaches used, and future research avenues.

Article selection and Inclusion criteria

I searched and selected articles from peer-reviewed journals published in English language using the following databases – ABI/INFORM Complete, ProQuest, EBSCO, Web of Science, JSTOR, PsycARTICLES, PsycINFO, and Science Direct. The keywords used were 'relational demography, similarity, and dissimilarity' in the title and 'culture/cultural' in the abstract of the study. Since this is a veteran topic, I restricted the search to the last 26 years, from January 1990 till December 2015. I further narrowed the search by reviewing all the titles of the resultant search, abstract and parts of the text where needed. For inclusion in the review, the study had to be an empirical investigation explicitly exploring the concept of relational demography as an antecedent or moderator. Further, the outcome had to be analyzed at the individual level; some studies on the topic have also been investigated at the dyad level and are

embraced in the review. Also, multi-level studies are incorporated as long as the outcome was at the individual level. With diversity being such an encompassing concept, related constructs such as diversity management, diversity climate, etc. are not included. The final search resulted in 93 studies from a vast spread of 31 journals.

Descriptive Information of Articles

Studies included in the review are drawn primarily from management journals but also from other disciplines such as human resources, industrial relations, inter-cultural studies, among others. Table 1 indicates the journal names and abbreviations used, and the journal wise count of articles published. This analysis indicates that majority of the studies (almost 61 percent) are published in seven journals, viz. Academy of Management Journal (10.75%), Group and Organization Management (6.452%), Journal of Applied Psychology (10.75%), Journal of Organizational Behavior (12.90%), Journal of Occupational and Organizational Psychology (7.53%), Organization Science (5.38%), and Personnel Psychology (6.45%), suggesting that these take the lead in research issues on the topic. The remaining articles are sporadically published in the spread of 24 journals, contributing between one to four articles over the time frame reviewed.

Insert Table 1 about here

Further, the time spread indicates a limited number of studies on the topic, with some years having no studies published (e.g., 1993, 1994). This does not imply that there was no related research, instead, reiterating that this review includes only empirical investigations, a

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viable explanation for the low count could be that since it was a nascent stage, the focus was more on theory building rather than theory testing. The graph (refer to Figure 1) indicates that the number of studies conducted in a year range from one to eight, and the trend line marks increasing attention to the topic. However, some studies in the last five years (2011-2015) has again lessened, highlighting the need for more research. Also, the maximum contribution on the topic in a year is eight studies, calling for further action. This can be achieved by expanding the scope of factors that are considered to have an impact and the depth to which new variables are integrated and explored about the existing perspectives.

Insert Figure 1 about here

Theories

An elemental aspect of reviewing literature is to establish the different theory(s) used to examine questions in the study. According to Wacker (1998), theory development is an essential requirement for the proper development of any field for three reasons: first, it provides a framework of analysis since it provides structure for where differences of opinions exist. Second, theory development provides an efficient method for field development by reducing errors in problem-solving by building on current theory. Finally, the theory is important as it provides clear explanations for the pragmatic world and offers guidance for applicability.

For the reasons above, I elucidate the fundamental theories used in relational demography literature first, which can be broadly classified into three groups. As Stahl and colleagues (2010) aptly summarize in their meta-analysis, the effect of diversity can be articulated in three

potentially opposing ways – first, according to *social identity theory* (Tajfel & Turner, 1986) and *self-categorization theory* (Turner, 1987), individuals perceive who they are based on their group membership and tend to categorize themselves and others into distinct groups, fostering in-group and out-group feelings. Such a modus operandi leads to biased treatment towards members of other group and favoritism towards own group members. Social identity theory also purports that people use group membership as a source to reduce uncertainty, enhance self-esteem, strengthen self-identity, and maintain a positive social identity through the self-categorization process. However, if individuals are dissimilar from coworkers, then they may withdraw from these groups to maintain a positive self-regard (David *et al.*, 2015). For example, a female may feel uncomfortable and in-confident working in a unit is comprising mostly men. In such a situation, she will readily become aware of the imbalanced structuring and, to maintain her social identity, be motivated to categorize herself with the few other females in the group, thus leading to self-categorization. Some of the issues explained and explored and explained by scholars using these elemental arguments are – effect of demographic diversity in organizations on an individual's psychological and behavioral attachment to the organization (Tsui *et al.*, 1992), association of relational demography characteristics of supervisor-subordinate with subordinates' perception of procedural justice and job satisfaction (Wesolowski & Mossholder, 1997), and influence of demographic dissimilarity on attitudes of women and minority employees as moderated by their dogmatism level (Chattopadhyay, 2003).

The second notional approach is the *similarity-attraction paradigm* (Byrne, 1971), which posits that people like and are attracted to others who are similar, rather than dissimilar, to themselves. This is a direct relationship, implying that the higher the level of similarity, the greater the attraction of individuals with similar others, and holds conversely that high level of

dissimilarity will lead to less attraction between individuals. This leads individuals to identify, trust, and interact more freely with others they find similar regarding social backgrounds or demographic categories, resulting in more cooperation with similar others. On the other hand, it impedes socialization processes with ones that are perceived dissimilar, ensuing in reduced work efficiency and more personal issues. This premise has been used to explain a variety of effects in literature such as recruiters' evaluation of applicants (Graves & Powell, 1995), directional and non-directional differences in a supervisor-subordinate dyad (Perry *et al.*, 1999), promotion decisions in different work unit cultures (Schaubroeck & Lam, 2002), and supervisor behavior and employee outcomes in terms of trust and organizational commitment when moderated by supervisor-subordinate demographic dissimilarity (Duffy & Ferrier, 2003).

These two perspectives are primarily employed to explain the detrimental effects of dissimilarity, because it makes social processes difficult between individual and group members, thus leading to challenges. The dominance of these philosophies in relational demography literature and their use for explaining the ill-effects of heterogeneity is explicit in the existent literature. The current literature review reveals that 73.1 percent of the studies (count – 70) use these theories, either in isolation or conjunction, to substantiate the arguments of their study. Some of the commonly posed challenges by dissimilarity as explained by these socialization theories are conflict (Pelled, 1996; Randel & Jaussi, 2008), commitment (Kirchmeyer *et al.*, 1995; Brown *et al.*, 2008), cohesion (Riordan & Shore, 1997), social integration (Van Der Vegt, 2002), and organizational and interpersonal deviance at work (Liao *et al.*, 2004).

The third germane premise in the diversity literature is *information processing theory*. However, it is not applied well in the relational demography literature. This theory asserts the benefits of diversity and expounds that it brings disparate skill sets and a broader range of

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information, which can be advantageous in task-oriented settings and facilitate outcomes such as innovation, problem-solving, and creativity. I will describe this theory in the diversity literature review, where it is more relevant. In the relational demography literature, however, there is a paucity of research on the benefits of heterogeneity at the individual level. There are very few studies that emphasize on the affirmative aspect of relational demography, for instance, Choi (2007) argue that differences in functional background and performance level, although a potential source of status differentiation, will motivate employees to demonstrate competency to their peers and supervisors, thus increasing creative effort. However, the authors argue that additional theoretical constructs are required to explain such positive effects. Another study conducted in a Mexican setup found that there is a negative association between tenure dissimilarity and task- and emotional-conflict (Pelled *et al.*, 2001). This variation in results may be attributed to a combination of Mexican culture elements and social psychology theories.

Besides the above listed three philosophies, there are some other intermittently used theories that provide validation in context to different effects of relational demography. For instance, the *attraction-selection-attrition model* (Schneider, 1987) emphasizes the role that personality similarity plays in determining organizational behavior and thus posits that individuals are attracted to organizations whose members are similar to themselves regarding personality, values, interests, and other attributes (attraction). Likewise, organizations are more likely to select those who possess knowledge, skills, and abilities similar to the ones their existing members possess (selection), as a result of this, over time, those who do not fit in well are more likely to leave (attrition). This model is used to explain interpersonal context regarding recruitment, promotion, and turnover (Jackson *et al.*, 1991), influence of rater-ratee personality similarity on peer ratings of work behaviors associated with performing work tasks (Antonioni &

Park, 2001), effect of time spent by group members and social integration (Van Der Vegt, 2002), and impact of relational demography on the adoption of negative behaviors such as absenteeism, tardiness, and turnover (David *et al.*, 2015).

Some studies have also based their arguments on *Leader-Member Exchange theory* (LMX; Bauer & Green, 1996). It is a relationship-based approach suggesting that personality similarity plays an important role in trust building and respect between the leader and follower, and the resultant quality of exchange in the dyad will influence subordinate's perceptions, decisions, access to resources, and performance. It has been used to offer a rationalization for investigating whether rater-ratee personality similarity influences peer rating of contextual behaviors (Antonioni & Park, 2001). Another study examines the role of mentoring to promote organizational commitment in black managers in light of LMX theory, arguing that leaders are likely to treat some subordinates as in-group members while others as out-group members, and the resulting exchange has an influence on mentoring outcomes, job satisfaction and affective commitment (Brown *et al.*, 2008).

Further, *Social Information Processing (SIP)* theory (Salancik & Pfeffer, 1978) has been sparsely used which proposes that individuals interpret behaviors as legitimate within a group based on the social and informational cues provided by one's group mates (Gellatly & Allen, 2012). It was developed as an alternative to needs satisfaction theory suggesting that individual's needs and perceptions of job characteristics are not fixed, rather influenced by the network of social and informational relationships in which a person is embedded. It has been used to identify whether the alignment of an individual or group absence is contingent on individual's similarity or dissimilarity with the group mates (Gellatly & Allen, 2012). There is another social information processing theory (Walther, 1996) that is an interpersonal communication theory and

explains how people interact with other people online without nonverbal cues and develop and manage relationships in a computer-mediated environment. It is based on principles in social cognition and interpersonal relationship development and argues that there is no difference between computer-mediated-communication and face-to-face (FTF) communication regarding the capability of social information exchange but rather in the rate of information transfer. It has been used to examine the consequences of demographic dissimilarity for group trust in virtual and FTF environment (Krebs *et al.*, 2006).

Some other sporadically used theories to explain contextual effects are socialization theory (Van Der Vegt, 2002), social exchange theory (Liao *et al.*, 2004), theory of reasoned action (Linnehan *et al.*, 2006), person-perception theory (Zellmer-Bruhn *et al.*, 2008), and affective events theory (Chattopadhyay *et al.*, 2010), *inter alia*.

Commonly used Constructs in Relational Demography Literature

In this section, I illustrate the commonly used variables that are examined to explore the main, mediating, or interaction effects of relational demography. These are relevant to comprehend the depth and breadth of the topic, and also as factors that can potentially influence the main effect. A theoretical model of the antecedents, mediators, moderators, and outcomes is presented in Figure 2, also highlighting the key theoretical underpinnings.

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Insert Figure 2 about here

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Antecedents

Constructs used in the relational demography literature as antecedents are broadly and commonly classified into one of these groups:

Surface-level diversity

It is defined as 'differences among team members in overt demographic characteristics' (Harrison *et al.*, 2002; pg. 1030). It is also usually referred to as 'demographic diversity' (Westphal & Zajac, 1995) or 'social category diversity' (Jehn *et al.*, 1999). This commonly includes not only physical features such as age, gender, race, and ethnicity but also informational characteristics such as organizational or team tenure (Tsui *et al.*, 1992), status (Elfenbein & O'Reilly, 2007), performance level (Choi, 2007), job titles (Jackson *et al.*, 1991), work experience (Zellmer-Bruhn *et al.*, 2008), educational qualification (Somech, 2003), functional background (Van Der Vegt *et al.*, 2003), and religion (Kirchmeyer, 1995), which are all labelled under this category. This is because these traits are more surface-level and thus easily identifiable, as opposed to deep-level diversity, as described next.

Deep-level diversity

It refers to 'differences among team members' psychological characteristics, including personalities, values, and attitudes' (Harrison *et al.*, 2002; pg. 1031). The commonly used variables under this grouping are personality, values, beliefs, and attitudes. Some examples in the way these have been operationalized are as follows: the Big Five personality traits (openness to experience, agreeableness, neuroticism, conscientiousness, and extraversion; Antonioni & Park, 2001), attitude towards workplace such as trust and organizational commitment (Duffy & Ferrier, 2003), turnover intentions (Cunningham, 2007), job satisfaction (Van Der Vegt, 2002),

or task relevance such as task meaningfulness and outcome importance (Harrison *et al.*, 2002), and values could be cultural, societal, or personal (Kim *et al.*, 2008). Some other deep-level variables examined are lifestyle (Liao *et al.*, 2008), behavioral style (Glaman *et al.*, 1996), and behavioral intentions (Linnehan *et al.*, 2006). As the name suggests, these are deep-rooted attributes and are hard to recognize and measure. These are identified over the course of time as individuals interact and communicate.

Furthermore, scholars sometimes employ the term 'cultural dissimilarity' in context to relational demography and it constitutes of attributes such as race, ethnicity, nationality (Guillaume *et al.*, 2014) at the surface-level and also cultural values at the deep-level (Schaubroeck & Lam, 2002). Additionally, some scholars focused on examining the benefits of similarity rather than the ill-effects of heterogeneity, and frequently used the term 'demographic similarity' (Lin *et al.*, 1992; Westphal & Zajac, 1995; Graves & Powell, 1995; Kirchmeyer, 1995) or 'perceived similarity' (e.g. Schmitt *et al.*, 1996; Strauss *et al.*, 2001; Brown *et al.*, 2008).

Outcome Variables

Most of the studies included in this review explore relational demography as a predictor, and its effect on various outcomes. These are broadly classified into two groups – work-related outcomes (factors that have a direct effect on the task or operational unit) and personal-outcomes (aspects that individual experiences and that indirectly affect the task or operational unit):

Work-related outcomes

Based on an analysis of the studies assessed in this review, work-related outcomes can be broadly classified into four groups – first, where outcomes are based on interview settings,

second, where extra-role behaviors are focused, third, when the constructs are specifically examined as performance of the task, and finally, the generic category that constitutes a variety of results. Although all these outcomes contribute to performance in some way, such a categorization helps identify themes in literature.

As mentioned above, a significant number of studies have investigated the effect of relational demography on interviews and recruitment processes (e.g. Lin *et al.*, 1992; Graves & Powell, 1995, 1996, Sacco *et al.*, 2003; Goldberg, 2005; Buckley *et al.*, 2007; Garcia *et al.*, 2008; McCarthy et al, 2010). Some of the related outcomes in these studies are interview ratings, evaluation of the applicant, selection decision regarding overall assessment and offer decision, hiring recommendation, and interviewers' ratings of applicant performance.

Another group of outcomes can be classified under Organization Citizenship Behavior (OCB) umbrella. OCB refers to employees' behaviors and attitudes that go over and beyond the role requirement to help co-workers and organizations achieve their goal (Chattopadhyay, 1999). These are discretionary behaviors that are not formally rewarded, but conducive for effective functioning. Some such constructs that are investigated are altruism and courtesy (Chattopadhyay, 1999), helping behavior (Oren *et al.*, 2012), loyal behavior (Van Der Vegt *et al.*, 2003), improving organization (Tsui *et al.*, 2002; Huang & Iun, 2006), and behaviors that benefit the organization and the individual (Loi & Ngo, 2009).

Next, performance is assessed based on research design of the study, i.e., if data is collected from a student sample using survey instruments or by conducting experiments, the grade offered by instructor or output of task performed in an experiment is reflective of performance (e.g., Loyd *et al.*, 2013; Guillaume *et al.*, 2014). On the contrast, if data was collected from real-life organizations, in most cases, supervisor ratings on different dimensions

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(job knowledge, quality and quantity of work, commitment to job, and overall job performance, among others) were generally considered a valid parameter for evaluating performance (e.g. Strauss *et al.*, 2001; Tusi *et al.*, 2002; Shore *et al.*, 2003; Randel & Jaussi, 2003)

Additional generic outcomes that have been evaluated are creative behavior (Choi, 2007), employee withdrawal in the form of tardiness or absenteeism (Avery *et al.*, 2012), turnover (Jackson *et al.*, 1991); cohesiveness (Riordan & Shore, 1997), conflict (Pelled *et al.*, 2001), social integration (Van Der Vegt, 2002), cooperative behavior (Chatman & Spataro, 2005), impression management (Barsness *et al.*, 2005), and organizational and interpersonal deviance (Liao *et al.*, 2004), among others.

 Personal outcomes

As mentioned earlier, these are the outcomes of relational demography that individuals perceive and experience and do not have an immediate effect on the result, however, is significant to the task or operational unit. A considerable number of studies have investigated these variables and some such constructs that have been reviewed are job satisfaction (Vecchio & Bullis, 2001), health (Hoppe *et al.*, 2014), cognitive deviation (Liang & Picken, 2011), employee behavioral reactions such as physical engagement and organizational deviance (Luksyte et al, 2015), trust in supervisor (Wilk & Makarius, 2015), organizational attachment in the form of psychological commitment and tenure intentions (Tsui *et al.*, 1992), social liking and co-worker preference (Glaman *et al.*, 1996), job security (Pelled *et al.*, 1999), and organization based self-esteem and attraction in workgroup (Chattopadhyay, 2003), inter alia.

Mediators and Moderators

As illustrated above, the effects of individual-level heterogeneity on different outcomes have been extensively explored. However, there are also several variables that have intervening and interaction effects on this relationship and are investigated. Some of the studies exclusively examine these mediating and/or moderating effects while others investigate these in conjunction with the main effect.

Studies illustrated formerly indicate that many scholars have observed the effect of relational demography in interview settings and have examined the role of several variables in this link. Some such factors are - interview format as structural or situational (Lin et al, 1992), subjective qualifications of applicant and interpersonal attraction (Graves & Powell, 1995), interview quality and subjective qualifications of applicant (Graves & Powell, 1996), interviewers' perceived similarity with applicant and interpersonal attraction (Goldberg, 2005), likability by raters (Schmitt *et al.*, 1996), and liking of applicant and perception of applicant's fit (Garcia *et al.*, 2008).

Some variables examined specifically in context of OCB, as explained earlier, are - peer attraction, trust, and organization-based self-esteem (Chattopadhyay, 1999), intra-team interdependence and team identification (Van Der Vegt *et al.*, 2003), supervisor perceived global similarity (Huang & Iun, 2006), Leader-Member Exchange (LMX; Oren *et al.*, 2012). Also, studies examining performance as the final output observed the effect of related mediating or moderating variables such as conflict (Pelled *et al.*, 1996), familiarity and liking (Strauss *et al.*, 2001), interpersonal affect (Antonioni & Park, 2001), supervisor facilitation (Pelled *et al.*, 2001), task- and goal-interdependence and team identification (Van Der Vegt *et al.*, 2003), minority or

majority membership on team (Randel & Jaussi, 2003), and performance monitoring (Guillaume *et al.*, 2014).

Further, other variables examined in context to the effect of relational demography are subgroup status (Jackson *et al.*, 1991), workgroup fit and job experiences (Kirchmeyer, 1995), supervisor support for equal opportunity (Vecchio & Bullis, 2001), time worked with supervisor (Vecchio & Bullis, 2001), LMX and rated performance (Schaubroeck & Lam, 2002), time and dissimilarity in attitude (Van Der Vegt, 2002), duration of acquaintance (Somech, 2003), level of dogmatism (Chattopadhyay, 2003), perceived organizational and co-worker support and organizational commitment (Liao *et al.*, 2004), remote work (Barsness et al, 2005), organizational culture (Chatman & Spataro, 2005), and mode of communication (Krebs *et al.*, 2006), among others.

Additionally, there is a set of studies that investigate the effect of relational demography variables not as antecedents but as mediators or moderators – demographic variables such as age, race or gender (Pelled & Xin, 1998; Barsness et al, 2005; Avery *et al.*, 2007; Stewart & Garcia-Prieto, 2008; Hekman *et al.*, 2010; Bell *et al.*, 2011; Avery *et al.*, 2013; Dumas *et al.*, 2013), education and tenure (Duffy & Ferrier, 2003), organizational tenure (Epitropaki & Martin, 1999), personality (Schaubroeck & Lam, 2002), attitudes (Van Der Vegt, 2002), ethnic identity (Linnehan *et al.*, 2006; Avery *et al.*, 2008), demographic team composition (Joshi *et al.*, 2006), perceived demographic similarity (Schmidtke, 2007), perceived deep-level dissimilarity (Cunningham, 2007; Liao *et al.*, 2008), deep-level (dis)similarity and culture (Kim *et al.*, 2008).

The above-listed variables elucidate that relational demography has been examined from a variety of aspects and in numerous contexts, either as a predictor, or having an intervening or moderating effect. This legitimates the significance of this topic. However, there is still an array

of themes that can be integrated with the existing content regarding new theories, barriers related to the topic in different disciplines, and new variables that can have a potential effect; these will be addresses in the upcoming section.

Analytical Approach

In this section, I will provide a review of the methodology used to explore the effect of relational demography characteristics on various outcomes, or how it has been explored as a mediator or contextual factor.

Euclidean distance is the most commonly used measure of heterogeneity in relational demography literature. It is also sometimes referred to as straight-line distance and is used to measure an individual's dissimilarity from the group. As Harrison and Klein (2007) suggest, mean Euclidean distance is a suitable interval-based scale and is apt for operationalizing separation-based diversity, which refers to differences in position or opinion among members of a unit, such as race, gender, opinions, and attitudes. It is one of the most popular approaches to measure dissimilarity and has been used by many scholars (e.g. Jackson *et al.*, 1991; Westphal & Zajac, 1995; Pelled, 1996; Riordan & Shore, 1997; Schaubroeck & Lam, 2002; Liao *et al.*, 2004; Avery *et al.*, 2013; Guillaume *et al.*, 2014). *Blau's index* is another heterogeneity measure that has been used in the relational demography research. According to Harrison and Klein (2007), it is appropriate for categorical scales and to operationalize variety-based diversity, referring to differences in functional background, content expertise, or industry experience. There are very few studies assessed is this review that practice the Blau's index (e.g., Jackson *et al.*, 1991; Garcia *et al.*, 2008; Bell *et al.*, 2011; and Liang & Picken, 2011).

To test hypotheses and analyze the main effects proposed, the customarily used statistical approach is a *regression* in some form. Out of the 93 studies in this relational demography literature, almost 67 percent (count – 62) use regression of some sort. For instance, multiple regression (Jackson *et al.*, 1991; Kirchmeyer, 1995), hierarchical blocked regression (Tsui *et al.*, 1992; Pelled, 1996; Pelled *et al.*, 1999), logit regression (Westphal & Zajac, 1995), polynomial regression (Wesolowski & Mossholder, 1997; Strauss *et al.*, 2001; Antonioni & Park, 2001), hierarchical moderated regression (Avery *et al.*, 2008; Brouer *et al.*, 2009; Hekman *et al.*, 2010), and ordinary least square (OLS) regression (Schaubroeck & Lam, 2002; Gevers & Peeters, 2009; Dumas *et al.*, 2013).

Structural equation modeling (SEM) is another statistical technique that is sometimes used to test the proposed relationships in the study. This review comprises of six studies that have employed SEM (e.g., Graves & Powell, 1995; Schmitt *et al.*, 1996; Graves & Powell, 1996; Cunningham, 2007; Liang & Picken, 2011; Oren *et al.*, 2012), spanning from the early 1990s to until recent times. *Hierarchical Linear Modeling* (HLM) is another technique that is gaining popularity as an analysis tool and is primarily used when the data is nested; it is also sometimes referred to as multi-level modeling. Almost 11 percent of the studies in this review (count – 10) used HLM to analyze data (e.g. Sacco *et al.*, 2003; Liao *et al.*, 2004; Joshi *et al.*, 2006., Choi, 2007; McCarthy *et al.*, 2010; Bell *et al.*, 2011; Avery *et al.*, 2013; Hoppe *et al.*, 2014; Wilk & Makarius, 2015; David *et al.*, 2015). Further, there are some scholars that although did not use HLM but conducted multi-level studies (e.g., Somech, 2003; Chattopadhyay *et al.*, 2004; Huang & Iun, 2006; Luksyte *et al.*, 2015). The studies listed signify that use of HLM in the relational demography literature has started recently and that there is a growing trend with heightened regard towards this new tool.

Future research agenda

In this essay, I provide a comprehensive overview of the relational demography literature offering brief descriptive information, highlighting fundamental philosophies, and identifying key research themes, and recognizing the analytical techniques employed. Findings illustrate that although there are many advances in the relational demography work in the recent years, still significant opportunities exist for scholars to examine and identify novel effects and outcomes. In this section, I present various suggestions for advancing work in relational demography research.

Literature review

As mentioned earlier in the study, to the best of my knowledge, there is virtually no literature review that collates, summarizes, and comprehends relational demography literature. Some studies have investigated the effect of specific variables of relational demography and their effect on performance. The effect of ethnicity on job performance has been examined by scholars in a meta-analysis (McKay & McDaniel, 2006; Roth *et al.*, 2003) and gender differences on job performance have been meta-analyzed in field settings, using direct, rather than indirect, measures (Roth *et al.*, 2012). There are also reviews that have attempted to bridge the workplace demography research by analyzing micro and macro theoretical domains and analyzing the effects of demography at multiple levels, such as individual, team, and firm (Joshi *et al.*, 2011). However, there is no holistic review examining multiple aspects of relational demography. This is an initial step to address this gap and while this review provides useful insights into the relational demography literature, it can be further extended by developing the analysis framework presented here. This could be in the form of including additional disciplines, practitioner activities, associated historical trends, and the form of content analysis. Researchers

can also independently classify the set of articles, include more journals, choose larger samples, and expand the time frame.

To exemplify, in the current review I have confined the selection of articles to empirical studies. However, there is a wide range of studies that contribute to conceptual understanding of the topic from a variety of perspectives. For instance, a study by Chattopadhyay *et al.* (2004) asserts that relational demography scholars have exploited social identity theory and self-categorization theory without fully incorporating their theoretical and empirical richness. To address this, authors construct a model including key concepts from these theories and derive propositions to examine whether dissimilarity in employee's demographics will positively or negatively influence their social identity. Likewise, there could be a rich resource of information that can enhance our understanding of the topic and offer new perspectives. Further, a meta-analysis could be conducted basing the literature search in this review. This will help establish statistical significance with studies having conflicting findings and offer a concise result.

Contemporary theories

As previously described, theories in relational demography literature primarily revolve around explaining the negative effects of heterogeneity (socialization theories and attraction paradigm). Some other foundational premises are also used, however, the scope is microscopic. It is crucial to expanding the theory base of relational demography literature because unless new notions are introduced and integrated, it is challenging to expand the research scope of any topic. It does not imply that the currently used theories are irrelevant. However, it suggests that the direction is limited. This suggests an unhealthy state for the proliferation of any research topic.

One such exemplary could be the use of *social comparison theory* (Festinger, 1954), which posits that human beings have an innate tendency to gain self-evaluations, for which they compare their qualities, such as opinions, abilities and backgrounds, with those of others. Festinger contended that the result of the comparison would generate a feeling of similarity or difference with other individuals, which can advance the process of self-enhancement. One study in this review (Liang & Picken, 2011) employed the social comparison theory, however, in the context of explaining that individuals will ignore employee theft based on their comparison of perceived similarity. On the contrast, it can be used in a constructive approach exhibiting the benefits of diversity. It can be argued that since individuals evaluate themselves based on abilities and backgrounds of others around them, this evaluation can lead to motivation of proving their competence and thus improving performance.

Another identified gap in relational demography underpinnings is the Broaden and Build Theory of Positive Emotions (Fredrickson; 1998, 2001), which posits that positive emotions broaden an individual's awareness and encourage novel thoughts and actions. This broadened thought-action repertoire help build personal resources such as skill-set or enhancing knowledge to perform the task. Additionally, as demonstrated earlier, the information processing theory has also not been exploited well to identify the benefits of individual-level dissimilarity. These opportunities offer some guidelines for expanding the theoretical base of relational demography investigation, further facilitating the expansion of its research horizon.

Novel variables

Earlier in the review, I discussed variables that are used as antecedents and outcomes, and those having to mediate and moderating effects. These can have comparable effects while exploring the same concept. This routineness of using the same set of constructs in research

limits our creative ability and confines the scope of problems as well as their solutions. For

instance, there are numerous studies that have explored the effect of relational demography on

socialization processes such as conflict (Pelled, 1996; Pelled *et al.*, 2001; Van Der Vegt *et al.*,

2003; Randel & Jaussi, 2008; Zellmer-Bruhn *et al.*, 2008; Tepper *et al.*, 2011; and Standifer *et*

al., 2013) and cohesiveness (e.g. Riordan & Shore, 1997; Goldberg *et al.*, 2010; McGinn &

Milkman, 2013). Exemplifying this does not by any means insinuate that these processes, or

other such variables, are not important. In fact, one reason for the multiple investigations is that

these are significant constructs, but the related findings have been inconsistent. However, beyond

a certain point, there is a need to recognize the requisite of new viewpoints on a topic and to

distinguish perspectives that can have a potential impact.

One such illustration is the integration of *Guanxi* in relational demography literature. In

Chinese culture, the term guanxi refers to the existence of direct particularistic ties between an

individual and others (Farh *et al.*, 1998). The authors relate the concept to relational demography

and investigate the effect of both the variables on the subordinate's trust in supervisor. Another

unconventional aspect integrated with relational demography is the physical well-being (lumbar

back health) of workers in a warehouse setting (Hoppe *et al.*, 2014). Additionally, a theoretical

concept was suggested by Fitzsimmons (2013) – the authors propose a new demographic called

'multicultural individuals,' referring to those who identify with two or more cultures and have

internalized associated cultural schemas.

These studies demonstrate the potential and viability of bringing together varied concepts

and discovering their consequences. This can be achieved by probing new cultural concepts

across different countries, and also borrowing notions from diverse disciplines. Also, the effort

should not only be restricted to conducting quantitative research but also building on new

theoretical conceptions. This will aid in expanding the scope of relational demography research

and delve into potentially newer outlooks.

Multi-level studies

Since this is a review of relational demography literature, most studies included are

conducted at the individual level of analysis. However, a multi-level modeling approach allows

increased precision in quantitative research and opens new methodological and conceptual

possibilities (Peterson *et al.*, 2012). These benefits of conducting a multi-level study are being

realized by scholars, some of whom are adopting this path and, in the process, exploring new

variables and concepts. Also, as discussed in the 'Analytical Approach' section based on the

studies in this review, the most commonly used tool for conducting multi-level studies is

Hierarchical Linear Modeling (HLM).

Some studies that are part of the current review examine a multi-level model of relational

demography, however, most of these are either at the supervisor-subordinate dyad level (e.g.

Huang & Iun, 2006; Somech, 2003), examine an interview setting for interviewer and applicant's

(dis)similarity reaction (e.g. Sacco, 2003), or conduct multi-level analysis because of nested data

(Luksyte *et al.*, 2015; David *et al.*, 2015).

There are a few studies that examine effects of relational demography at multiple levels

other than those listed above. However, these are few and intermittent. For instance, Joshi *et al.*

(2006) conduct a multi-level study to explore whether pay differences of sales employees vary as

a function of team composition and the demographic composition of managers in a work unit.

Another article (Gevers & Peeters, 2010) examines the individual level and team level effect of

dissimilarity in conscientiousness (a personality trait) on team member satisfaction, with the role

of team level mediators. Choi (2007) investigate the effect of individual-level dissimilarities as well as group-level membership heterogeneity on individual employees' creative behavior. Also, Hoppe *et al.* (2014) investigate the effect of demographic similarity in the workplace on job attitudes and employee well-being among warehouse workers. Having stated these examples, it is imperative to maintain that there have been calls for linking micro and macro (Hackman, 2003; Joshi *et al.*, 2006) in organizational research, there is a need for a similar focus in the relational demography area. These studies indicate that although scholarly work is reflective of the new technique, its full potential is yet to be explored and benefited.

A positive approach to diversity

As examined in the review, the focal point of most studies is to identify the negative effects of relational demography. Some who wish to seek the positive aspect focuses on the benefits of similarity, instead of negatives of dissimilarity, with the same underlying thought (e.g., Farh *et al.*, 1998; Foley *et al.*, 2006; Glaman *et al.*, 1996). Some articles that have examined the benefits of dissimilarity (Pelled *et al.*, 2001; Choi, 2007). However, these are scarce. This negative bias has been spotlighted by some scholars, such as Stahl *et al.* (2010), who assert that there is a 'problem-focused view' of (cultural) diversity that limits the theoretical perspective and considers dissimilarity as a liability more than an asset. The authors introduce the Positive Organizational Scholarship (POS) perspective as a step to diminish the preconception of diversity as detrimental and focus on the strengths and advantages instead.

A similar conviction is reinstated in another study (Stahl & Tung, 2015) that meta-analyzed literature and pinpointed that there is an imbalance in international business research leading to an inaccurate assessment of cross-cultural differences. This study also suggests the use of POS to overcome the dominance of negative over positive in theory and research. These

studies accentuate the need for incorporating a positive approach in the relational demography literature. Some other ways in which it can be achieved is by analyzing positive factors that might favorably influence relational demography effects. For instance, exploring the effect of motivation in a situation where personal differences are expected to hamper performance. There is substantial research around the effect of motivation on various task outcomes proposing that motivation increases productivity (e.g., Grant & Berry, 2011), however, it will be interesting to integrate it with relational demography literature and explore the results.

Likewise, there are many other positive psychology traits that can have potential benefits in dissimilarity situation. Further, this process of adopting a positive approach to viewing relational demography will benefit the field not only by providing a renewed perspective but also by offering a new direction to expand the research horizon of the topic.

Diversity Literature

In the previous section, I encapsulated relational demography literature and distinguished its elements. In this section, I will adopt a similar approach to discern diversity characteristics. Diversity has prevailed earlier than it was ceremoniously documented. However, the domain has gained increased interest in the past two decades and encompasses a wide range of research on a variety of phenomena. Workplaces are becoming increasingly diverse and this trend will continue in the future (van Knippenberg *et al.*, 2004). Further, organizations are gravitating to team formation for task completion and projects. This necessitates individuals from different social and functional background to work together, acting as an impetus to diversity-related issues. Diversity is commonly referred to like the differences among unit members concerning a common attribute, such as ethnicity and functional or educational background. Diversity has been defined in many ways and from various perspectives. To exemplify, Williams & O'Reilly

(1998, pg. 81) referred to diversity in a generic fashion as 'any attribute people use to tell themselves that another person is different', while Jackson *et al.* (2003, pg. 802) defined diversity from a workgroup level perspective as 'the distribution of personal attributes among interdependent members of a work unit'. Likewise, Joshi and Roh (2009, pg. 600) defined it as 'an aggregate team-level construct that represents differences among members of an interdependent workgroup concerning a specific personal attribute.' Further, Jackson and colleagues (2003) suggest that the body of research on diversity reflects two perspectives – first, compositional approach (Tsui & Gutek, 1999) that refers to the demographic composition of workgroup or organizations such as gender, ethnicity and have respective outcomes. Second is the configurational approach (Moynihan & Peterson, 2001), which assumes that either trait (dis)similarity or the mix of complementary traits within a group lead to performance effects.

Diversity has been extensively examined for its effects on various intervening processes and related outcomes. It has often been referred to as a 'double-edged sword' because of its contrasting consequences. Milliken and Martins (1996, pg. 403) note that 'diversity appears to be a double-edged sword, increasing the opportunity for creativity as well as the likelihood that group members will be dissatisfied and fail to identify with the group.' There are two primary conceptions on the effects of diversity - one tenet of diversity theory suggests that it offers a competitive advantage and is beneficial for organizations (e.g., Bunderson & Sutcliffe, 2002; Dahlin *et al.*, 2005). This is specific to information-based diversity where the line of reasoning offered is that variety regarding knowledge, information, and skill set is advantageous and can facilitate effective and efficient task completion. It is favorable for outcomes such as creativity (Hoever *et al.*, 2012), innovation (Chi *et al.*, 2009), and problem-solving (Watson *et al.*, 1993). The competing belief in diversity effects indicates that it has adverse effects and may hamper

performance (e.g., Jehn *et al.*, 1999; Ely, 2004). This is based on the social or value-based categorization proposing that variation in values or explicit differences of individuals, such as age, gender, and ethnicity, may lead to conflict (Jehn *et al.*, 1999), limit work group cohesiveness (Keller, 2001), and reduced satisfaction (Mohammed & Ringseis, 2001). However, some scholars (Ragins & Gonzalez, 2003) argue that there is a third perspective to diversity where it may not affect team outcomes. The authors argue that it is important to recognize that any relationship between team diversity and outcomes may be due to the underlying processes. Overall, it can be opined that diversity effects are inconclusive.

There are some seminal works in the area that offer guidance to understand diversity characteristics and propose distinctive nomenclature. Harrison and colleagues (1998) perceived heterogeneity beyond relational demography and proposed the concept of surface-level and deep-level diversity. As specified in the previous section, the authors examined the moderating effect of time on the two levels of diversity. This was followed by another study (Harrison *et al.*, 2002) where these concepts were further elaborated and moderating role of collaboration time on the relationship between diversity and team social integration was examined, and how it eventually impacts team performance. A subsequent pivotal study (Harrison & Klein, 2007) offers a unique diversity typology – separation, variety, and disparity. Separation refers to differences in position or opinion among unit members; variety indicates differences in the category of information, knowledge, or experience; and disparity denotes differences in social assets or resources such as pay and status. These classifications have been extensively used in succeeding studies, however, have faced criticism as well. For instance, Qin *et al.* (2014) in their review point that Harrison and Klein's (2007) typology is built on a simplistic assumption that

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team diversity exists in only one personal attribute (such as attitudes toward qualitative research, disciplinary background, or member prestige).

Further, there is a plethora of research on diversity in different contexts and terms of various outcomes. There are also many qualitative (e.g. Jackson et al, 2003; Joshi et al, 2011) and quantitative (e.g. Webber & Donahue, 2001; Horwitz & Horwitz, 2007; Joshi & Roh, 2009; Bell, Villado, et al, 2011) reviews on the topic that offer guidance and expand our understanding. This literature review supplements the expansive diversity literature by including the current literature base. In the next section, I discuss the article selection and inclusion criteria followed by descriptive information of the articles included in the review. I will further discuss the theoretical underpinnings, commonly used variables, methodological approaches to analyze data, and future research opportunities.

Article selection and Inclusion criteria

As described earlier in the relational demography section, English language peer-reviewed journals were searched from eight databases (ABI/INFORM Complete, ProQuest, EBSCO, Web of Science, PsycARTICLES, PsycINFO, JSTOR, and Science Direct) starting January 1990 through December 2015. The keywords used were 'diversity' in the title of study and 'team*, group* and culture*' in the abstract of the study. Other search criterions hold same as mentioned above for relational demography literature. The inclusion norms included empirical investigation of diversity-performance relation at the team-level. Since the term diversity is commonly used in other disciplines as well (e.g., biotechnology, microbiology), journals related to other areas were excluded and the search was confined to business journals. Further, studies related to top management teams were not included as their outcomes were often measured at the firm level (e.g., organizational financial performance). Also, diversity literature branches to the

concept of faultlines (hypothetical dividing lines based on individual attributes resulting in subgroup formation); related studies are not included in this review. The final search resulted in 96 studies spread across 37 journals.

Descriptive Information of Articles

Studies included in the review represent a broad array of business journals from fields such as engineering, sports, and industrial relations, but primarily from management. Table 2 demonstrates the journal names and abbreviations used, and journal wise count of articles published. Analysis indicates that 65.63% of studies are published in eight journals, viz. Academy of Management Journal (11.46%), Administrative Science Quarterly (5.21%), Group and Organization Management (9.38%), Journal of Applied Psychology (7.29%), Journal of Organizational Behavior (9.38%), Journal of Management (JOM; 5.21%), Organizational Behavior and Human Decision Processes (OBHDP; 7.29%), and Small Group Research (SGR; 10.42%). This suggests a similar trend as was evident for relational demography literature, with a variance of some journals such as JOM, OBHDP and SGR taking the lead in diversity literature, which is reasonable because some of these journals focus on organization or group level investigations. Further, Management Science and The International Journal of Human Resource Management have three studies each. The remaining articles are randomly published with mostly one study each in 27 journals.

Insert Table 2 about here

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Journals published over the time span offers supplementary information. The trend line (refer to Figure 3) shows that although some initial years had no relevant studies, later there is an increased focus on exploring diversity. As can be observed from the graph, some relevant articles published range from no studies to a maximum of 11 in a year, contributing to a total of 96 studies. As related in the previous section, a probable explanation for no studies during initial years counted in this review could be that there were no studies that matched the inclusion criteria of this review and thus are not mentioned here. This by no means implies that those studies are ineligible or irrelevant. For instance, Milliken and Martins (1996) examine the effects of different types of diversity in group composition at various organizational levels to identify common patterns. Investigations such as these enhance our understanding of issues like the link between diversity and outcomes such as turnover and performance, however, are not encompassed in this review as it is a conceptual study. Overall, it can be said that diversity-related research has proliferated over the past few years. However, there are still aspects that need more scrutiny which I will discuss in the future research section.

Insert Figure 3 about here

Theories

Theories are pedagogical and offer guidance in establishing relationships between variables and outcomes. As elaborated in the previous section, it is pivotal to pretext research with a foundational theory because of the benefits it offers. I will recapitulate the popularly used theories in diversity literature, which are broadly systemized into two categories – information

processing theories and social categorization theories. Based on these two premises, diversity is argued to be advantageous or disadvantageous. To expatiate, *social categorization theories* include social identity theory (Tajfel & Turner, 1986), self-categorization theory (Turner, 1987), and the similarity-attraction paradigm (Byrne, 1971). The fundamental grounding is that people have an innate tendency to identify with or get attracted to others that are similar to themselves, based on which they perceive differences resulting in developing stereotypes for others and categorizing themselves. In a team-level diversity, this categorization usually concludes in in-group out-group perspectives and prove to be detrimental for task and performance. This process accounts for the damaging effects of diversity and has primarily been investigated for diversity attributes such as age, gender, ethnicity, attitudes, and culture, *inter alia*.

On the other hand, *information processing* and *decision making theories* assess the effects of information distribution and expertise in teams, which facilitate decision making. The underlying rationale is that heterogeneity regarding knowledge, skills, and abilities have a positive impact on team performance. Information processing theory suggests that the nature of tasks impose cognitive resource base of the team with implications for the relevance of diversity attributes (Jehn *et al.*, 1999). Some group decision making theorists (Edward, 1954) assert that teams' need to use information fully and effectively to reach quality decisions and to persuade others about their decisions, whereas other scholars (Wegner, 1987) consider how teams process information by accessing, coding, storing, and retrieving information. Both these approaches treat information as an important contributor to team performance (Dahlin *et al.*, 2005). Some of the commonly used variables to explore this aspect are organizational or team tenure, functional background, educational level, skill sets, and experience level. These have been excessively employed in diversity literature to advocate the benefits of diversity (e.g. Schippers et al, 2003;

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Ely, 2004; Dahlin et al, 2005; Olson et al, 2007; Chi et al, 2009; Joshi & Roh, 2009; Kearney &

Gebert, 2009; Liang et al, 2010, 2012; Stahl et al, 2010; Mello & Delise, 2015).

Other than the two broad classification perspectives, there are supplementary paradigms

that are used and help explain diversity effects. First, *motivation theories* have been used by

scholars to explain how individual attributes such as motivation can encourage individuals to

share information either out of inherent goodness or with a common motive in scope. For

instance, Bunderson and Sutcliffe (2002) use expectancy theory (Vroom, 1964) to explain why

individuals would want to share information with teammates. The authors explicate that

expectancy theory is based on an individual's viewpoint towards the following dimensions:

expectancy (achievement of the expected outcome if the effort is exerted), instrumentality (the

reward that will follow the outcome), and valence (relevance of reward). Harrison *et al.* (2002)

also employed motivation theories to validate the relevance of task meaningfulness and outcome

importance. The authors also used interdependence theory and cooperation theory to elucidate

how the alignment of individual and team outcomes motivate members to collaborate, which in

turn enhances social integration.

Second, *categorization-elaboration-model* (CEM; van Knippenberg *et al.*, 2004)

integrates information and decision-making perspectives with social categorization approach to

team diversity and performance. The model incorporates mediator and moderator variables to

explain the interaction between the two processes because of which social categorization based

intergroup biases disrupt the elaboration of task-relevant information and perspectives. It has

been used by scholars to explain aspects such as the moderating role of team member goal

orientation in cultural diversity and team performance link (Pieterse *et al.*, 2013), relevance of

perspective taking to foster team creativity (Hoever *et al.*, 2012), interaction between diversity

beliefs and diversity training and how it affects team creativity (Homan et al, 2015), among

others (c.f. Chi et al, 2009; Schneid et al, 2015).

As described in the previous section for relational demography, the *attraction-selection-attrition model* (Schneider, 1987) has been employed in diversity literature as well. Scholars

have adopted it to explore issues such as with-in team value diversity concerning team processes

and team performance (Woehr *et al.*, 2013) and the moderating role of shared leadership on the

informational diversity and entrepreneurial team performance relationship (Zhou *et al.*, 2015).

Some studies have also applied the *social network theory* (Burt, 1992), also referred to as social

capital theory (Jackson & Joshi, 2011). This paradigm posits that unique knowledge sources can

be more valuable than knowledge sources shared by everyone. Diversity allows team members to

span different networks; these collective relations allow teams to leverage complementary

resources and sets of information. This process engenders trust and cooperation among team

members, and thus influence team performance. Scholars have employed it to examine the effect

on performance improvement if members of a structurally diverse work group involved in

external knowledge sharing (Cummings, 2004). It has also served as an underlying rationale to

the assumption that higher levels of functional diversity and internal social capital enhance the

performance of nascent entrepreneurial teams (Weisz *et al.*, 2010). Some studies have used it to

explain and distinguish various configurations of structured team processes and their effects on

team outcomes (Troster *et al.*, 2014). Additionally, it has assisted understanding of how the

interaction between network structure and cultural diversity impacts team's confidence in its

ability and team performance.

Some other occasionally utilized theories are - inter-group competition theory (Jackson &

Joshi, 2004), exchange theory (Harrison et al, 2002), theory of intergroup relations and status

characteristics theory (Ely & Thomas, 2001), social network theories (Cummings et al, 2004; Weisz et al, 2010), contingency theory (Joshi & Roh, 2009), transformational leadership theory (Kearney & Gebert, 2009), LMX theory (Stewart & Johnson, 2009), social entertainment theory and contract theory (Huckman & Staats, 2011).

Commonly used Constructs in Diversity Literature

In this section, I illustrate the often-used variables in diversity literature. Diversity has been explored as an antecedent and also as a moderator in some studies, and its effects have been examined on a variety of outcomes. A theoretical model (refer to Figure 4) summarizes key diversity literature variables and highlight the frequently used underlying theories.

Insert Figure 3 about here

Antecedents

There are different typologies to classify constructs in the diversity literature, for instance surface-level and deep-level diversity (Harrison et al, 2002), configural or compositional properties (Kozlowski & Klein, 2000), task-related and relations-oriented attributes (Jackson et al, 1995), and more recently separation, variety, and disparity (Harrison & Klein, 2007). Although all these classifications have been utilized by scholars and variables identified in this review relate to all the typologies in some fashion, I will use Jackson *et al.*'s (2005) nomenclature because it best suits to explain the diversity effects as advantageous or detrimental, as narrated earlier.

Relations-oriented diversity

It refers to diversity in readily perceived attributes that may shape interpersonal relationships but usually do not have a direct effect on performance (Jackson et al, 2003). Some of the commonly used relation-oriented diversity variables that have been employed and operationalized in literature are – gender (Rumery et al, 1996; Zhang & Hou, 2012; Hoogendoorn et al, 2013), age (Wegge et al, 2008; Kearney et al, 2009; Sakuda, 2012), ethnicity (Lobel et al, 1996; Sargent & Sue-Chan, 2001), cultural diversity (Watson et al, 1993; Watson et al, 1998; Stahl et al, 2010; Pieterse et al, 2013; and Maderer et al, 2014), and national diversity (Gibson & Gibbs, 2006). On the other hand, there are some novel variables that can be classified under relations-oriented diversity but are not used often, such as language-based diversity (Kulkarni, 2015), national stereotypes and social distance (Ayub & Jehn, 2014), social category diversity (Jehn et al, 1999), diversity beliefs (Homan et al, 2007), and diversity of perspectives (Hoever et al, 2012).

Studies exemplified above exclusively examine the listed construct. However, majority studies investigate most of these variables together under the diversity umbrella. From the studies cited in this review, a total of 31 articles (32.29%) investigate at least one variable of relations-oriented diversity and 34 articles (35.42%) investigate at least one construct of both relation-oriented and task-oriented diversity.

Task-oriented diversity

It reflects diversity attributes that likely to be related to knowledge, skills and abilities needed in the workplace and may have (in)direct effects on performance. Some of the commonly used task oriented diversity constructs in the studies cited for this review are – informational

diversity (Jehn et al, 1999), functional diversity (Pelled et al, 1999; Keller, 2001; Bunderson & Sutcliffe, 2002), education level (Schippers et al, 2003; Jehn & Bezrukova, 2004; Dahlin et al, 2005), tenure – organizational/team (Schippers et al, 2003, Ely, 2004, Jackson & Joshi, 2004), cognitive diversity (Olson et al, 2007; Martins et al, 2012; Mello & Delise, 2015; Mohammed & Ringseis, 2001), and knowledge diversity (Liang et al, 2007; Han et al, 2014).

Some unique task-related diversity variables cited are – diversity in goal orientation (Pieterse et al, 2011), knowledge sharing (Cummings et al, 2004), role diversity (Batenburg et al, 2013); polychronicity diversity (Mohammed & Nadkarni, 2014), inter-personal diversity (Huckman & Staats, 2011), temporal diversity that relates to time urgency, pacing style, and time perspective (Mohammed & Nadkarni, 2011), international experiential diversity (Ruigrok et al, 2011), and diversity in need for achievement (Khan et al, 2015). Further, analysis of articles cited in this review indicate that task-oriented variables are less explored relative to relations-oriented variables, where the former are solely studied in 22 articles (22.92%) and as previously mentioned, 34 studies examined variables from both the domains.

Outcome Variables

Former reviews have identified and segregated diversity related outcomes in several ways. For instance, Jackson et al (2003) in their review classified diversity outcomes as affective, process, and performance related. Another review (Jackson & Joshi, 2011) categorizes diversity consequences as affect or attitude, behavior, and performance. These are all applicable and suitable taxonomies, however, for this review, I segregate diversity in accordance with the antecedent classification and trends in literature which state that diversity effects are either beneficial or deleterious. As previous research indicates, relations-oriented antecedents are

expected to have negative outcomes whereas task-oriented variables should benefit the end result. Consistently, I classify outcomes as either helpful or harmful.

Helpful outcomes

As the name suggests, diversity effects that are conducive for work unit are labelled as helpful outcomes. Diversity research suggests that task-oriented constructs such as information diversity and different functional backgrounds benefit the work unit. Some common positive outcomes based on the studies included in this review are – problem solving (Watson et al, 1993), information sharing (Bunderson & Sutcliffe, 2002), performance (Bunderson & Sutcliffe, 2002; Keller, 2001; Mohammed & Nadkarni, 2011; Pieterse et al, 2011), decision outcomes (Olson et al, 2007), innovation (Chi et al, 2009), group creativity (Giambatista & Bhappu, 2010; Han et al, 2014), product quality (Liang et al, 2010), and group effectiveness (Curseu et al, 2012; Mello & Delise, 2015). A distinctive outcome cited is cognitive consensus, which refers to coherence on conceptualization of key matters (Mohammad & Ringseis, 2001). In general, majority of studies operationalize helpful outcomes in terms of performance.

Harmful outcomes

Harmful outcomes are the contrast of previously explained helpful outcomes, implying that diversity consequences that are detrimental for work units are listed under this category. It is commonly referred that relations-oriented diversity measures have damaging effects on intervening processes and end results. The frequently used variables to operationalize these results are – group cohesiveness (Keller, 2001; Harrison et al, 1998; Watson et al, 2002), performance (Jehn et al, 1999; Harrison et al, 2002; Kulkarni, 2015), work group functioning (Ely & Thomas, 2001), team innovation (Gibson & Gibbs, 2006), satisfaction (Vodosek, 2007),

and task and relationship conflict (Woehr et al, 2013). An exception to relation-oriented diversity outcomes is presented by Hoever et al (2012). The authors argue that a wider pool of perspectives forms a resource from which team can potentially benefit, thus leading to increased team creativity. Similar to helpful outcomes, harmful outcomes are also mostly operationalized in context to performance.

Further, studies investigating both task-oriented and relations-oriented measures have mixed effects indicating advantages of task-oriented diversity and disadvantages of relations-oriented diversity. Also, previous reviews have summarized that more than a half the studies report null effects of diversity on team outcomes, and this pattern appears to be similar for both relations-oriented and task-oriented diversity measures (Jackson *et al.*, 2003; Joshi et al, 2011), suggesting that indeterminate assertion about diversity effects prevail.

Mediators and moderators

Diversity has been investigated extensively over the last two decades in context to many outcomes and intervening variables, however, results have primarily been inconclusive. Many qualitative and quantitative reviews (e.g. Webber & Donahue, 2001; Jackson et al, 2003) have been conducted to consolidate findings and identify themes, all of which have their unique contributions. However, scholars have gravitated towards the role of contextual variables to explain diversity effects. It is evident from a vast variety of contexts utilized, as I will describe next. Additionally, Joshi and Roh (2009) explicitly advocate the relevance of contextual variables in their meta-analysis and identify team-interdependence and team-type as the two team-level diversity contexts that can enhance or minimize relation-oriented and task-oriented diversity effects on team performance.

Many scholars have presumed *time* to have a remedial effect on the ill-effects of diversity. Scholars argue that as members of a unit spend more time together, stereotypes diminish and underlying virtues surface and are recognized. There are some studies included in this review that have explored interactive effect of time directly (Watson et al, 1993, 1998, 2002; Harrison et al 1998; Mohammad & Angell, 2004) while others have viewed it from different aspects such as collaboration time (Harrison et al, 2002), and group longevity (Pelled et al, 1999; Schippers et al, 2003).

Many scholars have utilized common *mediating processes* such as – task and relationship conflict (Jehn et al, 1999; Pelled et al, 1999; Liang et al, 2007; Olson et al, 2007), cohesion (Sargent & Sue-Chan, 2001; Shapcott et al, 2006), communication (Keller, 2001), information sharing or elaboration (Bunderson & Sutcliffe, 2002; Homan et al, 2007; Kearney et al, 2009), social integration (Harrison et al, 2002), creativity (Stahl e al, 2010), coordination (Zoogah et al, 2011), and cooperation (Lee et al, 2014; Liang et al, 2015). Transactive Memory System (TMS; Seong et al, 2015) and professional identity salience (Mitchell & Boyle, 2015) are some of the unique interactive variables employed to explain diversity effects.

Another set of contextual variables is specifically related to *task characteristics* such as task type (Howard & Brakefield, 2001); task complexity (Jehn et al, 1999; Horwitz & Horwitz, 2007; van Dijk et al, 2012), task routineness (Pelled et al, 1999), and task interdependence (Jehn et al, 1999; Timmerman, 2000; Sargent & Sue-Chan, 2001; Horwitz & Horwitz, 2007). There is also a study that examines outcome interdependence as a moderator (Schippers et al, 2003).

Also, *team characteristics* have a role to play in the diversity-performance relationship. Some of the explored variables are – team type as lower/top management (Webber & Donahue, 2001; Horwitz & Horwitz, 2007; Bell et al, 2011), team size (Wegge et al, 2008; Horwitz &

Horwitz, 2007), team orientation (Mohammad & Angell, 2004), temporal team cognition (Mohammed & Nadkarni, 2014), and work group context (Jehn & Bezrukova, 2004). Some scholars have also considered team climate to have an influence, for which psychological safety (Gibson & Gibbs, 2006; Martins et al, 2012) and interactional justice climate (Buengeler & Hartog, 2015) are measured among the articles cited.

Next, since it is a team level review, it involves supervisor or manager interface and hence related *leadership traits* will have an impact. Some of the analyzed variables in the context are – transformational leadership (Kearney & Gebert, 2009), Leader Member Exchange (LMX; Stewart & Johnson, 2009), team temporal leadership (Mohammed & Nadkarni, 2011), shared leadership (Zhou et al, 2015), and intercultural experience of supervisor (Maderer et al, 2014).

Some other intermittently used constructs to facilitate understanding of diversity role are – job stress (Keller, 2001), openness to diversity (Hobman et al, 2004), open mindedness norms (Mitchell & Boyle, 2015), competence based trust (Olson et al, 2007), social context (Jackson & Joshi, 2004), study setting – field vs. lab (Bell et al, 2011), pre-discussions (Sawyer et al, 2006), goal orientation (Pieterse et al, 2013), and reflexivity (Pieterse et al, 2011).

There are a few studies that examined different diversity attributes not as antecedents but as moderating variables – Cummings (2004) examined moderating role of structural diversity in terms of geographic location, functional assignment, reporting manager, and business unit, on the knowledge sharing-performance relation. Further, interactive effect of gender diversity with group efficacy on group effectiveness has been explored (Lee & Farah, 2004). Other studies have examined cultural diversity or diversity in general and how it influences the main effect (Groves & Feyerherm, 2011; Troster et al, 2014; Homan et al, 2015). Also, informational diversity

(Wang, 2015) and organizational tenure diversity (Poel et al, 2014) are investigated for interactive effects on performance.

Analytical Approach

In this section, I will summarize common approaches suggested and used to examine heterogeneity in teams. Further, I will discuss methodologies that have been commonly used to conduct hypotheses testing.

There are two popularly used heterogeneity measures in the diversity literature – *Blau's index* (1977) is commonly used to measure categorical diversity attributes such as race or gender. Another popularly used measure is *Techman's (entropy) index* (1980). According to Harrison and Klein (2007), both these measures are apt for categorical data and suggest measuring heterogeneity of variety-based diversity. For continuous demographic variables such as age or tenure, the predominant approach has been using the coefficient of variation, which is the ratio of the standard deviation of the demographic attribute in the work unit to the mean of the attribute in the work unit (Joshi et al, 2011). Harrison and Klein (2007) suggest its use for disparity-based diversity.

The most commonly used investigative approach to analyze data is different forms of *regression*. A total of 62 studies (64.58%) used some type regression. For instance, moderated hierarchical regression (Harrison et al, 1998; Mohammed & Angell, 2004), hierarchical regression analysis (Jehn et al, 1999; Sargent & Sue-Chan, 2000); Ordinary Least Square regression (Pelled et al, 1999; Hoogendoorn et al, 2013), regression analysis (Keller, 2001; Timmerman, 2000; Mohammed & Ringseis, 2001), mediated regression (Bunderson & Sutcliffe, 2002; Vodosek, 2007), ordered logit analysis (Cummings, 2004), multiple regression (Hobman

et al, 2004, Olsen et al, 2007), generalized least square regression (Dahlin et al, 2005), logistic regression (Sawyer et al, 2006; Huckman & Staats, 2011), and clustered regression analysis (Troster et al, 2014).

Other than regression, there are some analysis techniques that have common applicability in relational demography and diversity literature and have been explained earlier. One such analysis tool is *structural equation modeling* (SEM; Liang et al, 2007, 2010; Zhang & Hou, 2012; Lee et al, 2014, Seong et al, 2015, and Mitchell & Boyle, 2015). *Hierarchical Linear Modeling* (HLM) is another technique that is gaining popularity and is applied for data analysis. It has been used in some studies included in this review (e.g. Jackson & Joshi, 2004) and is primarily employed to investigate multi-level models or nested data.

Unlike relational demography literature, *(Multivariate) Analysis of Variance* ((M)ANOVA) has been substantially used in diversity literature. 9.38% (9 studies) have used ANOVA or MANOVA or both to analyze data. Some of these are Phillips and Loyd (2006), Homan et al (2007), and Zhang and Hou (2012). *Experiments* were conducted in a total of 14 studies (e.g. Mohammed & Ringseis, 2001; Sawyer et al, 2006; Pieterse et al, 2011, Hoever et al, 2012; Homan et al, 2015) contributing for a significant 14.58% of reviewed articles. Measures used in experiments were either pre-established scales or tailored based on the experiment task conducted. Since this review examines only empirical studies, quantitative reviews as *meta-analysis* meet the inclusion criteria and thus are encompassed. There are seven meta-analysis reviewed in this study (7.29%; e.g. Webber & Donahue, 2001; Horwitz & Horwitz, 2007; Joshi & Roh, 2009; and Stahl et al, 2010).

Future research agenda

In this section of the essay I reviewed diversity literature and attempted to identify patterns with respect to theoretical underpinnings, commonly used variables, and analytical approaches. Although diversity research has grown exponentially over the past few years and encompassed novel perspectives, there are still areas that are lacking focus and warrant regard. Most of the research avenues suggested for relational demography literature are applicable to diversity research as well. For instance, expansion of the current literature review framework, adoption of multi-disciplinary theories, identification of new variables to realize potential impacts and offer explanations of diversity effects and shunning our biased approach towards diversity by adopting a positive approach. I also suggested to conduct multi-level research, however, I am going to discuss it again in reference to diversity research as it involves a different perspective. Additional recommendations for diversity research advancement are listed next.

Virtual teams

In the current state of globalization virtual teams are de facto and thus cannot be ignored. Organizations have global footprints and their employees are constantly exposed to new cultures. This is not only limited to diversity in nationalities but also within organizations where employees from different locations work together on a project or task. Virtual teams have been examined extensively from many aspects and across different disciplines. However, only one study cited in this review examine diversity in real virtual teams (Peters & Karren, 2009) and another (Giambatista & Bhappu, 2010) that used student sample, indicating a potential gap.

Examining diversity in virtual teams should also offer a new learning dimension, broaden our understanding, and lead to inclusion of new variables. For instance, communication in virtual

teams is facilitated by various technology modes and identifying their interactive effects would be interesting. One study included in this review (Giambatista & Bhappu, 2010) examines the role of computer mediated communication (CMC) in diversity-creativity relationship and was conducted in a controlled environment. Trust is explored as a moderator for functional diversity-performance rating relationship in another study examining virtual teams (Peters & Karren, 2009).

There is a foundational premise that social and status influences are more likely to pervade in face-to-face interactions than in technology mediated interactions, since the latter is more depersonalized (Jackson & Joshi, 2011). Scholars have contrasted these two settings to examine the nature and extent of participation. General findings while examining aspects in these two situations are that social inhibitions will be reduced during CMC. However, some research shows that mode of communication does not alter basic processes related to status dynamics and social influence, and these effects are existent in CMC as during face-to-face communication (Martins et al, 2004). Further, Weisband and colleagues (1995) assert that though social context is relatively weak in computer interaction, stereotypes exist if communicating members know each other's status. Contrary to intuitive wisdom and some research, these findings suggest that diversity effects will be no different for virtual teams as they are in face-to-face teams, however, it needs to be investigated to draw any conclusions.

Multi-level Research

A multi-level research can be conducted in various contexts and offers additive value in terms of new ideas and analysis techniques. It can be conducted in different forms, such as a cross-level effect model that specifies the direct or moderating effect of a higher-level construct on lower level outcomes or a mixed determinants model, which specifies the effects of multilevel

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determinants on a lower level outcome (Joshi et al, 2011). Scholars have realized the importance of research at multiple levels and developed and discussed typologies for multilevel models (c.f. Klein et al, 1994, Edward & Lambert, 2007). Some commonly used analysis tools for multi-level models are hierarchical regression and hierarchical linear modeling, of which the latter is gaining importance.

The team level effects of diversity on performance can potentially be impacted by a range of variables such as organizational culture, diversity climate, diversity training, to name a few. Since these broader concepts are not included in this review, I do not warrant that there are no studies that explore the effect of these notions on team level diversity and performance. However, team level empirical studies have rarely focused on integrating the effect of these higher-level constructs. One such study included in this review that explores the team level effect in light of multi-level conceptions is by Jackson and Joshi (2004). The authors hypothesize three moderating effects of social context on team diversity and team performance relationship, which are diversity dimensions within a team, demographic characteristics of the team manager, and demography of the work unit; the authors used HLM to test hypotheses.

Executing multi-level research is more challenging relative to single-level approaches, in terms of both analysis and sampling. This could be a probable explanation for lack of multi-level research, however, these challenges do not undermine its relevance, instead necessitate more multi-level research in order to integrate existing conceptions, explore possible alternatives to address inconsistencies, find answers to unidentified questions, and exhibit more insightful findings in the process.

Leadership effect

Effect of leadership on task execution and performance is a vital matter. Even if organizations are less hierarchical or teams have greater decision-making authority, role of leadership is bound to remain important and thus its impact. There are studies that investigate the role of leadership on team performance (e.g. Shin & Zhou, 2003; Srivastava et al, 2006). Further, analyzing its effect on diversity performance relationship cannot be disregarded. As cited earlier for relational demography literature, there are substantial number of studies that explore the leader-member relationship in a dyadic structure. However, this focus is slight in team diversity studies, which by no means imply that the topic is less concerning. Previous scholars (Kearney & Gebert, 2009) have also asserted that effects of leadership have primarily been investigated at the individual level and since the findings of one level of analysis cannot be assumed for another level, more research on the links between leadership and team outcomes is needed.

Some studies included in this review have regarded the importance of leadership and explored its different aspects in a moderating role, such as transformational leadership (Kearney & Gebert, 2009) and team temporal leadership (Mohammed & Nadkarni, 2011). In an interesting approach, Maderer and colleagues (2014) investigate the moderating role of intercultural experience of a coach a sports team performance. These examples demonstrate that the topic is not completely ignored, however, it has a wider scope and research potential.

It is instinctual to realize that anyone with more administrative powers and decision authority in a unit will influence its performance. Thus, a team's work output will be contingent on the type of leadership being offered. For instance, a task team is diverse in terms of educational level and work experience, with some having higher education and less work experience vs. others having more experience and lower education level. In such a team, if the

leader is biased towards individuals having more experience, then it will agitate employees that have higher education, with a possible effect on processes such as increased conflict and decreased communication and cohesion within team members, resulting in diminished individual and team performance. Such illustrations and others offer evidence that role of leadership in diversity literature needs to be acknowledged and analyzed for probable effects.

Conclusion

In this review, I presented a comprehensive summary of extant empirical research on relational demography and diversity literature, based on which trends are identified and potential research opportunities discussed rooted in existing gaps. An assessment of theories and measures indicate that there are some commonalities while some issues are unique in both research areas. Overall, it can be established that a number of studies have contributed to the theoretical furtherance of diversity research, however, the results are inconclusive, and the topic needs more advancement and refinement. There are existing reviews on diversity literature, this study supplements those and diversity research overall, by updating literature and offering new research avenues. For relational demography, it should serve as a robust groundwork because it offers an all-encompassing approach to the topic and addresses a void in the area. I hope this review encourages scholars to explore new dimensions on the subject and there are more empirical studies that delineate related variables, eliminate the prevailing discrepancies, and broaden the research horizon.

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Table 1 – Journal names and Publication Count for Relational Demography Literature

S No	Abbreviation	Journal Name	Count	Percentage
1	AMJ	Academy of Management Journal	10	10.75
2	AMR	Academy of Management Review	1	1.08
3	APBR	Asia Pacific Business Review	1	1.08
4	ASQ	Administrative Science Quarterly	2	2.15
5	BJIR	British Journal of Industrial Relations	1	1.08
6	BJM	British Journal of Management	1	1.08
7	CDI	Career Development International	1	1.08
8	EJWOP	European Journal of Work and Organizational Psychology	2	2.15
9	GOM	Group and Organization Management	6	6.45
10	HR	Human Relations	4	4.30
11	HRDQ	Human Resource Development Quarterly	1	1.08
12	HRM	Human Resource Management	1	1.08
13	IJCM	International Journal of Conflict Management	1	1.08
14	IJHRM	International Journal of Human Resource Management	1	1.08
15	IJIR	International Journal of Intercultural Relations	1	1.08
16	IR	Industrial Relations	1	1.08
17	JAP	Journal of Applied Psychology	10	10.75
18	JBP	Journal of Business Psychology	3	3.23
19	JBR	Journal of Business Research	2	2.15
20	JMP	Journal of Managerial Psychology	1	1.08
21	JOB	Journal of Organizational Behavior	12	12.90
22	JMS	Journal of Management Studies	1	1.08
23	JOOP	Journal of Occupational and Organizational Psychology	7	7.53
24	LODJ	Leadership & Organization Development Journal	1	1.08
25	OBHDP	Organizational Behavior and Human Decision Processes	4	4.30
26	OS	Organization Science	5	5.38
27	PP	Personnel Psychology	6	6.45
28	SGR	Small Group Research	2	2.15
29	TBPS	The British Psychological Society	1	1.08
30	TLQ	The Leadership Quarterly	2	2.15
31	PSBS	Procedia - Social and Behavioral Sciences	1	1.08

Figure 1 – Year wise spread of publications for Relational Demography Literature
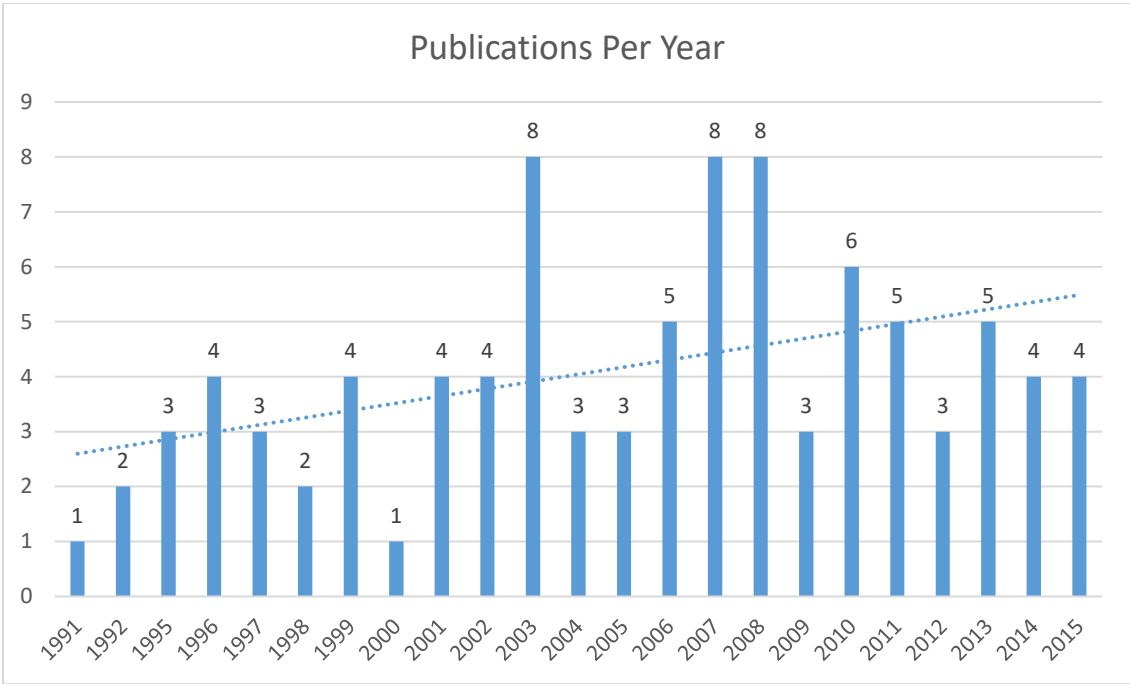
Figure 2 – Theoretical Model of Relational Demography Variables

Other Moderators

- Time
- Interview format
- Level of dogmatism
- Interpersonal attraction
- Task and goal interdependence
- Status – Subgroup/Membership/Cultural/Respondent's

Perceived Differences

- *Surface-level*
  - Age, gender, race, functional background, education level
- *Deep-level*
  - Personality traits, values, attitudes

Other Predictors

- Leader Member Exchange (LMX)
- Supervisor behavior
- Team membership
- Remote work
- Satisfaction with coworker
- Workplace offense

Relational Demography variables as Moderators

- Age
- Gender
- Personality
- Attitude
- Ethnic identity
- Organizational tenure

Mediators

- *Supervisor related*
  - LMX, supervisor communication, supervisor evaluation of subordinate performance
- *Task/Work related*
  - Interview quality, performance rating, team identification, organizational commitment, family supportive culture, person-organization (P-O) fit, career benefits, degree of communication
- *Perceived/experiential*
  - Personal experiences, likability, organization based self-esteem, organizational support, trust, interpersonal attraction, job satisfaction, conflict, cohesion, comparison, commitment, social integration, cooperation, organizational attachment, burnout, relational ties

Outcomes

- Turnover
- Promotion
- Interview related (evaluations, preparedness, recruitment)
- Performance (in-role / extra-role)
- Productivity
- Workplace inclusion
- Deviance at work
- Perceived justice/ discrimination

Underlying Theories

- Social Categorization
- Attraction-Selection-Attrition
- Information Processing
- Leader-Member Exchange

Table 2 – Journal names and Publication Count for Diversity Literature

S No	Abbreviation	Journal Name	Count	Percentage
1	AJBM	African Journal of Business Management	1	1.04
2	AMJ	Academy of Management Journal	11	11.46
3	AP: IR	Applied Psychology: An International Review	1	1.04
4	ASQ	Administrative Science Quarterly	5	5.21
5	BAR	Brazilian Administrative Review	1	1.04
6	CCM	Cross Cultural Management	1	1.04
7	EDI-IJ	Equality, Diversity and Inclusion: An International Journal	1	1.04
8	EMJ	European Management Journal	1	1.04
9	ERRJ	Employee Responsibilities and Rights Journal	1	1.04
11	GOM	Group & Organization Management	9	9.38
12	GPIR	Group Processes & Intergroup Relations	1	1.04
13	HR	Human Relations	1	1.04
14	IEEE	IEEE Transactions on Engineering Management	1	1.04
15	IEMJ	International Entrepreneurship and Management Journal	1	1.04
16	IJBA	International Journal of Business Administration	1	1.04
17	IJCCM	International Journal of Cross Cultural Management	1	1.04
18	IJCM	International Journal of Conflict Management	2	2.08
19	IJHRM	The International Journal of Human Resource Management	3	3.13
20	IJIR	International Journal of Intercultural Relations	1	1.04
21	IJMS	International Journal of Management and Sustainability	1	1.04
22	IJPM	International Journal of Project Management	1	1.04
23	IMDS	Industrial Management & Data Systems	1	1.04
24	JAP	Journal of Applied Psychology	7	7.29
25	JBP	Journal of Business Psychology	1	1.04
26	JIBS	Journal of International Business Studies	1	1.04
27	JMD	Journal of Management Development	1	1.04
28	JMP	Journal of Managerial Psychology	1	1.04
29	JOB	Journal of Organizational Behavior	9	9.38
30	JOM	Journal of Management	5	5.21
31	MD	Management Decision	1	1.04
32	MR-JIAM	Management Research: The Journal of the Iberoamerican Academy of Management	1	1.04
33	MS	Management Science	3	3.13
34	OBHDP	Organizational Behavior and Human Decision Processes	7	7.29
35	PSBS	Procedia - Social and Behavioral Sciences	1	1.04
36	SBM-IJ	Sport, Business and Management: An International Journal	1	1.04
37	SGR	Small Group Research	10	10.42

Figure 3 – Year wise spread of publications for Diversity Literature
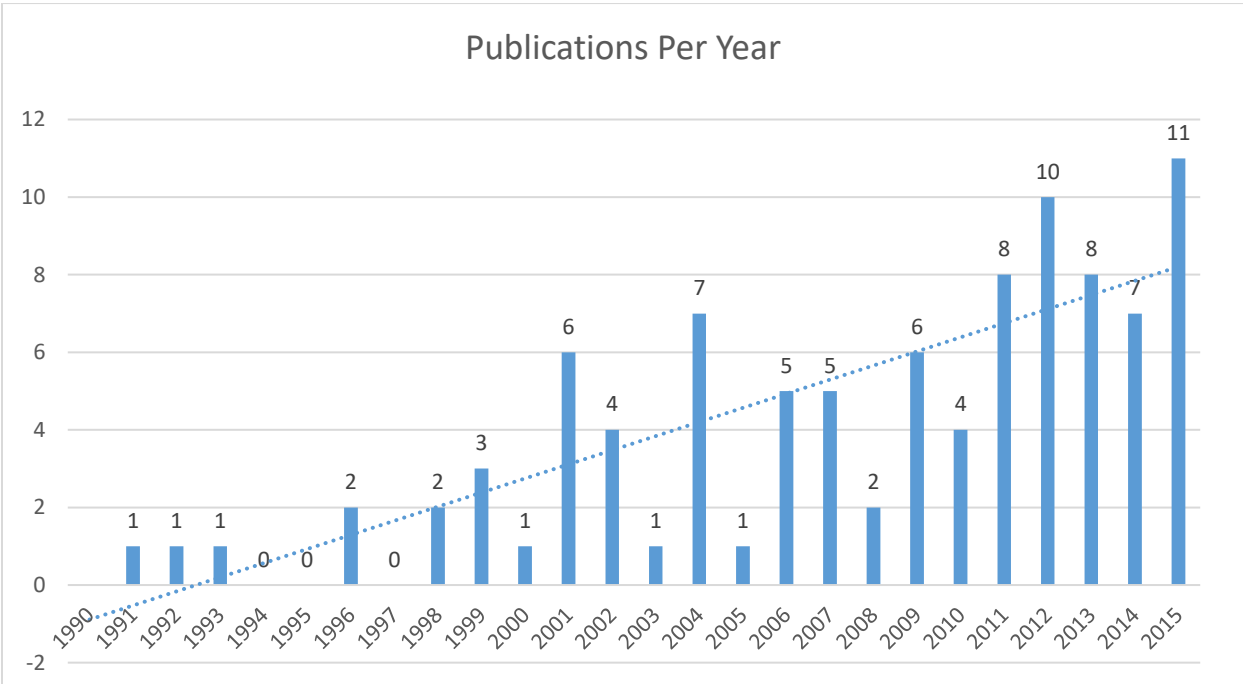
Figure 4 – Theoretical Model for Diversity Literature

Other Moderators

- *Task characteristics* (task – type/complexity/routineness/ interdependence)
- *Team characteristics* (team – type/size/orientation)
- *Leadership traits* (transformational/shared/temporal)
- *Generic* – job stress, openness to diversity, competence based trust, social context, study setting, goal orientation

Diversity

- *Relations-oriented diversity*
  - gender, age, race, ethnicity, cultural, diversity beliefs, value, national stereotypes
- *Task-oriented diversity*
  - functional, professional, role, educational, informational

Other Predictors

- Knowledge sharing
- Group efficacy
- Emotional/Cultural Quotient
- Leadership type
- Workflow network
- Diversity training
- OCB

Diversity variables as Moderators

- Age
- Gender
- Culture
- Information
- Structural diversity
- Organizational tenure

Mediators

- *Action processes*
  - Coordination, cooperation, information sharing/elaboration, interaction quality, network density/range, collaboration time, group longevity, transactive memory system (TMS), creativity

- *Interpersonal processes*
  - Task and relationship conflict, group cohesiveness, social integration, communication

Outcomes

- Problem solving
- Performance
- Innovation
- Group efficacy
- Product quality

Underlying Theories

- Social Categorization
- Information Processing and Decision Making
- Motivation Theories
- Social Network Theories

Appendix A (Relational Demography Studies)

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
1	Jackson et al	1991	JAP	Interpersonal heterogeneity (age, gender, tenure, education level, college curriculum, military experience, experience outside financial industry, status within the team)	Turnover, promotion, recruitment	Subgroup status (Mo)	Attraction-selection-attrition model	MANOVA, regression, multiple regression
2	Lin et al	1992	JAP	Demographic similarity (race, age)	Interview ratings	Interview format (structured/situational)	Similar-to-me effect	ANOVA
3	Tsui et al	1992	ASQ	Relational demography (age, gender, race, education, tenure)	Organizational attachment (psychological commitment, tenure intentions, attendance)	NA	SCT, SIT	Stepwise hierarchical blocked regression analysis
4	Graves & Powell	1995	PP	Demographic similarity (gender)	Evaluation of applicant	Subjective qualifications & interpersonal attraction (Me)	SAP	SEM
5	Kirchmeyer	1995	JOB	Demographic similarity (gender, age, education, lifestyle, ethnicity, religion)	Org commitment, turnover, promotion, co-worker support	Experiences: Job challenge, work group fit, supervisor support, mentor	SAP	Multiple regression
6	Westphal & Zajac	1995	ASQ	Demographic similarity (functional background, age, educational level, insider/outsider status); CEO & board influence	Board of director selection process & CEO compensation	NA	SCT	Maximum likelihood logit regression
7	Glaman et al	1996	GOM	Co-worker similarity (demographic, value-based, behavioral style)	Social liking & co-worker preference	NA	SAP	Correlation & Multiple regression

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S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
8	Graves & Powell	1996	JOOP	Demographic similarity (gender)	Evaluation of applicant	Interview quality & subjective qualifications (Me)	Theory of discrimination (rational bias), SIT	SEM
9	Pelled	1996	IJCM	Demographic dissimilarity (gender, race, tenure)	Rating of group performance	Perceived intragroup emotional conflict	SIT, SCT	Stepwise hierarchical blocked regression analysis
10	Schmitt et al	1996	OBHDP	Perceived similarity	Performance ratings	Likability (Me)	SAP	SEM
11	Pelled & Xin	1997	TLQ	Demographic similarity (age, gender)	Organizational attachment (absence & org commitment)	Age & Gender (Mo)	SIT, SAP	Hierarchical blocked regression
12	Riordan & Shore	1997	JAP	Demographic similarity (gender, race/ethnicity, tenure)	Work group commitment, group cohesiveness, workgroup productivity, advancement perception	NA	SIT, SAP	Regression approach for ANCOVA
13	Wesolowski & Mossholder	1997	JOB	Relational demography (age, gender, race, education)	Subordinate's job satisfaction, burnout, & perceived procedural justice	NA	SCT	Polynomial regression
14	Eidson & Gurman	1998	JBP	Demographic similarity	Recruiter rating of applicant preparedness	NA	-	Multiple regression
15	Farh et al	1998	OS	Demographic similarity (age, gender, education)	Trust in supervisor, performance evaluation by supervisor, commitment to org by subordinate	NA	SIT	Multiple regression
16	Chattopadhyay	1999	AMJ	Demographic dissimilarity (age, race, gender)	OCB	Peer attraction, trust, org based self-esteem	SCT	Regression

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
17	Epitropaki & Martin	1999	JOOP	Predictor: Leader-member exchange (LMX)	Organizational commitment	Demographic dissimilarity (Mo)	-	Moderated multiple regression
18	Pelled et al	1999	JMS	Demographic dissimilarity (age, gender, race, tenure, educational level)	Workplace inclusion (decision making influence, access to sensitive information, & job security)	NA	SCT	Stepwise hierarchical blocked regression analysis
19	Perry et al	1999	JOB	Demographic dissimilarity (age)	Employee absenteeism, citizenship behavior, work change behavior	NA	SAP	Hierarchical regression analysis
20	Hinds et al	2000	OBHDP	Partner choice	Homophily, relational ties, previous structural ties	NA	Sociological, psychological, social network theories	Multiple regression
21	Antonioni & Park	2001	PP	Personality similarity (Big 5) (deep-level)	Peer ratings of work behaviors	Interpersonal affect (control variable - hypothesized)	Attraction-selection-attrition theory, SAP, LMX, P-E fit theory	Polynomial regression
22	Pelled et al	2001	JOOP	Demographic dissimilarity (age, gender, tenure)	Conflict (task & relationship)	Supervisor facilitation (Mo)	SCT	Multiple regression (OLS)
23	Strauss et al	2001	JOOP	Relational personality similarity (conscientiousness, extraversion, emotional stability)	Performance ratings	Familiarity (Mo), Perceived personality similarity & Liking (Me)	SCT, SAP	Polynomial regression, correlations
24	Vecchio & Bullis	2001	JAP	Demographic similarity (gender, race, ethnicity)	Satisfaction, continued membership	Supervisory support of equal opportunity & length of time worked with a supervisor (Mo)	SCT, SAP	Correlation, ANOVA, hierarchical moderated regression

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
25	Schaubroeck & Lam	2002	AMJ	Personality similarity (w/ co-peers & supervisors)	Promotion decisions	Behavioral integration-w/ peers & supervisors (LMX, supervisor communication) & rated performance (Me), personality (IDV) (Mo)	SAP	Omnibus logistic regression & OLS regression
26	Tsui et al	2002	HR	Demographic (dis)similarity (age, race, gender, educational level, tenure)	Supervisor rating of task performance & extra-role behavior	NA	SIT, SCT	Blocked multiple regression, ANCOVA
27	Van Der Vegt	2002	JOOP	Dissimilarity in work-related attitudes & time	Social integration	Time (Mo), dissimilarity in attitude (Me)	SIT, SAP, socialization theory, attraction-selection-attrition (ASA) model	Cross-lagged regression
28	Chattopadhyay	2003	JOB	Demographic dissimilarity for minorities/females (gender, race)	Org based self-esteem, trust- & attraction in work-group	Level of dogmatism (Mo)	SIT, SCT	Regression
29	Duffy & Ferrier	2003	GOM	Predictor: Supervisor behavior	Workplace attitude (trust & org commitment)	Supervisor-subordinate dissimilarity (Mo) (nationality, gender, education, tenure)	SAP	Hierarchical regression
30	Goldberg	2003	JBR	Demographic similarity (age, gender, race)	Applicant's evaluation of recruiter, job, & org		SIT	Regression
31	Randel & Jaussi	2003	AMJ	Personal & social identity (functional background related); cross-functional team membership	Individual's performance	Mo - minority/majority membership, functional background similarity	SIT	Hierarchical regression analyses
32	Sacco et al	2003	JAP	Demographic similarity (gender, race)	Interviewers' ratings of applicant	NA	SIT, SCT, SAP	HLM, ANOVA

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
33	Shore et al	2003	JAP	Demographic dissimilarity (age - chronological & subjective)	Work attitudes, performance & promotability assessments, & developmental experiences	NA	SIT	Hierarchical regression analysis
34	Somech	2003	JOB	Demographic dissimilarity (age, gender, org tenure, educational level)	Participative decision making (PDM)	Duration of acquaintance (Mo)	SAP	WABA (Within and between analysis) for multi-level analysis
35	Van Der Vegt et al	2003	AMJ	Informational dissimilarity (educational level, educational background, functional specialty)	Team identification & OCB	Task & goal interdependence (Mo), team identification (Me)	SCT, group conflict theory,	Hierarchical regression & hierarchical linear modeling
36	Bacharach & Bamberger	2004	GOM	Demographic dissimilarity (gender, age, race)	Union attachment (union commitment & instrumentality)	NA	SIT, SCT, SAP	Regression
37	Chattopadhyay et al	2004	JAP	Demographic dissimilarity (gender, nationality)	Group prototype clarity & prototype valance, & self-prototypicality	NA	SCT	Multi-level modeling (SAS PROC MIXED)
38	Liao et al	2004	PP	Employee dissimilarity (age, gender, ethnicity, 5 personality traits)	Deviance at work (organizational & interpersonal)	Perceived organizational support, organizational commitment perceived coworker support, & coworker satisfaction (Me)	SIT, social exchange theory	HLM
39	Barsness et al	2005	AMJ	Demographic dissimilarity (age, gender, race), remote work, & social network centrality	supervisor- & job-focused impression management	Demographic dissimilarity (age, gender, race) & Remote work (Mo)	SIT, SCT	Hierarchical regression

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
40	Chatman & Spataro	2005	AMJ	Demographic dissimilarity (gender, race, nationality)	Cooperative behavior	Org culture (collectivist vs. individualistic) (Mo)	SCT	Hierarchical regression
41	Goldberg	2005	GOM	Demographic similarity (age, gender, race) of recruiter-applicant	Selection decision (overall assessment & offer decision)	Perceived similarity & interpersonal attraction (Me)	SIT, SAP	Hierarchical linear regression
42	Foley et al	2006	GOM	Demographic similarity (age, gender)	Family supportive supervision	Family supportive culture (Mo)	SIT, SAP	Hierarchical regression
43	Huang & Iun	2006	JOB	Predictor: growth-need similarity (GNS)	Subordinate's trust & loyalty towards supervisor and supervisor-rated in/extra role performance	Perceived global similarity	SAP	MLwiN - software for multi-level modelling
44	Joshi et al	2006	AMJ	Demographic diversity (individual level) - gender, ethnicity	Individual Pay (salary & incentive based pay)	Composition - team demographic (gender & people of color) & unit management (Mo); Performance (Me)	SIT, status-based perspectives	Hierarchical Linear Modeling (HLM)
45	Krebs et al	2006	SGR	Demographic dissimilarity (age, gender, country of birth, enrolled degree)	Trust	Media: computer mediated or face-to-face (Mo)	Social information processing (SIP) theory	ANOVA, Hierarchical regression
46	Linnehan et al	2006	JOB	Demographic diversity (age, gender, race, organizational level)	Attitude & subjective norm toward diversity-related behavior	Intention to engage in diversity-related behavior (Me), ethnic identity (Mo)	Theory of reasoned action, theory of planned behavior, SIT, status characteristic theory	Hierarchical regression
47	Avery et al	2007	JAP	Perceived coworker age composition, Satisfaction with coworker	Engagement	Age (Mo)	SIT, SCT	CFA, Hierarchical Regression

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
48	Buckley et al	2007	PP	Race of assessor & candidate, racial composition of rating panels	Same race bias	NA	SIT, SAP	t-test of equal variances
49	Choi	2007	JOOP	Group diversity & relational demography	Creative behavior	NA	SIT, SCT, SAP	OLS regression & HLM
50	Cunningham	2007	JBP	Demographic dissimilarity (age, race)	Coworker satisfaction, organizational turnover intentions	Perceived deep-level dissimilarity (personal values, personalities, attitude) (Me)	SIT, SCT, SAP	ANOVA, SEM
51	Elfenbein & O'Reilly	2007	GOM	Ethnicity, gender, socio-economic status (SES)	Performance	NA	SAP, SIT, Status Construction	Multi-variate regression
52	Lee & Peccei	2007	BJIR	Org level gender dissimilarity	Employee commitment	Respondent's status (level of pay) (Mo)	SCT, SAP, group competition theory	OLS step-wise multiple regression
53	Piasentin & Chapman	2007	JOOP	Perceived similarity & complementarity	Job satisfaction, organizational commitment, turnover intentions, work attitudes	Subjective person-organization (P-O) fit (Me)	Theory of uniqueness	Principal Component Analysis (scale validation); hierarchical regression analysis (hypothesis testing)
54	Schmidtke	2007	HRM	Predictor: Perceived similarity & Social norm consensus	Theft labeling, imitation of theft behavior	Perceived similarity (Mo) (age, gender, tenure, perceptions of fair pay)	Social comparison theory, social learning theory	Regression
55	Avery et al	2008	JAP	Gender, race, gender & race similarity (supervisor/co-worker)	Prevalence of perceived discrimination	Racial/ethnic similarity (community) (Mo)	SIT	Weighted hierarchical moderated logistic regression
56	Brown et al	2008	JBR	Racial similarity, perceived complementary racial perspective (PCRP)	Affective commitment	Psychosocial interaction, role modeling, career benefits, job sat (Me)	LMX theory	Path Analysis (LISREL)

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
57	Garcia et al	2008	TBPS	Demographic (age, gender, race/ethnic background) & human capital similarities (education, GPA, academic major, work experience)	Hiring recommendation	Interviewer's-perceived similarity with applicant, liking of applicant, performance expectation, perception of applicant's fit (Me)	SCT, SIT, role theory, expectation states theory	Path Analysis (LISREL)
58	Kim et al	2008	JOB	Predictor: Offense (individual/group)	Response to offense (revenge, avoid, reconcile)	Deep - level (dis)similarity & culture (Mo)	-	ANCOVA
59	Liao et al	2008	OBHDP	Extraversion, Neuroticism, Agreeableness	Helping, work withdrawal, turnover	Perceived deep level dissimilarity & Overall job attitude (Me)	SIT, SAP, attitude engagement theory	Cluster method (Rogers, 1990)
60	Randel & Jaussi	2008	SGR	Gender dissimilarity	Perception of relationship conflict	Gender social identity & gender personal identity (Mo)	Status characteristics theory, status consistency theory, self-verification theory,	One -tailed significance test
61	Stewart & Garcia-Prieto	2008	JOB	Racial dissimilarity	Workgroup identification	Communication behavior (Me), race & racial identification (Mo)	SIT, SCT, SAP	Regression
62	Zellmer-Bruhn et al	2008	OBHDP	Demographic (nationality, ethnicity, gender), informational (work-experience, education)	Perceived social category similarity, perceived work style similarity, subgroup formation	Team conflict & information sharing (Me)	SCT, person-perception theory, attribution theory	Zellner's seemingly unrelated regression (SUREG)
63	Brouer et al	2009	TLQ	Race, gender, age	Quality of LMX relationship	Subordinate's political skill (Mo)	LMX theory	Hierarchical moderated multiple regression
64	Chan & Wu	2009	APBR	Age, gender, hometown	Supervisor satisfaction	Communication satisfaction (Me)	SIT, SCT, SAP	Multiple regression

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
65	Loi & Ngo	2009	IJHRM	Gender, age, education, org tenure, natal origin	LMX, trust in org, in-role performance, OCB		SIT, SCT, SAP	Multiple regression
66	Chattopadhyay et al	2010	AMJ	(Professional) Status dissimilarity	Negative emotions, Negative behaviors	Perceived incompetence accusations/ perceived unprofessional conduct (Me)	Affective events theory, self-categorization theory, SIT	CFA, PROC MIXED in SAS
67	Felfe & Schyns	2010	BJM	Follower's personality traits (extraversion, openness, neuroticism, agreeableness)	Perception of transformational leadership, affective commitment to supervisor, continuance commitment	Perception of leader's personality	SIT, SCT	Correlation, hierarchical regression
68	Gevers & Peeters	2010	JOB	Conscientiousness (individual & team level), temporal consensus (team level)	Team member satisfaction	Temporal consensus & coordinated action (Me) (team level)	Action theory	OLS regression
69	Goldberg et al	2010	HR	Demographic similarity (age, race, gender) & perceived deep-level similarity	Group cohesiveness, work group identification, liking	Uncertainty reduction & status enhancement (Mo)	SIT	Hierarchical linear regression
70	Hekman et al	2010	AMR	Individual objective performance	Customer satisfaction judgment (employee & context)	Mo - gender & race; racial/gender bias of customer	Rating theory	Hierarchical moderated regression
71	McCarthy et al	2010	PP	Applicant's gender & race	Interviewers' ratings of applicant performance		SIT, SAP	HLM
72	Bell et al	2011	HRDQ	Trainee-trainer gender dissimilarity	Knowledge acquisition of trainee	Gender & race of trainee (Mo)	SIT	HLM
73	Cornelis et al	2011	EJWOP	Predictor: Procedural justice	Follower's cooperation	Leader-follower similarity (Mo)	SIT, SCT, LMX theory	ANOVA, Hierarchical regression

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
74	Kurtulus	2011	IR	Age, gender, race (demo), education, functional area, firm tenure, division tenure, performance, wages (non-demo)	Performance	NA	-	Regression
75	Liang & Picken	2011	LODJ	Tenure & functional background (deviation)	Cognitive deviation	Degree of communication (Me)	Communication theory, SIT, social comparison theory	SEM
76	Tepper et al	2011	AMJ	Perceived deep-level dissimilarity with subordinate	Abusive supervision	Supervisor evaluation of subordinate performance (Me & Mo), perceived relationship conflict (Me)	Moral exclusion theory	Path Analytic Regression
77	Avery et al	2012	JBP	Gender, racioethnicity	Employee withdrawal	Employees' employment status (part/full time)	Partial inclusion theory	ANCOVA
78	Gellatly & Allen	2012	EJWOP	Group mate absence	Individual absence	Dissimilarity measure (Org tenure, union affiliation)	Social information processing, social cognitive, SIT, social exchange, attraction-selection-attrition	Regression
79	Oren et al	2012	JMP	Personality similarity (Big 5) (deep-level), Org Justice	Org Citizenship Behavior (OCB)	LMX (Me)	LMX theory, exchange theory, SAP, behavioral integration theory	Harman's one factor test (inter-correlation), SEM

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
80	Avery et al	2013	PP	Team Empowerment	Performance - in-role & extra-role	Gender dissimilarity (Mo), individual empowerment (Me)	SCT	HLM
81	Dumas et al	2013	OS	Racial dissimilarity (moderator) Predictor: Integration behavior	Close co-worker relationships, bonding social capital	Racial dissimilarity (Mo), quality of integration experience(Me)	Boundary theory	OLS Regression/PROCE SS Macro
82	Loyd et al	2013	OS	Social category diversity	Decision making performance	Relationship focus & Premeeting elaboration (Me)	SIT	t-tests, regression analysis, constrained nonlinear regression
83	McGinn & Milkman	2013	OS	Gender, race	career mobility	Cohesion, competition, comparison	SIT	Logistic regression
84	Standifer et al	2013	HR	Age similarity preference	Conflict (task & relationship)	Uncertainty, frequency of perceived challenges at work	SIT, SCT	Multiple-Step Multiple Mediator Model (SPSS Macro)
85	Bakar & McCann	2014	IJIR	Ethnicity, gender, religion, age, org tenure, year of service with current supervisor	Job satisfaction, Commitment to work group, in/out - role performance	NA	SAP, Self-categorization theory (SCT), Relational norm congruence, LMX	CFA, blocked multiple regression
86	Guillaume et al	2014	AMJ	Cultural dissimilarity (nationality), Performance monitoring	Performance	Cultural status (Mo), Performance Monitoring (Me)	Social self-regulation theory (Abrams, 1994), Status characteristics theory (Ridgeway, 2001)	Simulation
87	Hoppe et al	2014	JOB	Race/ethnicity	Job satisfaction, lumbar back health	Race/ethnicity (Mo), social support (Me)	Status construction theory	HLM

S No	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
88	Huang et al	2014	JAP	Expertise dissimilarity	Employee creativity	Team-level knowledge sharing (Mo)	NA	Multilevel analyses using MLwiN
89	Zheng et al	2014	CDI	Deep -level attributes (job insecurity, person-supervisor deep-level similarity, optimism)	Job satisfaction	Optimism & person-supervisor deep-level similarity (Mo)	-	CFA, Hierarchical Linear Regression
90	Cicek & Bicer	2015	PSBS	Demographic congruence & job execution similarity	Satisfaction from team leader	Value Congruence (Me)	ASA theory, SCT, SAP	Sobel test
91	David et al	2015	JOB	Demographic dissimilarity (age, gender, racioethnicity)	Employee withdrawal (absenteeism, tardiness, turnover likelihood)	Co-worker withdrawal (absenteeism, tardiness, turnover) (Mo)	SIT, attraction-selection-attrition, situational strength	Hierarchical multilevel modeling
92	Luksyte et al	2015	JAP	Presentism	Employee behavioral reactions (physical engagement, org deviance)	Relation demography (Mo), Emotional reaction (Me)	Black sheep hypothesis	Multi-level modeling (SAS PROC MIXED)
93	Wilk & Makarius	2015	OS	Employee outside choice relational demography	Trust in supervisor, extra-role behavior	Supervisor choice relational demography (Mo), Employee inside choice relational demography (Me)	Attribution theory	HLM

Appendix B (Diversity Studies)

S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
1	Cox et al	1991	AMJ	Cultural diversity	Group task behavior - Cooperative or competitive	NA	-	ANOVA
2	Kirchmeyer & Cohen	1992	GOM	Constructive conflict	Decision quality, commitment to decision and group	Cultural diversity	-	Moderated regression analysis
3	Watson et al	1993	AMJ	Cultural diversity	Problem solving	Time (Mo); Interaction processes effectiveness (Me)	NA	Univariate F-tests
4	Lobel et al	1996	SGR	Ethnic diversity	Creativity - effectiveness & feasibility	Variety in perspectives (Me)	NA	MANOVA
5	Rumery et al	1996	SGR	Gender diversity	Team decision quality, Time on task & Interpersonal cohesion	NA	NA	ANOVA
6	Harrison et al	1998	AMJ	Surface-level & deep-level diversity	Work group cohesion	Time (Mo)	Exchange theory, social psychology & org behavior theories	Moderated hierarchical regression analysis
7	Watson et al	1998	GOM	Cultural diversity	Task performance - complexity, duration	Time (Mo)	NA	Hierarchical best-subsets regressions
8	Cady & Valentine	1999	SGR	Demographic diversity (race, age, gender, and function)	Innovation (quality & quantity), perception of teaming consideration	NA	SCT, SAP	Linear modeling
9	Jehn et al	1999	ASQ	Diversity - informational, social category, value	Performance, worker morale	(Me) Conflict - task, process, relationship; (Mo) Value & Social category diversity, task complexity, task interdependence	SAP, SIT, theories of selection & socialization	(Hierarchical) Regression analysis

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S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
10	Pelled et al	1999	ASQ	Diversity - functional, tenure, age, race, gender	Cognitive task performance	Conflict - task & emotional (Me); Task routineness & group longevity (Mo)	Categorization theory, social comparison theory, sensation seeking theory	Seemingly Unrelated (SURE) & OLS Regression
11	Timmerman	2000	SGR	Diversity - age, race	Team performance	Task interdependence (Mo)	SCT	Regression analysis
12	Ely & Thomas	2001	ASQ	Diversity in cultural identities	Work group functioning	Work group diversity perspective/ Intermediate group outcomes	Theory of intergroup relations, status characteristics theory	Based on Embedded intergroup theory
13	Howard & Bakerfield	2001	ERRJ	Diversity - race & gender	Performance	Task type (Mo)	NA	t-tests, ANOVA, ANCOVA
14	Keller	2001	AMJ	Functional diversity	Technical quality, schedule performance, budget performance, group cohesiveness	Job stress, Internal/External communication (Me)	Mixed theory	Regression analysis
15	Mohammed & Ringseis	2001	OBHDP	Cognitive Diversity, decision rule (majority/ unanimity)	Implementation, satisfaction with decision outcomes	Cooperativeness	SAP	Regression analysis
16	Sargent & Sue-Chan	2001	SGR	Racioethnic diversity	Group outcome efficacy & potency	Task interdependence (Me) & Cohesion (Mo)	NA	Hierarchical regression analyses
17	Webber & Donahue	2001	JOM	Job-related diversity (low/high)	Performance & Group cohesion	Team level - lower/top management (Mo)	SAP	Meta Quick (Stauffer, 1998)
18	Bunderson & Sutcliffe	2002	AMJ	Functional diversity (Intrapersonal & dominant)	Performance	Information sharing (Me)	SCT, Expectancy theory (motivation)	Mediated regression

S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
19	Harrison et al	2002	AMJ	Actual - Surface (demographic) & Deep (Psychological) diversity; team reward contingency (for collaboration)	Task Performance	(Me) Perceived - surface & deep level diversity; team social integration; collaboration time (Mo)	SIT, SCT, SAP, motivation theories; individuation theory, interdependence theory, cooperation theory; identity theory	Regression analysis
20	Polzer et al	2002	ASQ	Diversity	Creative task performance	Mo - Interpersonal congruence, Me - social integration, group identification, conflict - task & relationship)	Self-verification theory, SCT	Regression analysis
21	Watson et al	2002	IJIR	Ethnic diversity	Cohesiveness/individual orientation, leader behavior - interpersonal/task, team task performance	Time (Mo)	NA	Logistic regression
22	Schippers et al	2003	JOB	Diversity - age, gender, education, and team tenure	Team outcomes - satisfaction, commitment, performance	Mo- outcome interdependence & group longevity; Me - reflexivity	SCT, SAP, Decision making theory	General linear model
23	Cummings	2004	MS	Knowledge sharing (intragroup & external)	Performance	Structural Diversity (geographic location, functional assignment, reporting manager, business unit) (Mo)	Social network theories	Ordered logit analysis
24	Ely	2004	JOB	Diversity - tenure, age, sex, race; participation in diversity training programs	Performance	Cooperative teams (Mo)	SIT, SAP, Information & decision-making theories	Hierarchical regressions

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S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
25	Hobman et al	2004	GOM	Perceived dissimilarity - visible, informational, value	Group involvement	Perceived group openness to diversity	SIT	Multiple regression
26	Jackson & Joshi	2004	JOB	Team diversity - gender, ethnicity, tenure	Team performance - sales goal achievement	Social context - diversity dimensions within a team, demographic characteristics of team manager, & demography of work unit (Mo)	Distinctiveness theory (extension of SIT); Inter-group competition theories	Hierarchical Linear Modeling (HLM)
27	Jehn & Bezrukova	2004	JOB	Group diversity - functional background, education level, age, race, gender, tenure	Performance	Work group context - culture, strategies, HR practices (Mo)	SCT	Hierarchical multiple regression
28	Lee & Farah	2004	AP: IR	Group efficacy	Group effectiveness (performance & cohesion)	Gender diversity (Mo)	Social cognitive theory	Moderated Hierarchical Regression
29	Mohammed & Angell	2004	JOB	Diversity - surface & deep level	Relationship conflict	Time, Team orientation & team processes (Mo)	SIT, SCT, SAP	Moderated hierarchical regression analyses
30	Dahlin et al	2005	AMJ	Educational & national diversity	Information usage (depth, range & integration)	NA	Information processing theories, SCT, group decision making theories	Generalized least square (GLS) regression
31	Gibson & Gibbs	2006	ASQ	National diversity	Team innovation	Psychologically safe communication climate (Mo)	SCT	Regression & moderated-regression
32	Phillips & Loyd	2006	OBHDP	Surface level diversity, Deep level similarity	Emotional and behavioral reactions (surprise, irritation, willing to express voice, acceptance by group)		SCT	ANOVA & MANOVA

S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
33	Phillips et al	2006	GPIR	Surface level diversity, Deep level similarity	Decision making performance	Unique information (Me)	SAP	MANOVA
34	Sawyer et al	2006	OBHDP	Diversity - race, functional background	Group decision accuracy	Pre-discussion decision (Mo)	SIT, SCT	Logistic regression
35	Shapcott et al	2006	SGR	Diversity - task-related & demographic	Task Performance	Task cohesiveness	Group dynamics theory	Hierarchical Regression Analyses
36	Homan et al	2007	JAP	Diversity beliefs	Performance	Information elaboration (Me)	SCT	ANOVA & Regression analysis
37	Horwitz & Horwitz	2007	JOM	Team diversity - task-related & bio-demographic	Team performance - quantity & quality; social integration	Task complexity (low/medium), team type (project/ task), task interdependence (low/medium), team size (large/small) (Mo)	SIT, SAP	Correlation coefficient
38	Liang et al	2007	IMDS	Diversity - Knowledge (KD), social (SD), & value (VD)	Project performance	Conflict - task & relationship (Me)	SAP	Partial least squares (PLS) SEM
39	Olson et al	2007	JOM	Cognitive diversity	Decision - Understanding, commitment, making	Task conflict (Me); Competence based trust (Mo)	Information processing theory	Multiple regression
40	Vodosek	2007	IJCM	Cultural diversity - IDV (horizontal & vertical)	Workgroup outcomes - satisfaction, perceived performance	Conflict - relationship, task & process (Me)	SIT, SCT	Mediated regression
41	Tyran & Gibson	2008	GOM	Surface-level & deep-level diversity	Internal (group efficacy) & external team outcomes (team reputation)	NA	SAP, SCT	Hierarchical regression analysis
42	Wegge et al	2008	JAP	Diversity - age, gender	Relationship - Group performance & health disorders	Group size & Task complexity (Mo)	SAP, SIT, SCT	Spearman's rho correlations

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S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
43	Chi et al	2009	GOM	Org tenure diversity	Innovation	Team-oriented HR practices (Mo)	Information & decision making theories, categorization-elaboration model (CEM)	Hierarchical regression analysis
44	Joshi & Roh	2009	AMJ	Diversity - Gender, race/ethnic, age; task oriented; relations	Performance	Industry, occupation, team (Mo)	SIT, SCT, contingency theory	Hedge and Olkin's (1985) meta-analytic procedures
45	Kearney & Gebert	2009	JAP	Diversity - age, nationality, education	Team performance	Information elaboration (task relevant) & Collective Team Identification (Me); Transformational leadership (Mo)	Transformational leadership theory, information-decision-making & social categorization perspective	Regression analysis
46	Kearney et al	2009	AMJ	Diversity - age, education	Team performance	Need for cognition (Mo); (Me) Collective team identification & Elaboration of Task-Relevant Information	SCT	Regression analysis
47	Peters & Karren	2009	GOM	Functional diversity & trust	Performance rating (team member's & external manager's	Trust (Mo)	Social network theory	hierarchical multiple regression
48	Stewart & Johnson	2009	GOM	Group diversity - functional background, gender	Group performance	Leader Member Exchange (LMX; Mo)	LMX theory, social exchange theory, role theory	Regression analysis
49	Giambatista & Bhappu	2010	OBHDP	Separation & variety diversity (agreeableness, openness & ethnicity)	Group creativity	Computer mediated communication (CMC; Mo)	SIT	Hierarchical moderated OLS regression

S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
50	Liang et al	2010	IEEE	Informational Diversity	Software quality	Me - Conflict - task & relationship; learning; interaction quality	Information theory, learning theory	Partial least squares (PLS) SEM
51	Stahl et al	2010	JIBS	Cultural diversity - deep & surface level, intra- & cross-national	Team performance	Me - creativity, conflict, communication effectiveness, satisfaction, social integration; Mo - task complexity, team size, team dispersion, team tenure	SAP, SIT, SCT, Information processing theory	Meta-analysis
52	Weisz et al	2010	MR-JIAM	Functional diversity & internal social capital	Performance of business plans (BP)	NA	Network theory	Maximum likelihood logit regression
53	Bell et al	2011	JOM	Variety (Functional/ educational background, organizational/team tenure, educational level); mean (team/org tenure, education level); separation (age, gender, race)	Performance (creativity, innovation, efficiency)	Team type (design or TMT; intellectual); study setting (lab vs. field) (Mo)	SCT, SAP,	SAS PROC MEANS meta-analysis program (Arthur et al, 2001)
54	Groves & Feyerherm	2011	GOM	Leader CQ	Leader & team performance	Team cultural diversity (Mo)	NA	Hierarchical Regression Analyses
55	Huckman & Staats	2011	MS	Interpersonal diversity (customer experience), Task change, team familiarity	Team performance	NA	Social entertainment theory, Contract theory	GLS Random effects regression, logistic regression
56	Khan & Bari	2011	IJBA	Diversity - relations/task oriented	Team performance	Team composition (majority/balanced); duration (short/long term)	NA	One tailed t-tests

S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
57	Mohammed & Nadkarni	2011	AMJ	Temporal diversity - time urgency, pacing style, time perspective	Team performance	Team temporal leadership (Mo)	Time, interaction, and performance theory	Hierarchical ordinary least square (OLS) regression
58	Pieterse et al	2011	OBHDP	Diversity - learning & performance orientation	Performance	Me- group information elaboration & group efficiency; Mo- team reflexivity	Goal orientation theory	Hierarchical multiple regression
59	Ruigrok et al	2011	SBM-IJ	International experiential diversity	Performance	NA	NA	Hierarchical ordinary least squares
60	Zoogah et al	2011	IJHRM	Diversity - non/observable	Team effectiveness	Team Coordination (Mo)	SIT, SCT	Hierarchical regression analysis
61	Curseu et al	2012	JMP	Educational diversity (separation & variety)	Group effectiveness	Internal network density & eternal network range (Me)	SIT, Cognitive resource diversity theory, structural holes theory	OLS Regression
62	Fisher et al	2012	JAP	Surface-level & deep-level diversity	Team performance	Me - Team mental model (TMM) & implicit coordination	SCT, SAP, Information & decision-making theories	hierarchical regression analysis
63	Hoever et al	2012	JAP	Diversity of perspectives	Team creativity	Perspective taking (Mo); Information elaboration (Me of interactive effect)	Categorization–elaboration model (CEM)	Regression analysis
64	Liang et al	2012	IJPM	Value diversity	Project performance	Me - Conflict - task & relationship; communication, balance of contributions	SAP, information-processing theory, conflict theory	Partial least squares (PLS) SEM
65	Martins et al	2012	SGR	Cognitive diversity - expertise & expertness	Team performance	Team Psychological safety & relationship conflict (Mo)	Theories of power & status	Moderated regression analysis

S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
66	Russo	2012	EDI-IJ	Diversity - learning & performance orientation	Performance	Group information elaboration (Me); Internal team environment (Mo)	SAP	Hierarchical multiple-regression
67	Sakuda	2012	CCM	Age & National diversity	Performance	Task interdependence (Mo)	SIT, SCT	Hierarchical Regression
68	Sobral & Bisseling	2012	BAR	Diversity - informational & social category	Task Performance, Job satisfaction	Conflict -task & relational (Me)	SIT, SAP	Multiple regression analyses
69	van Dijk et al	2012	OBHDP	Job-related & demographic diversity	Performance (in-role & innovative)	Task complexity (Mo)	SIT, SCT, componential theory of creativity	Meta-analysis (homogeneity index)
70	Zhang & Hou	2012	HR	Gender diversity	Group identification & performance	Nationality (Mo)	SIT, SCT	ANOVA & HLM
71	Batenburg et al	2013	JMD	Role diversity	Performance	NA	Belbin's theory	Correlation analysis
72	Dongfeng	2013	AJBM	Diversity - Education & professional background, org tenure, gender, age, value	Performance	Task & relationship conflict	SAP	Regression analysis
73	Hentschel et al	2013	SGR	Perceived diversity	Relationship conflict & team identification	Diversity beliefs (Mo) & Positive/Negative affect (Me)	SCT, SAP, Information & decision-making theories, Affective events theory	hierarchical linear regression
74	Hoogendoorn et al	2013	MS	Gender diversity	Performance (sales & profit)	NA		OLS Regression analysis
75	Lai et al	2013	JOB	OCB	Performance rating	Cultural diversity	Social information perspective	HLM
76	Lee	2013	PSBS	Diversity	Performance	Network density & network centrality	Social network theory	Partial least squares (PLS) SEM

S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
77	Pieterse et al	2013	AMJ	Cultural diversity	Performance	Goal orientation (Mo); Information elaboration (Me)	Categorization-elaboration model (CEM); goal orientation theory	Hierarchical multiple regression
78	Woehr et al	2013	JBP	Value diversity	Team effectiveness, team cohesion, team efficacy, conflict -task & relationship	NA	SIT, SAP, attraction-selection-attrition (ASA) theory, cognitive resource theory	Hierarchical regression analysis
79	Ayub & Jehn	2014	IJCM	National stereotypes, social distance	Performance, conflict (task, relationship, process)	National variety (Mo)	Social Categorization Theory (SCT), Similarity Attraction Paradigm (SAP)	(M)ANOVA
80	Han et al	2014	JOB	Knowledge - separation, variety, disparity	Team creativity	Social capital (Bridging (Me) & bonding (Mo))	SCT, SIT	Regression analysis using bootstrapping
81	Lee et al	2014	IJMS	Diversity & task interdependence	Performance	(Me) Conflict - task & relationship, cooperation	Social interdependence theory	SEM
82	Maderer et al	2014	IJCCM	Cultural diversity, cultural distance, Collectivism	Team performance	Intercultural experience of the coach (Mo)	SAP, SIT	Multivariate regression analysis
83	Mohammed & Nadkarni	2014	JAP	Polychronicity Diversity	Team performance	Temporal Team Cognition (Mo)	Time-interaction-performance (TIP) theory, optimal distinctiveness theory	Moderated multiple regression
84	Poel et al	2014	GOM	Transformational/ participative leadership	Project Team Effectiveness & outcomes	Org tenure diversity (Mo)	Contingency leadership theories	Regression analysis

S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
85	Troster et al	2014	OBHDP	Workflow network - density & centralization	Potency, performance	Diversity (Mo)	Network theory, SAP, SCT	Clustered regression analysis
86	Buengeler & Hartog	2015	IJHRM	National diversity	Team performance	Interactional justice climate - level & strength (Mo)	Optimal distinctiveness theory, social exchange theory	Hierarchical regression
87	Homan et al	2015	JAP	Diversity training	Team creativity	Team nationality diversity & diversity beliefs (Mo); team efficacy (Me)	SCT, Categorization– elaboration model (CEM)	Hierarchical regression analysis
88	Khan et al	2015	MD	Diversity in need for achievement (nfA)	Team performance (effectiveness and efficiency)	Team mean nfA & Relationship conflict (Mo)	SIT, SCT, SAP	Partial least squares (PLS) SEM
89	Kulkarni	2015	JOB	Diversity - language based	Workgroup performance	NA	SIT, SCT	Adopted from previous literature
90	Liang et al	2015	EMJ	Diversity - surface & deep level	Team helping	Cohesion & cooperation (Me)	SAP, SCT	Regression & SEM
91	Mello & Delise	2015	SGR	Cognitive style diversity	Viability, performance	Cohesion (Me) & Conflict management (Mo)	SCT, SAP, Information & decision-making theories	Linear & Moderated multiple hierarchical regression
92	Mitchell & Boyle	2015	JOB	Professional diversity	Innovation	Professional identity salience (Me); Open-mindedness norms (Mo)	SIT, SCT	OLS regression & PLS SEM
93	Schneid et al	2015	IJHRM	Gender diversity	Team Performance - task & contextual	Mo - Cultural context (Gender Egalitarianism, Humane Orientation, Collectivism)	Categorization-elaboration model (CEM)	Random effects model

S No.	Author	Year	Journal	Antecedent	Outcome	Mediator/ Moderator	Theory	Methodology
94	Seong et al	2015	JOM	Diversity - gender, age, education, work experience	Team performance	Me - supplementary value fit, complementary demand-abilities fit, social cohesion, transactive memory system (TMS)	SIT, SCT, theory of interpersonal attraction	Structural Equation Modeling (SEM)
95	Wang	2015	SGR	Emotional intelligence (EI)	Team performance	Informational diversity (Mo); Information elaboration (Me)	Social functional theory	Regression analysis
96	Zhou et al	2015	IEMJ	Informational diversity	Entrepreneurial team performance	Shared leadership (Mo)	SCT, attraction-selection-attrition (ASA) theory	Hierarchical regression analysis

ESSAY 2

A MULTI-LEVEL STUDY OF THE RELATIONAL DEMOGRAPHY-PERFORMANCE RELATIONSHIP FROM A POSITIVE PSYCHOLOGY LENS

Individuals are the key constituents of any workplace and each of them has unique characteristics. People distinguish from one another regarding gender, age, educational level, work experience, or attitudes and perspectives towards things or situations, and this leads to relational demography related challenges. Tsui & O'Reilly (1989) introduced the term 'relational demography' (RD) to describe the differences in manager and subordinate characteristics. Goldberg (2005) explicate that the central idea of relational demography is not an individual's demographic characteristics that affect work attitudes and behaviors; rather, it is an individual's demographic characteristics relative to a referent other or group that explain these criteria. This differentiation has important implications because research indicates that the level of an individual's homogeneity or heterogeneity with his or her work unit affects work-related attitudes and behaviors (e.g., Chattopadhyay, 1999; Kirchmeyer, 1995).

Organizations are getting more heterogeneous regarding demographic characteristics, necessitating a clear understanding of how this changing composition impacts performance and what are some of the possible means to counteract the posed challenges. There has been substantial research over the past two decades striving to understand the effects of RD and to overcome the existent disparities (e.g. Avery *et al.*, 2012; Chattopadhyay *et al.*, 2004; David *et al.*, 2015; Jackson *et al.*, 1991; Liao *et al.*, 2008; Pelled *et al.*, 1999; Riordan & Shore, 1997; Schaubroeck & Lam, 2002). Scholars have examined different aspects of RD and found contradictory findings, with some asserting that heterogeneity can have positive impact under ideal circumstances (van der Vegt *et al.*, 2003; Zellmer-Bruhn *et al.*, 2008), while others arguing

that increased dissimilarity has adverse effects on social processes and performance (e.g.

Vecchio & Bullis, 2001; Pelled *et al.*, 1999; Chattopadhyay *et al.*, 2010).

To resolve this discrepancy, scholars have scrutinized possible alternatives such as statistical indicators used to assess diversity (e.g., Bedeian & Mossholder, 2000) and measures employed to examine heterogeneity. In this continued effort, some researchers have begun to examine the embedded context. For instance, van der Vegt *et al.* (2003) explore how intra-team task and goal interdependence would impact the relationship between informational dissimilarity and organizational citizenship behavior (OCB). Additionally, in a time-lagged study, David and colleagues (2015) examine how co-worker withdrawal regarding absenteeism, tardiness, and turnover effect employee withdrawal in a demographically dissimilar work unit. Predominantly, the examined contextual and mediating variables are related to other team members, teams, leaders, or organizations, however, focus on innate positive personal traits as having a conceivable effect on the dissimilarity-performance relation has been negligible.

There are a few exceptions, though. Avery and colleagues (2013) examine how team empowerment fosters individual empowerment, which in turn mediates the relationship between team empowerment and employee in-role and out-role performances. The authors further explore the moderating role of gender dissimilarity on the three relationships. Another study (Zheng *et al.*, 2014) examines optimism as a predictor to a performance where the deep-level similarity between person and supervisor further strengthens the relationship. However, these studies are few and far between, indicating that more emphasis is needed to scrutinize the role of a variety of psychological capacities on the dissimilarity and performance relation. Other scholars also assert that theory on relational demography should be expanded to include dissimilarity's impact on processes as well as outcomes (Avery *et al.*, 2013).

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Heeding positive psychological capacities are important for various reasons – first, it is an individual's autogenous strength that can help manage demanding situations without solely depending on external factors. Second, research findings reveal that positive psychological traits help overcome employee negativity and improve performance (e.g., Avey *et al.*, 2008; Walumbwa *et al.*, 2010). Finally, these positive capacities have been investigated in organizational and management studies as Positive Organization Behavior (POB), Positive Organization Scholarship (POS), and Psychological Capital (PsyCap), however, diversity scholars have not yet examined its probable effect on the heterogeneity-performance relation and its potential in context to this topic is far-fetched.

The purpose of this essay is to integrate the vastly researched subject of relational demography and the emerging concept of positive psychology in management literature. I aim to examine the role of positive psychology traits as interactive as well as intervening variables by conducting a multi-level study encompassing RD differences on individual-level processes, outcomes, and moderators and team-level measures as contextual variables (refer to Figure 1). I examine the effects of surface-level and deep-level variables on intervening variables such as an individual's intrinsic motivation and psychological empowerment, which in turn effects outcomes (thriving at work). Further, individual-level (cultural intelligence and psychological capital) and team-level (psychological capital and team empowerment) contingency factors are expected to attenuate the negative effects of heterogeneity on the intervening variables.

This study has multiple novel contributions that are beneficial for academicians and practitioners alike – first, it integrates positive psychology traits with the RD literature and identifies its role not only as moderators but also as intervening variables. Second, the role of positive contextual variables is examined at individual-level and team-level, thereby conducting

a multi-level study and examining the effects on a broader scale. Third, this study is also a contribution to POB and PsyCap literature as there is a dearth of studies on its role in context to effect on diversity. Finally, this enhanced understanding of the interactive effects of RD and positive psychological traits will help managers better handle dissimilarity related issues by honing the strengths of employees.

Insert Figure 1 about here

CONCEPTUAL BACKGROUND AND DEFINITIONS

Antecedents

Relational Demography

Relational demography (RD) proposes that individuals compare their demographic characteristics relative to those of others in their work unit to determine their level of similarity or dissimilarity to the unit composition (Tsui & O'Reilly, 1989). It has commonly been differentiated as observable (readily detectable attributes, viz. age, gender, and race) and non-observable (less visible or underlying attributes, e.g., skills or knowledge) characteristics (Milliken & Martins, 1996). Later, Harrison and colleagues (2002) proposed another classification – *surface-level diversity* that is defined as 'differences among team members in overt demographic characteristics (pg. 1030) and *deep-level diversity,* which is defined as 'differences among team member's psychological characteristics, including personalities, values, and attitudes' (pg. 1031).

Intervening variables

Intrinsic Motivation

Motivation is described as a set of energetic forces that initiates task-related behavior and determines its form, direction, intensity, and duration (Latham and Pinder, 2005). Scholars have classified motivation as *intrinsic motivation* (doing an activity for the inherent satisfaction of the activity itself) and *extrinsic motivation* (influenced by social environment to perform a task to attain an outcome; Ryan & Deci, 2000). Intrinsic motivation refers to the extent to which an individual is inner-directed, is interested in or fascinated with a task, and engages in it for the sake of the task itself (Zhang & Bartol, 2010). Further, intrinsically motivated employees are process focused (work as a result) and feel naturally drawn towards completing their work (Grant, 2008).

Psychological Empowerment

Psychological empowerment is defined as 'a process of enhancing feelings of self-efficacy among organizational members through the identification of conditions that foster powerlessness and through their removal by both formal organizational practices (structural empowerment) and informal techniques of providing efficacy information' (Conger and Kanungo, 1988, pg. 474). Thomas and Velthouse (1990) expanded on this definition and suggested that empowerment comprises of four dimensions, this framework was further refined by Spreitzer (1995) – *meaning* (individual's extent of caring about a task)*, competence* (also referred to as self-efficacy, is individual's belief regarding capability to complete a task skilfully)*, self-determination* (autonomy in initiating and regulating work behaviors and

processes)*, and *impact* (extent to which individual's influence strategic, administrative, and operating outcomes).

Contextual Variables

Cultural Intelligence

Cultural Intelligence (CQ) refers to a person's capability to successfully adapt to new cultural settings and is conceptualized as a multidimensional construct comprising of four dimensions – *metacognitive, cognitive, behavioral, and motivational* (Earley & Ang, 2003). Metacognitive and cognitive CQ reflect mental and cognitive capacity in acquiring cultural knowledge, behavioral CQ reflects the capability to exhibit culturally appropriate verbal and nonverbal actions, and motivational CQ refers to individuals' mental capacity to direct and sustain energy toward learning about cultural differences and functioning in related situations (Ang *et al.*, 2007). Further, the concept of motivational cultural intelligence is developed based on work motivation theories and it captures both cross-cultural self-efficacy that refers to believe in the ability to be effective in culturally diverse environments and cross-cultural intrinsic motivation relating to intrinsic interest in other cultures (Chen *et al.*, 2010).

Psychological Capital

The core construct of Psychological Capital (PsyCap) represents one's 'positive appraisal of circumstances and probability for success based on motivated effort and perseverance' (Luthans *et al.*, 2007, pg. 550). It is defined as 'an individual's positive psychological state of development that is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary,

redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success' (Luthans *et al.*, 2007, pg. 3). Luthans and Youssef (2004) identified self-efficacy, hope, resilience, and optimism from the positive psychology literature; although these four had differing perspectives and definitions but taken together have been theoretically developed and empirically tested as a state-like positive core construct termed PsyCap.

Team Empowerment

As previously explicated, employee psychological empowerment is an individual's subjective experience of empowerment based on cognitions about oneself about one's work role (Spreitzer, 1995), whereas team empowerment refers to shared perceptions among team members regarding the team's collective level of empowerment (Seibert *et al.*, 2011). It is described as an increased task motivation due to team member's collective, positive assessment of their tasks within the organizational context (Kirkman & Rosen, 2001). Maynard and colleagues (2012) in their multi-level review of the concept explain that team psychological empowerment is often viewed as an emergent concept and it exists not only because teams have control over their work (i.e., structural empowerment) but rather because members believe that they possess the said authority and responsibility. Alternatively, Avery and colleagues (2013) describe empowerment at the team level as a psychological state consisting of a team's ability to make decisions for which they are accountable and accept responsibility.

Outcome

Thriving at work is defined as 'a psychological state in which individual's experience both a sense of vitality and a sense of learning at work' (Spreitzer *et al.*, 2005, pg. 538). It is

indicated by the joint experience of these two dimensions, one of which is affective and the other cognitive – *vitality* (the affective component) denotes the sense that one is energized and feels alive at work and *learning at work* (the cognitive component) refers to growing through new knowledge and skills (Spreitzer *et al.*, 2012).

THEORY AND HYPOTHESES DEVELOPMENT

There is a consensus, even among a few differing opinions (e.g., Fineman 2006), that our workplaces need a more balanced approach of functioning and should consider the positive along with the existing focus on negative; that is, organizations should also build on strengths while trying to correct weaknesses. The value of positivity has been increasingly recognized in business research (c.f. Luthans & Youssef, 2007) with scholars heeding its benefits. Researchers have examined aspects such as appreciation in managerial practice (Barge & Oliver, 2003), compassion (Dutton *et al.*, 2006), and positive social interactions (Heaphy & Dutton, 2008), *inter alia*. However, investigation on the interplay between positive psychology traits with relational demography is practically non-existential. As evidence, Maynard and colleagues (2012) in their meta-analysis call for examining differential effects of surface-level and deep-level diversity on psychological empowerment. Likewise, many other positive psychological traits are relevant and have been investigated in other disciplines and different contexts of organizational behavior but the relation to relational dissimilarity.

In this essay, I strive to assess the effect of relational demography on some such positive traits, both as intervening variables of outcome and as contextual variables. The foundational theoretical arguments are sourced from the Conservation of Resource theory (COR; Hobfoll, 1989) which has a basic tenet that individuals attempt to acquire, protect, and retain resources – or 'those objects, personal characteristics, conditions, or energies that are valued' (Hobfoll, 1989,

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p. 516). COR theory has two key principles – 'the primacy of resource loss' and 'resource investment.' Also, I imbue a new set of theoretical viewpoints that offer guidance on the probable effects of heterogeneity on the positive traits. For instance, motivation theories (e.g., Self-determination theory; SDT) that investigate people's inherent growth tendencies and innate psychological needs that are the basis for their self-motivation and personality integration (Ryan & Deci, 2000). And the social comparison theory (Festinger, 1954), which postulates that people assess their skills and abilities relative to others. Based on the above constructs and theories, arguments for the RD and positive psychology attributes are discussed next.

Relational Demography and Intervening Effects (Intrinsic Motivation and Psychological Empowerment)

The effects of surface-level and deep-level dissimilarity have been investigated in several studies (e.g. Kim *et al.*, 2008; Tepper *et al.*, 2011) with the underlying explanation based on social-categorization and self-identification theories, which propose that individuals derive their identity largely from social categories to which they belong (Tajfel & Turner, 1986). The social unit may be more attractive to an individual if it is composed of others whose demographic profiles are consistent with the categories that the individual has chosen to categorize him- or herself (Tsui *et al.*, 1992). Based on this classification, individuals may develop favorable attitudes towards members of his or her group and stereotypical approach towards out-group members. This process has been investigated to negatively impact many outcomes such as turnover (e.g., Jackson *et al.*, 1991), organizational attachment (Tsui *et al.*, 2002), and job satisfaction (Wesolowski & Mossholder, 1997), among others. Further, though these theories have been primarily used in reference to surface-level differences, they are also applicable to deep-level characteristics, as underlying attributes between people in terms of the values and

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personalities can also be the basis of categorization or similarity-attraction (e.g., Goldberg *et al.*, 2010; Tsui *et al.*, 1992).

Psychological empowerment (PE) captures individual's perception of their work (Maynard *et al.*, 2014) and as mentioned previously, consists of four dimensions – meaning, competence, self-determination, and impact. It has been widely researched for its benefiting impact on performance (e.g., Avolio *et al.*, 2004; Dust *et al.*, 2014; Pieterse *et al.*, 2010). However, the consequences might vary when examining these dimensions after the effects of relational demography. Liden and colleagues (2000) suggest that the study of empowerment is incomplete without considering communication with team members. The authors argue that relations with co-workers also termed as team member exchange (TMX; Seers, 1989) may have an ardent effect on perceptions of empowerment. Simultaneously, based on social categorization theories, RD research provides evidence that it hampers processes such as communication and increases conflict, thereby implying that it will have a detrimental effect on TMX. Therefore, lack of cordial and hearty relationships will negatively influence an individual's PE.

Further, Seibert and colleagues (2011) examined the effect of work-related contextual variables on the psychological empowerment and performance relationship with their arguments grounded in job characteristics theory. The authors posit that gender and human capital variables such as education, job level, tenure, will have a positive relationship with PE. Conversely, when variation and comparison of these traits result in adverse outcomes and these factors become a source of disharmony, it will lead to a lowering of the four dimensions of PE, thereby decreasing it. Thus, it can be inferred that perceived differences will negatively impact PE.

Intrinsic motivation refers to 'the inherent tendency of individuals to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn' (Ryan & Deci, 2000,

pg. 70). Contrary to the conventional approach, the social categorization process induced because of surface- and deep-level variation will increase intrinsic motivation. This is because categorization will trigger competition against dissimilar others and individual's will evaluate themselves in comparison to others. Based on Social-Comparison Theory (Festinger, 1954), which posits that people assess their skills and abilities relative to others, it can be said that individuals will compare themselves to dissimilar others and this competition will further increase their motivation towards the task. This view has been supported by previous scholars. Lount and Phillips (2007) examined the effect of social category diversity on an individual's level of motivation. The authors conducted experiments and found that individuals exert more effort when being outperformed by an out-group member instead of an in-group member in the presence of social comparison. Overall, it can be asserted that people will tend to have a higher level of intrinsic motivation in the presence of dissimilar others. Based on the above rationales, it can be hypothesized that:

Hypothesis 1 (a): An individual's surface-level and deep-level dissimilarity with other members of his or her work unit will be negatively related to the individual's psychological empowerment

Hypothesis 1 (b): An individual's surface-level and deep-level dissimilarity with other members of his or her work unit will be positively related to the individual's intrinsic motivation

Moderating Effect of Individual-Level Traits (Cultural Intelligence and Psychological Capital)

The topic of relational demography has been excessively investigated leading to mixed findings. Scholars have called for greater emphasis on contextual variables (c.f. Joshi & Roh, 2009; Joshi *et al.*, 2011) to understand complex patters and identify new links by examining

context as a potential moderator. Previous relational demography scholars have examined some contingency factors such as subgroup status (Jackson *et al.*, 1991), level of dogmatism (Chattopadhyay, 2003), task and goal interdependence (Van Der Vegt *et al.*, 2003), and co-worker withdrawal behavior (David *et al.*, 2015), *inter alia*. Contributing to the contextual explanations of RD-performance relationship, next are some positive psychological traits that can help individuals buoy from negative effects of demographic differences.

Cultural intelligence (CQ) is a multidimensional construct related to situations involving cross-cultural interactions. All four dimensions of CQ (metacognitive, cognitive, behavioral, and motivational) are relevant in their way. However, some hold greater applicability in certain contexts versus others. For this study, I choose to investigate motivational CQ for several reasons – first; motivational CQ is considered to be more fundamental than cognitive and behavioral CQ, which are likely to result from motivational CQ (Chen *et al.*, 2012). Second, few studies that have examined the effect of CQ on cross-cultural adjustment and task performance relation have found evidence that motivational CQ is a significant predictor across various tasks and settings whereas the other dimensions did not show consistent results (e.g., Ang *et al.*, 2007; Chen *et al.*, 2010). Also, motivational CQ is consistent with the theme of positive contextual variables and supplements the psychological capacity resource of individuals.

Motivational CQ (M-CQ) refers to an individual's capability to direct attention and energy towards learning about and functioning in the circumstances characterized by cultural differences (Ang *et al.*, 2007). Research has offered evidence of its benefits for improving performance (e.g., Imai & Gelfand, 2010; Chen *et al.*, 2010). Further, the construct is not restricted to cross-border effects because companies also have their distinctive cultures and when individuals interact with other employees from the same company but different department or

geographical region, high motivational CQ will aid in the awareness and adjustment process. Thus, motivational CQ will be comparably relevant for the different surface- and deep-level traits. Subsequently, research suggests that when people with high M-CQ encounter an unknown environment or situation, they adopt the practices and even the body language of the unfamiliar host (Earley & Mosakowski, 2004). According to trait activation theory (Tett & Burnett, 2003; Tett & Guterman, 2000), a trait is likely to be activated by certain social contextual cues. By the core examination of this study, differences in demographic traits should serve as a trigger to activate and strengthen M-CQ. Although trait activation theory focuses mainly on personality traits, Tett and Burnett (2003) indicated that the theory is also applicable to motivational attributes and thus can serve as a useful framework for understanding how M-CQ will help address heterogeneity related problems. High M-CQ people are used to being observers and making a conscious effort to fit in. This mindful attempt to accommodate situations and adopt differences that will assist individuals to manage heterogeneity related challenges and counter-act any related negative effects. Also, Imai and Gelfand (2010) assert that when high CQ individuals face a culturally diverse situation, they approach it with a cooperative mindset and less likely to maintain in-group out-group distinction than individuals with low CQ. These cooperative motives will further help overcome dissimilarity related issues, will improve communication and cohesion between unit-members, thereby resulting in improved psychological empowerment and the motivation to accommodate in new situations will supplement intrinsic motivation. Therefore, it can be concluded that when the level of motivational CQ is high, the negative effect of RD on psychological empowerment will be attenuated and its positive effect on intrinsic motivation will be strengthened.

Psychological Capital (PsyCap) is based on the emerging field of positive organizational behavior (POB; c.f. Luthans and Yousef, 2007). It has been demonstrated to be a second-order, core factor consisting of four components – hope, efficacy, resiliency, and optimism. PsyCap has been significantly researched as a benefactor to curb negative effects and increase performance (e.g., Luthans, Avolio, *et al.*, 2007; Peterson *et al.*, 2011). Fredrickson (1998, 2001) proposes that positive emotions such as joy and interest can 'broaden' an individual's momentary thought-action repertoire by expanding the available range of thoughts and actions that come to mind. This capacity to experience the positive is proposed to be central to an individual's ability to flourish, mentally prosper, and grow psychologically (Fredrickson, 2001). Previous research (Avey *et al.*, 2011) offers evidence that this theory provides grounding for the effect of PsyCap since this model supports the broadening contribution of positivity that increases the potential for curbing negative effects. Evaluating each of the core constructs of PsyCap for the moderating effect, it can be said that hope involves the motivational energy needed to pursue a goal, constitutes the will to succeed, and the ability to identify and pursue the way to success (Snyder, 2000). Self-efficacy can be interpreted as the conviction and belief in one's ability to generate multiple pathways, which means that even if there is a challenging situation in the team, members high on self-efficacy will have faith in themselves and thus avoid distractions and focus on completing their tasks and achieving their goal, thereby diminishing the negative influence of demographic heterogeneity. Resiliency is characterized by positive coping and adaptation in the face of significant risk or adversity (Masten & Reed, 2002); this means that if there is an adverse situation, high PsyCap individuals will have a better coping mechanism due to the positive attributes they possess. Finally, optimism adopts a broader perspective. The attribution mechanisms of optimism, especially for negative events and failures, are not limited to the self

but also include external causes such as other people or situational factors (Seligman, 1998). This positivity in employees will help them combat the negative effects of relational demography and stay motivated towards the task at hand and strive for the goal that will contribute towards team performance. It will diminish the deleterious effects of RD and supplement other positive psychological resources of individual's. Consequently, it can be inferred that high PsyCap will help mitigate the negative effects of relational demography on psychological empowerment and enhance its positive effect on intrinsic motivation.

Based on the above-explicated rationales about the contextual variables (cultural intelligence and psychological capital) and their effect on relational demography relationship with the intervening variables (psychological empowerment and intrinsic motivation), I propose the following hypotheses:

Hypothesis 2: Cultural Intelligence will moderate the effect of relational demography such that when cultural intelligence is high, the negative effect of relational demography on (a) psychological empowerment will be attenuated and its positive effect on (b) intrinsic motivation will be accentuated.

Hypothesis 3: Psychological Capital will moderate the effect of relational demography such that when psychological capital is high, the negative effect of relational demography on (a) psychological empowerment will be attenuated and its positive effect on (b) intrinsic motivation will be accentuated.

Moderating Effect of Team-Level Traits (Collective Psychological Capital and Team Psychological Empowerment)

Teams are the building blocks of many organizations and serve to address complex and challenging issues (van Dijk *et al.*, 2012). Teams are defined as 'a group of individuals working interdependently towards common goals and whose members are mutually accountable for task achievement' (Kirkman & Rosen, 2001, pg. 49). Individuals these days rarely work in isolation and usually are a part of the team(s). This necessitates considering aspects of a team's personality that can potentially impact that of an individual's. To foster this and stay concurrent with the positive theme of this essay, I next examine the effect of team-level psychological capital and empowerment on individual-level perceived difference and intervening variables (intrinsic motivation and psychological empowerment) relationship.

Team empowerment refers to the shared perception among team members regarding the collective level of empowerment of a team (Chen, Kirkman, *et al.*, 2007). Kirkman and Rosen (1999) explain and expand the four dimensions of team empowerment – (a) sense of potency refers to team member's belief in themselves and a high competency attitude (b) sense of meaningfulness gives the team a strong collective commitment towards the goal (c) sense of autonomy helps the team to have more freedom and discretion for making task and goal-related decisions, and (d) sense of impact is experienced by team members when they see the effect of their work on colleagues. Team empowerment is not merely an aggregation of individual empowerment (Hempel *et al.*, 2012); research indicates that it is possible for practices such as shared decision making within teams to have varying effects on individual empowerment and team empowerment (Kirkman & Rosen, 1999). To elaborate, it is possible that individuals within a team may experience a level of empowerment that is different from the team-level

empowerment. Overall, intuitive wisdom and investigations suggest that a natural consequence of team empowerment should be a higher level of individual member empowerment (Avery *et al.*, 2013). Based on cognitive motivational theories that emphasize on expectancy and goal-setting, it can be stated that teams with a higher level of empowerment will be more focused on the relevance and achievement of task and if there are hurdles, dissimilarity issues in this case, then a high level of empowerment will diminish those and help focus on task accomplishment, which in turn will enhance the positive psychological states of individuals. Pieterse and colleagues (2010) examined the moderating effect of psychological empowerment on the relation between different leadership styles and innovative behavior. The authors posit that psychologically empowered individuals see themselves as competent and can positively influence their jobs and work environment. Likewise, empowered teams will have a proactive behavior and demonstrate initiatives in managing work-related impediments, thereby curbing negative effects of heterogeneity and enhancing the positive ones.

Collective psychological capital is the term proposed by Walumbwa and colleagues (2011) and the authors defined it as the 'group's shared psychological state of development that is characterized by self-efficacy, hope, resilience, and optimism' (pg. 6). It is a team-level representation of the concept of psychological capital (PsyCap) which proposes that employee's PsyCap can be drawn upon for their motivation and preemptive striving for success. Collective PsyCap is made up of the four psychological resources (hope, self-efficacy, resilience, and optimism). As mentioned previously, it is imperative to consider team-level attributes because the environment within which an individual function has a significant effect on his or her behavior and performance. Based on broaden and build theory of positive emotions (Fredrickson, 1999, 2001) it is expected that a group with high PsyCap will exhibit more go-getter traits and

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disregard any hindrances. Wang *et al.* (2014) examined the moderating effect of the follower's PsyCap on authentic leadership and performance relation. The authors argue that the relationship will be stronger when follower's PsyCap is low, as opposed to high because high PsyCap employees will already be motivated to achieve high performance regardless of whether they are led by a more or less authentic leader.

Similarly, teams with a high level of PsyCap will be positive about their surroundings and stay productive irrespective of relational demography related problems. Such a supportive team approach will assist individuals to generate characteristic of hope to try unproven or new methods to accomplish tasks (Luthans *et al.*, 2008), consequently staying high on positive psychological traits and waning RD related ill-effects. Thus, based on theorization above, it can be stated that teams with high PsyCap level will counteract any negative effects of perceived differences while at the same time intensify the positive effects. Therefore, I collectively propose the following hypotheses for team-level interaction effects:

Hypothesis 4: Team psychological empowerment will moderate the effect of relational demography such that when the level of team psychological empowerment is high, the negative effect of relational demography on (a) psychological empowerment will be attenuated and its positive effect on (b) intrinsic motivation will be accentuated.

Hypothesis 5: Collective psychological capital will moderate the effect of relational demography such that when the level of collective psychological capital is high, the negative effect of relational demography on (a) psychological empowerment will be attenuated and its positive effect on (b) intrinsic motivation will be accentuated.

Effect of Intervening Variables on Outcome

Characteristics of team members that influence team performance are of interest to researchers and practitioners (Bell *et al.*, 2011). Previous studies have examined a variety of team member traits for their effect on performance, such as creativity (Oldham & Cummings, 1996), big five personality dimensions (Barrick & Mount, 1991), positive affect (Ilies *et al.*, 2006), and employee's goal orientation (Janssen & Van Yperen, 2004), among others. Although the current focus on positive personality traits and their effect on performance and other outcomes is limited, research indicates that there is a growing interest in the theme of positive psychology in the form of positive organizational behavior (POB) and positive organizational scholarship (POS). Some related studies on the topic have examined characteristics like proactivity (Kim *et al.*, 2009), positive psychological capital (Avey *et al.*, 2010), cooperative behavior (Goldstein *et al.*, 2011), and emotional intelligence (Jordan *et al.*, 2002). Next, I will examine the effect of psychological empowerment and intrinsic motivation on thriving at work as an outcome.

Psychological Empowerment (PE) of employees has been widely accepted as a source for organizations to compete in today's dynamic environment. The notion is rooted in self-determination theory and job characteristics model (Liden *et al.*, 2000) and has been demonstrated to positively relate to several attitudinal and behavioral outcomes including job performance (e.g., Chen *et al.*, 2007; Avolio *et al.*, 2004). As the four dimensions of PE suggest, *meaning* helps realize the value of a work goal or the purpose that will keep empowered individuals focused on efficient completion of the task. *Competence* is the individual's belief in his or her capability to perform activities skillfully; this will help a person have faith in his or her efficacy to influence their job and achieve goals. *Self-determination* reflects autonomy in the

initiation and continuation of work behaviors (Spreitzer, 1995); this self-driven approach facilitates in task execution and completion. *Impact* refers to the degree of influence on operating outcomes, and this ability to influence tasks further motivates individuals to perform better. Overall, prevailing literature considers empowerment as an antecedent to performance (Maynard *et al.*, 2014). Further, these four dimensions also keep individuals energized to perform tasks and facilitate learning at work through the process of initiating new tasks and completing them with dexterity, contributing to self-prosperity and a feeling of prospering. Thus, it can be inferred that PE will enhance thriving at work.

Further, intrinsic motivation, which refers to initiating an activity because it is interesting and satisfying in itself, is grounded in the tenets of self-determination theory (SDT). SDT is an approach to human motivation and personality; it investigates people's inherent growth tendencies and innate psychological needs that are the basis for their self-motivation and personality integration (Ryan & Deci, 2000). Substantial number of studies have examined the benefits of intrinsic motivation on outcomes such as performance and productivity (Grant, 2008), creativity (Grant & Berry, 2011; Zhang *et al.*, 2015), task performance (Zapata-Phelan *et al.*, 2009), and job satisfaction (Huang & Van De Vliert, 2003). The primary rationale behind intrinsic motivation having an affirmative effect on outcomes is that individuals who are intrinsically motivated are demonstrated to have better concentration, learning, creativity, and cognitive flexibility (Zapata-Phelan *et al.*, 2009). This is even better than those who are extrinsically motivated because the latter is guided by contingencies outside the task itself and the behavior is vulnerable to outside forces. Self-determination theorists also suggest that people with high intrinsic motivation will have higher curiosity and interest in learning that will enhance their cognitive flexibility, willingness to take risks, and openness to complexity. This will

consequently escalate their effort to perform better and the sense of doing tasks efficiently and effectively will give a sense of advancing. Hence, it can be deduced that an individual's high level of intrinsic motivation will lead to an elevated sense of thriving at work. Therefore, based on the above arguments, I advance a set of following hypotheses:

Hypothesis 6: Psychological empowerment will be positively related with thriving at work

Hypothesis 7: Intrinsic motivation will be positively related with thriving at work

METHOD

Research Setting and Data Collection

The research was conducted using teams comprising of undergraduate students at two large public universities located in the Midwestern and Western regions of United States. The students came from different departments and colleges across the universities and were working together on projects during a 16-week semester. University-based research teams provide a good source of data collection to test my proposed model as it assured a high level of diversity in cultural beliefs, functional backgrounds and gender, among others. Data were collected in three phases during a 16-week period using surveys.

Surveys

Electronic surveys were distributed to the potential participants in two phases. The first phase of surveys was preceded by a cover letter describing the study and explaining the purpose and scope of the research. Participation in the surveys was voluntary, however, students were incentivized with extra-credit points for participation by the course instructors. The Phase I survey items included pre-validated questions for (a) surface-level and deep-level diversity

attributes (b) motivational cultural intelligence (c) psychological capital and (d) team empowerment. The second wave of data collection comprised of survey questions for (a) intrinsic motivation and (b) psychological empowerment. Participants were also requested to provide their names so that I could match follow-up surveys across the time periods. However, they were assured that this information would only be used for research purposes and would not be reported or shared in any form or shape with their instructors. For the last wave of data collection comprised of individual's response for their perspective of 'thriving at work.' Surveys for the first two waves were distributed seven weeks apart and the last survey was distributed at the end of the semester. Participants had one week to take part in the survey and reminder emails encouraging participation were sent five-days after the initial contact with all the potential participants.

Sample

Surveys were distributed to a total of 1,373 participants and 721 valid response was obtained, resulting in a 52.51% response rate. Although relational demography is to be measured at the individual level, the differences are in the context of the work unit, teams in this case. Therefore, those teams were included that had 3-7 members and had a with-in team response rate of more than 50%. Thus, my final data comprised of 481 individuals, constituting 139 teams. There were 16.55% teams with a 100 percent intra-team response-rate, 11.55% with ≥80%, 48.92% with ≥70%, 12.95% with ≥60% and 10.07% with ≥50% intra-team response rate. The participant's composition based on ethnicity is as follows: Caucasian Americans (43.87%) African Americans (3.33%), Hispanics (18.92%), Asians (24.32%) and the remaining 9.56% were from ethnicities such as Native-America and Middle-East. The team member's age range was from 19 to 55 (median=22). 52.18 percent of the team members were females. Majority of

the team members were from the following disciplinary backgrounds: Business

Management/Administration (18.92%), Finance (10.19%), Accounting (13.93%), Marketing

(21.83%), Human Resource Management (11.85%), Information Technology Management

(3.33%), 9.98% of the students had double majors and the remaining 9.98% were from seven

other disciplines such as Supply Chain Operations Management and Entertainment and Tourism

Management.

MEASURES

To design and validate an appropriate survey instrument, a thorough review of the

literature is undertaken to identify scales used in past research for the constructs in my model

(refer to Appendix C). Description of each scale is mentioned below. Responses for all the items

were measured on a 7-point Likert scale unless otherwise stated.

Surface-Level Characteristics

The surface-level characteristics chosen are functional background (area of major study),

gender, and race/ethnicity, which were self-reported by the participants during the first wave of

data collection. As proposed and used by previous scholars (Tsui *et al.*, 1992; Chattopadhyay,

2003), the level of the individual's dissimilarity was assessed using Euclidean distance. It is the

root mean squared distance between each of the *i* (one member) and *j* (all other members) pairs

for each attribute. Total Euclidean distance is the sum of Euclidean distances for all *n* unit

members and is assessed using the following formula:

$$\left[\frac{1}{n} \sum_{j=1}^{n} (S_i - S_j)^2 \right]^{1/2}.$$

All dissimilarity scores were computed such that a larger score means that the participant is more different from his or her peers on that characteristic. The scores range from 0-.99.

Deep-Level Characteristics

There are three deep-level traits chosen for this study, viz. attitude, values, and culture. To assess the individual level dissimilarity score, I used Tsui and colleagues (1992) formula (mentioned above). Previous scholars (Van der Vegt, 2002) have used this for measuring dissimilarity of deep-level traits of respondents to that of other respondents in a workgroup. *Attitude* is assessed using two variables – *task meaningfulness* (the extent to which the task is relevant and valued). It is measured using a three-item scale from Harrison and colleagues (2002). A sample item is 'I learn a lot from the course' (α=.82). The second variable used to determine attitude was *outcome importance,* which relates to the pertinence of outcome for the individual. It was measured using a two-item scale from Harrison and colleagues (2002). However, this construct had low-reliability values (α=.38) and thus was not included in the analysis.

Values were measured using Rokeach's (1973) terminal value scale comprising of 18-items and were adopted from Harrison and colleagues (2002). These are prefixed with an introductory question – 'To what extent will the university course help you attain,' and a sample of the terminal value is 'a comfortable life' (α=.95). Additionally, *goal commitment* (the extent to which individuals are committed to their goal) was assessed using five-items adopted from Klein *et al.* (2001). A sample item is 'I am strongly committed to pursuing this goal' (α=.71).

Culture is measured based on two dimensions proposed by Hofstede (1980) – individualism/collectivism (IDV) and power distance (PDI). IDV was gauged using a six-item

scale from Wagner III (1995). A sample item is 'To be superior a person must stand alone.' PDI was assessed using a six-item scale from Earley and Erez (1997) and a sample item is 'Team members should not express disagreements with their team leaders' (α=.83 and α=.76 for IDV and PDI, respectively).

Intervening Variables

Intrinsic Motivation was measured using a four-item scale from Grant (2008). An introductory question preceded the measurement items, 'Why are you motivated to do your work?'. A sample item is 'because I enjoy the work itself' (α=.95).

Psychological Empowerment ratings for each participant were captured using Spreitzer's (1995) 12-item scale, with three items each for meaning, competence, self-determination, and impact. Sample items include 'I have considerable opportunity for independence and freedom in how I do my job' (self-determination); 'The work that I do is very important to me' (meaning); 'I am confident about my ability to do my job' (competence); and 'My impact on what happens in my group is large' (impact; α=.85).

Individual and Team Level Moderating Variables

Motivational Cultural Intelligence of individuals was assessed using a five-item scale from Ang *et al.* (2007). A sample item is 'I am confident that I can socialize with locals in a culture that is unfamiliar to me' (α=.85).

Psychological Capital was assessed using the 24-item PsyCap Questionnaire (PCQ). It includes six items each for hope, resiliency, efficacy, and optimism. Sample items include: 'I feel confident helping to set targets/goals in my work area' (self-efficacy); 'Right now I see myself as being pretty successful at work' (hope); 'When I have a setback at work, I have trouble

recovering from it, moving on' (resiliency; reverse scored); and 'I always look on the bright side of things regarding my job' (optimism; α=.80). *Team-level Psychological Capital* was obtained by averaging the individual values.

Team Empowerment was measured using Kirkman and colleagues (2004) 12-item scale, with three items each for four team empowerment dimensions (potency, meaningfulness, autonomy, and impact). Sample items include – 'my team has confidence in itself' (potency); 'my team feels that its tasks are worthwhile' (meaningfulness); 'my team can select different ways to do the team's work' (autonomy; α=.86). Following previous research (Kirkman *et al.*, 2004; Hempel *et al.*, 2012), data was collected from individual members and aggregated to form a team-level score. To assess aggregation appropriateness, I first assessed inter-rater agreement using r_{wg} statistic (James, Demaree, & Wolf, 1984). I included teams with a mean r_{WG} value greater than .60, as has been done in other recent studies (Walumbwa *et al.*, 2018). I then calculated the intraclass correlation coefficient (ICC2), which refers to the reliability of group-level means (Bliese, 2000). The mean r_{WG} value was .82 whereas the ICC2 value was .85.

Outcome

The outcome/performance was assessed based on the participant's perspective on whether they feel they are *thriving at work.* This was assessed using a ten-item scale developed by Porath *et al.* (2012). This measure includes five items each for learning and vitality and is prefixed with 'At work…'. A sample item for learning is 'I continue to learn more and more as time goes by' and for vitality is 'I feel alive and vital' (α=.90).

Control Variables

Team size can influence a variety of processes, outcomes and diversity measures (e.g., Jackson *et al.*, 1991; Harrison *et al.*, 2002). Therefore, it was used as a control variable in the analysis described below.

RESULTS

Confirmatory Factor Analysis

To further examine the validity of the measures, I conducted confirmatory factor analysis (CFA) using SPSS Amos 24.0. First, I did CFA for variables from the first wave of data collection, viz. task meaningfulness, individualism, power distance, values, goal commitment, psychological capital, cultural intelligence and team empowerment. The results of the CFA test show that a good fit was achieved for the eight-factor model (χ^2=3625.14, df=1559, p < .00). The root mean square error of approximation (RMSEA=.07), standardized root mean square residual (SRMR=.08), comparative fit index (CFI=.9) and incremental fit index (IFI=.9) also suggested a good fit.

Likewise, I did CFA for the variables from the second wave of data collection (psychological empowerment and intrinsic motivation). The CFA results are as follows: χ^2=368.79, df=99, p < .00, RMSEA=.08, SRMR=.10, CFI=.95 and IFI=.95. The CFA results are presented in Table 1.

Insert Table 1 about here

Hypotheses Testing

The model of this study is multi-level and the participants are part of classes that were further assigned into working team, thereby indicating that the data is nested, because of which Hierarchical Linear Modeling (HLM) has been used. HLM is said to be a more appropriate analytical tool because of its ability to simultaneously account for different level variances (Lai *et al.*, 2013). Further, the ICC for psychological empowerment and team psychological capital is near zero, suggesting that all the variability is at the individual level. Because mixed models do not converge when the between-team variance is near zero, regression models without the random effect are fit whenever the numeric optimization fails for the mixed models. Thus, I tested the hypotheses using HLM and regression in SPSS 24.0. Table 2 summarizes the descriptive statistics and correlations.

Insert Table 2 about here

Relational Demography Effect on Intervening Variables

The first hypothesis proposes that an individual's surface- and deep-level dissimilarity with other members of his or her work unit is negatively related to the individual's psychological empowerment and positively related to his or her intrinsic motivation. The results of the models are presented in Table 3. Goal commitment was found to have a significant negative effect on intrinsic motivation (β=-.24, p<.05). However, since this is opposed to what was hypothesized, hypothesis 1a and 1b were not supported. Further, consistent with the non-significance found in the correlation table, there are no other significant associations found.

Insert Table 3 about here

Role of Moderating Variables

Hypothesis 2 proposed that cultural intelligence (CI) positively moderates the effect of relational demography on (a) psychological empowerment and (b) intrinsic motivation. Results in table 4a present the results when psychological empowerment is the outcome. The last column of results include all diversity variables interacted with cultural intelligence, which indicates a significant effect for cultural intelligence (β=.17, p<.001). This effect is consistent across all the models. The last column also shows a significant interaction between goal commitment and cultural intelligence. This means that goal commitment, whose effect is (non-significant) -.01 when cultural intelligence is at its mean, becomes less negative and even positive as cultural intelligence increases (refer to Figure 2a).

Interestingly, the interaction at low levels is a significant negative effect and at a high level of cultural intelligence, there is a significant positive effect. This is consistent with the hypothesis. Further, only two more variables (gender and terminal values) have positive interactions (but non-significant).

Table 4b presents the result of intrinsic motivation. Cultural intelligence is again significant (β=.23, p<.01). Also, goal commitment has a significant negative effect on intrinsic motivation, in both the simple and composite models (β=-.16, p<.05 and β=-.19, p<.05, respectively). Interaction results indicate that the effects are positive with gender, individualism, terminal values and goal commitment, out of which the effect is significant for the last variable

(β=.15, p<.05; refer to Figure 2b). This indicates that as cultural intelligence increases, it has a positive moderating effect on intrinsic motivation. Thus, it can be concluded that hypothesis 4a and 4b are partially supported.

Insert Table 4 a-b about here

The third hypothesis proposed the positive moderating effect of psychological capital on (a) psychological empowerment and (b) intrinsic motivation. Table 5a presents the results for psychological empowerment. The full model indicates that the main effect of psychological capital is significant (β=.31, $p < .001$). However, contrary to the proposed model, a positive (but non-significant) effect holds true only for gender, individualism and terminal values.

Table 5b presents results when intrinsic motivation is the outcome. The main effect of psychological capital is positive and significant (β=.37, $p < .001$) in the full model and holds true for the simple models as well. Also, the main effect of goal commitment is significant in both the simple and composite models (β=.17, $p < .05$ and β=.18, $p < .05$ respectively). I found significant, but negative interaction effects with race and power-distance (β=-.20, $p < .01$ and β=-.19, $p < .05$, respectively). The effects were consistent in the full and individual models. None of the positive interactions (with task meaningfulness, individualism, terminal values and goal commitment) were significant. Thus, hypotheses 3a and 3b were not supported.

Insert Table 5 a-b about here

Hypothesis 4 states that team psychological capital has a positive interaction effect with relational demography on (a) psychological empowerment and (b) intrinsic motivation. Table 6a presents the results for team psychological capital. The main effect of team psychological capital is significant in the full model (β=.17, p<.001). There are positive interactions between the cultural variables and deep-level variables (terminal values and goal commitment) in the model, however, not significant. Conflicting to the proposed effect, the effect was negative with all the surface-level variables and task meaningfulness. The negative interaction between team psychological capital and race is significant in the full and simple model (β=-.07, p<.05). Likewise, the interaction with task meaningfulness has a significant negative effect in the full model (β=-.08, p<.05).

Table 6b presents results with intrinsic motivation as the outcome. With the inclusion of team psychological capital, the remaining team level variance was essentially zero and hence no random effects were estimated for these models. The results for the full model find a significant main effect for team psychological capital (β=.29, p<.001).

There are two significant interactions in the full model (race and task meaningfulness), but both are negative (β=-.20, p<.01 and β=-.18, p<.05, respectively). These interactions are also significant in the simple models. However, as proposed, interaction with only power distance and goal commitment had positive (non-significant) effects. Therefore, hypotheses 4a and 4b were not supported.

Insert Table 6 a-b about here

For the final interaction effects, team empowerment was suggested to have a positive moderating effect on psychological empowerment and intrinsic motivation (hypothesis 5a and 5b, respectively). Table 7a presents the results for psychological empowerment. The main effect of team empowerment is significant across models (β=.22, p<.001 in the full model). However, none of the other main effects or interactions are significant, including in the simple models. Based on the proposed effect, only individualism and terminal values interaction were positive (non-significant).

Lastly, Table 7b presents interaction results for intrinsic motivation. Team empowerment has a significant effect (β=.25, p<.01 in the full model). The other main and interaction effects are not significant, but the interaction was positive with some variables (functional background, task meaningfulness, individualism and goal commitment).

Insert Table 7 a-b about here

Effect on Thriving at Work

Psychological empowerment is proposed to have a positive relationship with thriving at work (hypothesis 6). Likewise, hypothesis 7 suggests a direct positive effect of intrinsic motivation on thriving at work. Results in Table 8 indicate that intrinsic motivation has a positive (non-significant) effect with thriving at work. Further, psychological empowerment has a significant positive effect on thriving at work (β=.20, p<.01). Thus, it can be concluded that hypothesis 6 is supported.

Insert Table 8 about here

Post-hoc Analyses

Although the relationship between relational demography and outcomes was not
hypothesized in my study, post hoc analysis was done to investigate the direct effect of
individual dissimilarities on thriving at work. Results indicate that variations in race, functional
background, individualism, terminal values and goal commitment have negative (non-
significant) effect on thriving at work. I also checked for a direct effect of psychological capital
on the outcome. Results indicate that individual PsyCap has a significant positive effect on
thriving at work (β=.40, p<.001). Further, I checked the role of intrinsic motivation and
psychological empowerment as mediators in the relational demography-thriving at work
relationship. Table 9 presents results for mediation effect that illustrate that neither of the two
variables act as mediators in the above stated relationship.

Insert Table 9 about here

DISCUSSION

The purpose of this multi-level study was to amalgamate positive organizational behavior
(POB) with relational demography literature to enhance our understanding of the effect of
positive psychological traits, both at the individual- and team-level. For this, I examined the

interaction effect of individual-level variables, such as cultural intelligence (CI) and psychological capital (PsyCap), and two team-level variables (team psychological capital (TPC) and team empowerment (TE)). I also used two variables from the POB literature (psychological empowerment, PE; intrinsic motivation, IM) as intervening variables. Evidence from a longitudinal investigation of 481 participants, constituting 139 teams, demonstrate interesting direct and interaction effects. Based on evidence from the literature, individual level dissimilarity was hypothesized to have a negative effect on psychological empowerment. However, based on the tenets of social comparison theory, I proposed a positive effect of the differences on intrinsic motivation. Evidence from the analysis indicates that social categorization theories are more impactful in this case and the differences have a significant negative effect on the intrinsic motivation of individuals. Many of the other variables (e.g., surface-level and cultural variables) also have a negative (non-significant) effect. Contrary to what was proposed for psychological empowerment, all the variables (except individualism), although not significant, had a positive effect. PE literature has virtually not explored the effect of surface- and deep-level diversity variables, as suggested by Maynard and colleagues (2012) in their meta-analysis. This effect needs further exploration to identify plausible reasons.

Further, the direct effect of the intervening variables was suggested to have a positive effect on the outcome. Both the effects were positive and the effect of PE on thriving at work was significantly positive. This indicates that when an individual's perception of psychological empowerment increases, it results in their increased experience of vitality and learning. Identification of additional mediating or moderating factors may help achieve significant relationship for the other variables.

Analysis of the interaction effects offer some interesting effects. The moderating effect of cultural intelligence with deep-level diversity (goal commitment) was found to have a significant and positive effect on both the intervening variables. For PE, as is evident from Figure 2a, when CI level is low, goal commitment has a significant negative effect on PE and when the CI is high, it has a significant positive effect. Thus, it can be concluded that when individuals have a higher cultural quotient, the negative effect of dissimilarity on PE decreases significantly. Most of the other variables (except gender, terminal values and goal commitment) were found to have a negative, non-significant, effect on PE. For IM as the predictor, goal commitment, individualism, terminal values and gender have a positive effect, although the interaction with the last three variables was not significant. As is evident in Figure 2b, a low level of CI has a significantly negative interaction effect on IM, whereas, at a high level of CI, it is positive but not significant. For the other interaction effects that were found to be negative (non-significant), extant literature does not seem to explain our understanding since there is limited research on the topic. In this study, I justified the use of Motivational CI, however, an alternative could be to examine the effect of one or more of the three other dimensions of CI in the context of this study and common associate patterns.

With the second individual level moderator, PsyCap, results indicate that all variables (except race, functional background and power distance) have a positive non-significant effect on PE. When IM is the outcome, PsyCap has a positive (non-significant) interaction with task meaningfulness, individualism, terminal values and goal commitment. All other variables have negative effects, and ones with race and power distance are significant. Figure 2c demonstrates some interesting outcomes. When PsyCap is low, the race has a significant positive effect on IM and at high levels, it has a significant negative effect. The effects hold true for power distance as

the predictor, with a variation that the positive effect of low level of PsyCap is not significant (refer to Figure 2d). This is an interesting finding and can contribute to our understanding of the challenge of 'too much of a good thing' assumption (Lam *et al.*, 2014), which can further be resolved based on the tenets of Resource Allocation Theory.

Team PsyCap (TPC) as a moderator with PE as the outcome has positive, non-significant, interaction effect with both the cultural values, task meaningfulness and goal commitment. The remaining variables have negative interaction effects, and ones with race and task meaningfulness are significant. Figure 2e and 2f demonstrate that in both the cases, the low level of TPC has a significantly positive interaction effect on PE, whereas a high level of TPC has a negative, but insignificant effect. Further, with IM as the dependent, only power distance and goal commitment have positive (non-significant) effects. All other variables have negative interactions, and task meaningfulness and race having significant effects. Figure 2g offer evidence that when TPC is low, task meaningfulness has a significant positive effect on IM and high TPC has an insignificant negative effect. Contrary to what was hypothesized, in case of the interaction with race (Figure 2h), the positive effect of low TPC and the negative effect of high TPC are both significant. This suggests that the negative effect of race dissimilarity on IM will be alleviated when the workgroup has low TPC.

Finally, with team empowerment (TE) as the moderator, none of the interaction effects were found to be significant for either of the two intervening variables. With PE as the outcome, only individualism and task meaningfulness have positive effects and in the case of IM, functional background, task meaningfulness, individualism and goal commitment have positive effects. As explained earlier in the case of psychological empowerment, empowerment literature is an underexplored area of research and calls for more exploration to understand the effect of

different contextual and predicting variables better. I discuss the instrumentality and implications of this study next.

Contributions

This study focuses on the amply researched topic of relational demography and its link with performance. However, its distinctiveness lies in its use of novel contextual variables, both at the individual- and team-level, and its unconventional intervening constructs. The study makes several contributions – first, it integrates the positive psychology notion with relational demography and attempts to identify how an individual's psychological capacities will overcome heterogeneity related issues. So far, research on the subject has predominantly focused on external contingency factors and mediating processes that eventually decrease performance because of the dissimilarity effect. This is a deviation from the traditional approach in pursuit to examine things from a positive lens.

Second, it is a multi-level study that investigates the moderating role of team-level positive psychological capacities on individual level dissimilarity-performance relation, thereby expanding the research scope, increasing precision, and exploring new conceptual possibilities. This contribution is not only limited to the topic of relational demography but is also a benefactor to positive organizational behavior and psychological capital research as there is a dearth of studies on the role of these traits in context to relational demography. Also, there are very limited studies that have investigated psychological empowerment at multiple levels (e.g., Seibert *et al.*, 2004; Chen *et al.*, 2007); this investigation contributes to the psychological empowerment theory by analyzing its role in heterogeneity literature at the individual level and moderating effect at the team-level.

Third, this study will enhance the theoretical comprehension of the concept of dissimilarity. Traditionally, social categorization and similarity-attraction theories have explained the detrimental effects of dissimilarity. However, an interplay of positivity changes the approach and a new set of theories are inter-twined to offer a rationale. With theories such as conservation of resources, broaden of build theory of positive emotions, self-determination theory, and trait-activation theory, there will be an affirmative perspective to view heterogeneity and break the stereotype of demographic differences as always being harmful.

Theoretical and Practical Implications

The above-listed contributions will have a favorable effect and offer guidance for further academic investigation and to practitioners. To start with, an understanding that the effects of positive traits can be helpful to combat dissimilarity challenges offer assurance. Organizations and managers can motivate individuals to overcome dissimilarity related challenges. This can be attained with managers leading by example as research provides evidence that there is a relationship between leader's behavior and follower's psychological state, which eventually influences the quality of performance (Kleef *et al.*, 2009). Organizations and leaders can also benefit by inducing positivity in the workplace and creating teams that have a balanced set of people that possess low and high psychological capacities. This will facilitate a balanced approach despite the lack of homophily and enhance performance (Pieterse *et al.*, 2013). Managers can also administer more autonomy to employees and offer productive guidance and support. This interaction of empowerment and transformational leadership will reduce employee's negativity in many forms such as cynicism and intentions to quit (Avey *et al.*, 2008) and provide for a more conducive work environment, overall facilitating performance outcomes. Finally, this evidence can help employees realize benefits of the tested and other unexplored

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psychological capacities so that even if there are no positive environmental trigger offered by leaders and organization, they can challenge by honing their inner strengths and keep themselves motivated.

Limitations and Future Research

Despite theoretical and operationalization strengths of this study in investigating the role of positive contextual and intervening variables on the relational demography-performance relationship, there are several limitations of this study and avenues of future research that can be explored. To begin with, the hypotheses in this study are tested in an academic setting. Although the participants are from diverse backgrounds with work experience, a possible area for future exploration will be to test the existing hypotheses in an alternative setting, using a different data source. It will be interesting to view the interaction effect of the positive psychological traits in an organizational setting, where the teams work on projects for longer durations and thus there is an opportunity to observe effects and variations, if any, to these state-like attributes.

Second, I assess the effect of surface- and deep-level dissimilarity, whereas an alternative approach could be to identify the effect of demographic similarity instead, which should then intuitively further strengthen the influence of the psychological capacities, and eventually a higher performance relative to the one in the current study. Additionally, the current study examines the moderating effect of variables on the relational demography-intervening variables relation. In this context, the scope of moderating variables can be expanded to the relationship between intervening variables and performance by conducting a moderated mediation test.

Finally, many other positive psychology variables have been investigated in organizational behavior research and can be integrated with relational demography to examine

the impact. For example, the role of goal congruence has been researched to have a beneficial effect on outcomes (e.g., Kristof-Brown & Stevens, 2001). Similarly, a higher-level construct could be active learning climate that also has a favorable effect (Naveh *et al.*, 2015). There are these and other positivity traits that can be investigated in the context of relational demography and performance. Overall, the focal-point is to bring positive psychological traits to the fore-front and examine benefits that can be reaped from an individual's intrinsic resource base.

Conclusion

Demonstrating the dire need for a positive organization behavior approach, Luthans (2002b) found in a computer search of contemporary literature in psychology that approximately 375,000 articles on 'negatives', such as – mental illness, depression, anxiety, fear, and anger; but only about 1000 articles on various positive concepts and capabilities of people. This results in a negative/positive publication ratio of approximately 375 to 1.

Although awareness of the concept of positive psychology is increasing in organizational behavior research, it still needs considerable attention and empirical examination. This study is an attempt to narrow the existing gap in this area and improve the proportion of negative to positive studies in organizational behavior by integrating the positive moderating and intervening variables with relational demography. It is an initial step in the field and I hope this study acts as a motivation and grounding for others to focus on the constructive aspects and reap benefits.

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APPENDIX A

FIGURES

Figure 1 – Theoretical Model
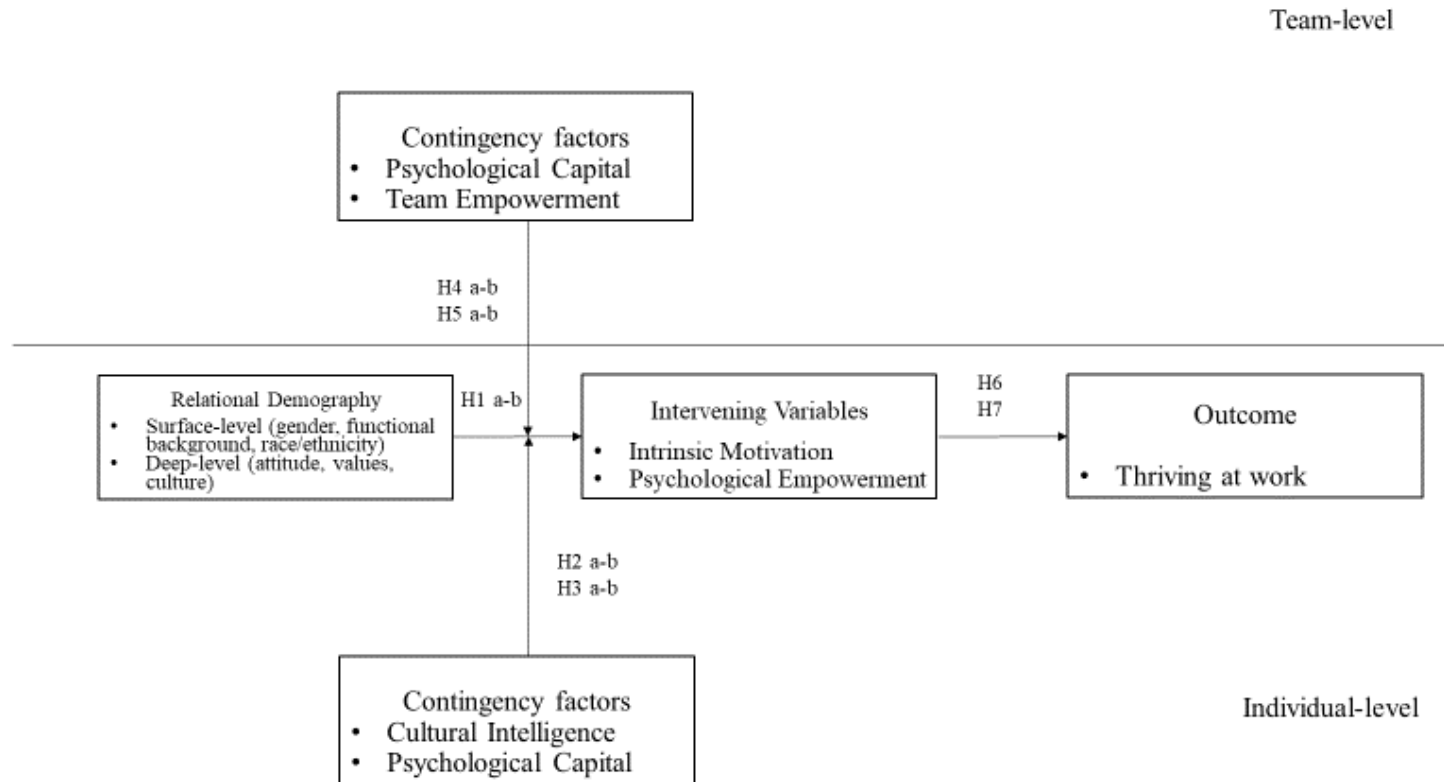
Figure 2a

**Interaction of Relational Demography (Goal Commitment) and
Cultural Intelligence with Psychological Empowerment as Dependent Variable**

Effect of Relational Demography on Intrinsic Motivation under the influence of Cultural Intelligence
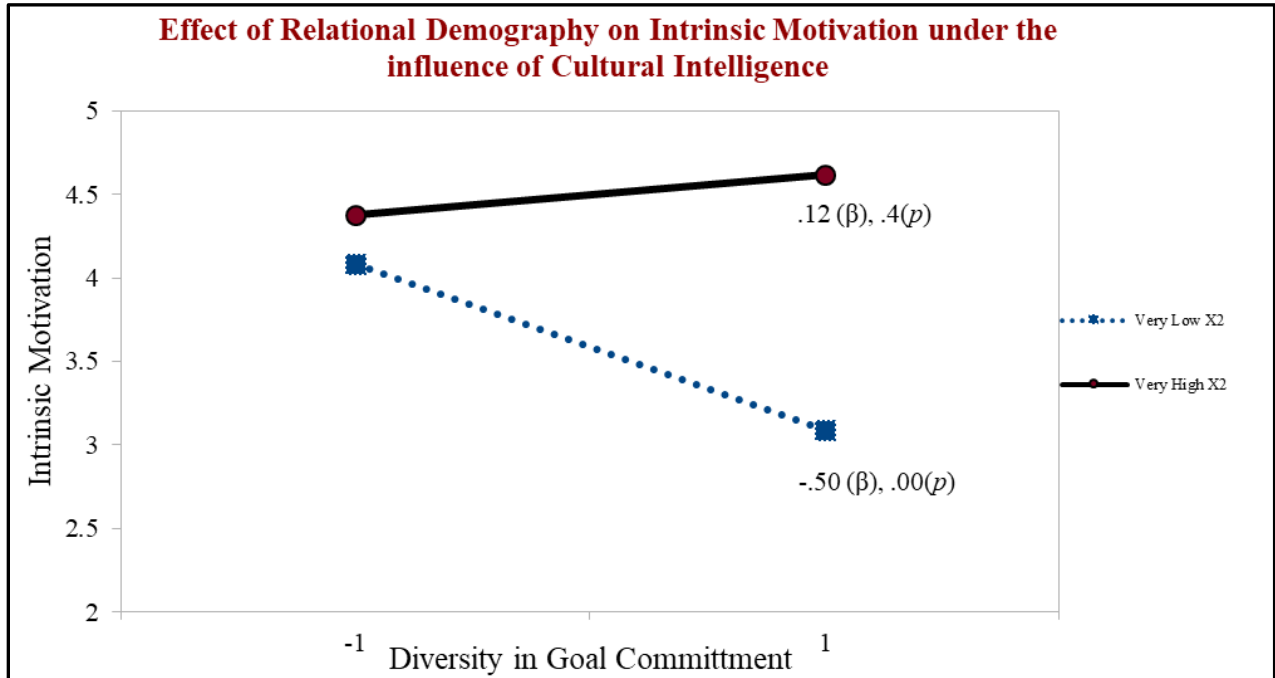
Figure 2b

Interaction of Relational Demography (Goal Commitment) and

Cultural Intelligence with Intrinsic Motivation as Dependent Variable

Effect of Relational Demography on Intrinsic Motivation under the influence of Cultural Intelligence
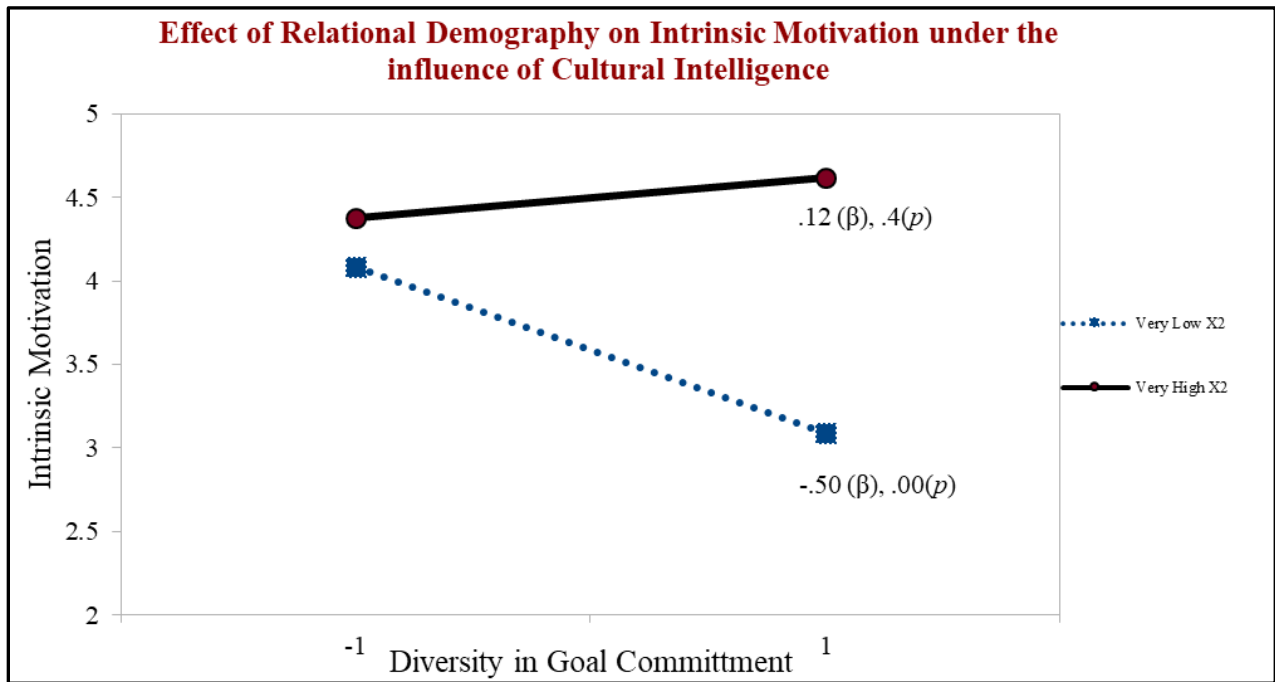
Figure 2c

**Interaction of Relational Demography (Race) and Psychological Capital
with Intrinsic Motivation as Dependent Variable**
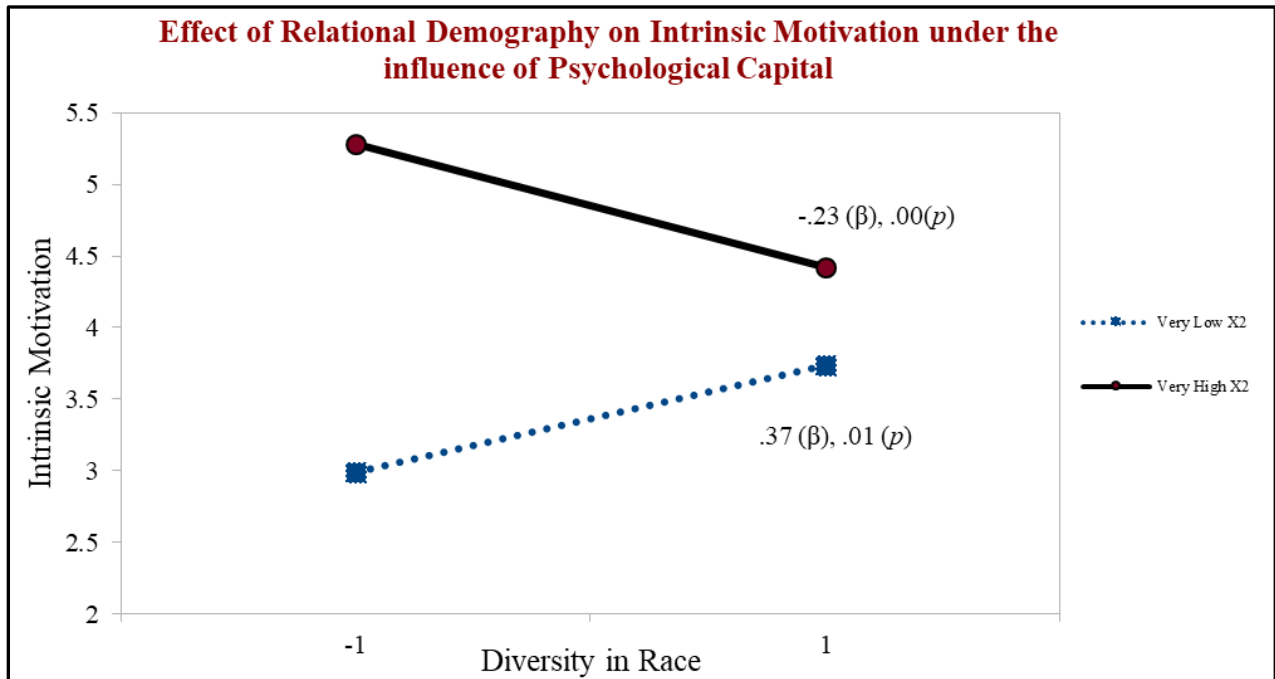
Figure 2d

Interaction of Relational Demography (Power Distance) and Psychological Capital with Intrinsic Motivation as Dependent Variable
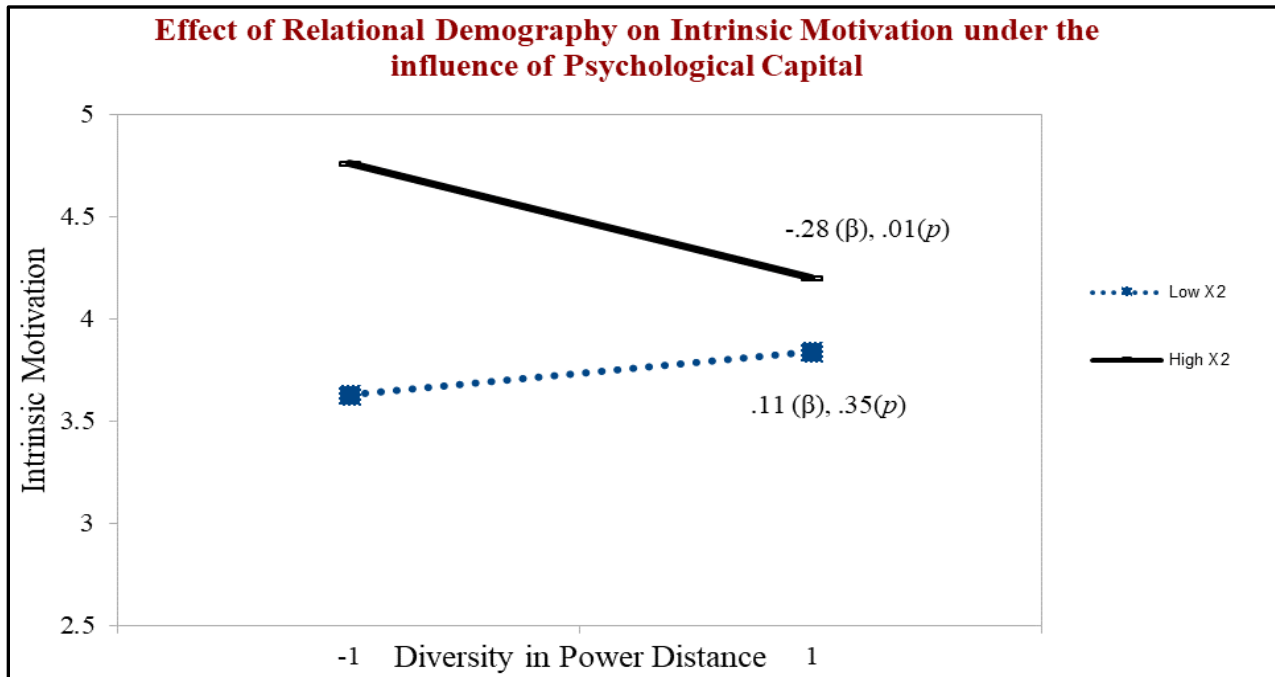
Figure 2e

Interaction of Relational Demography (Race) and Team Psychological Capital with Psychological Empowerment as Dependent Variable

Effect of Relational Demography on Psychological Empowerment under the influence of Team Psychological Capital

Interaction of Relational Demography (Task Meaningfulness) and Team

Psychological Capital with Psychological Empowerment as Dependent Variable

Effect of Relational Demography on Psychological Empowerment under the influence of Team Psychological Capital

Figure 2g

Interaction of Relational Demography (Task Meaningfulness) and

Team Psychological Capital with Intrinsic Motivation as Dependent Variable

Effect of Relational Demography on Intrinsic Motivation under the influence of Team Psychological Capital

-.24 (β), .16(p)

.46 (β), .01(p)

Very Low X2

Very High X2

Intrinsic Motivation
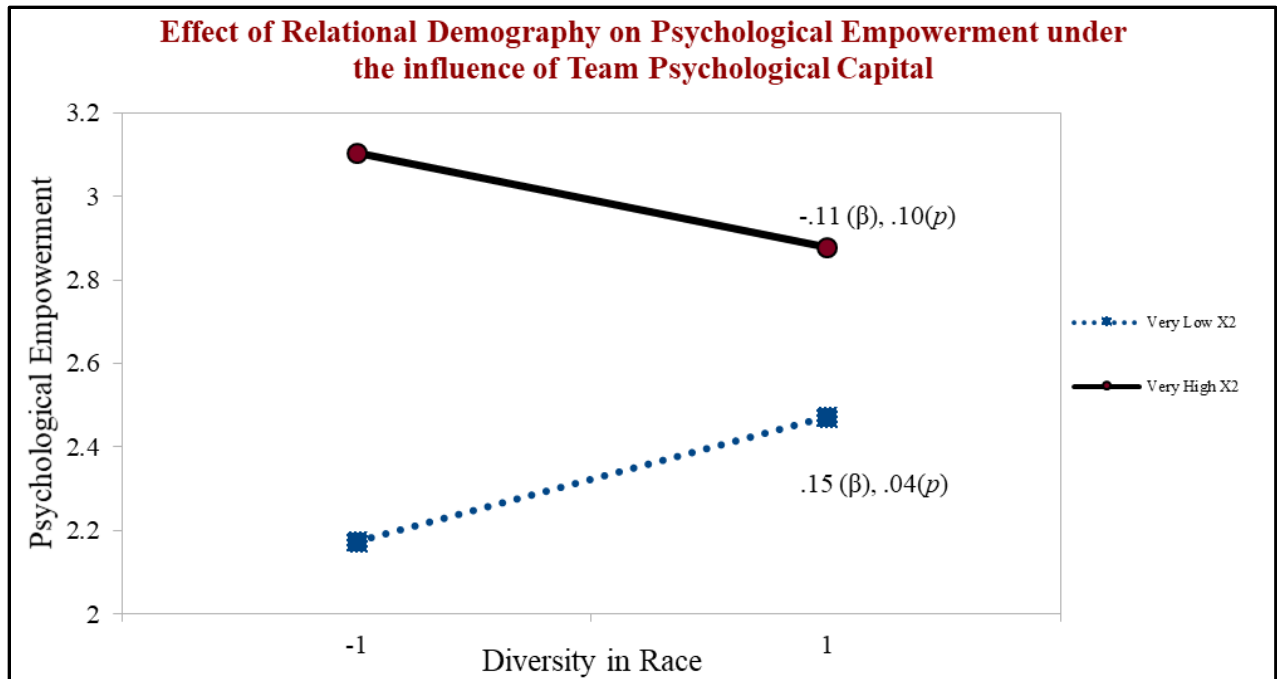
Diversity in Task Meaningfulness
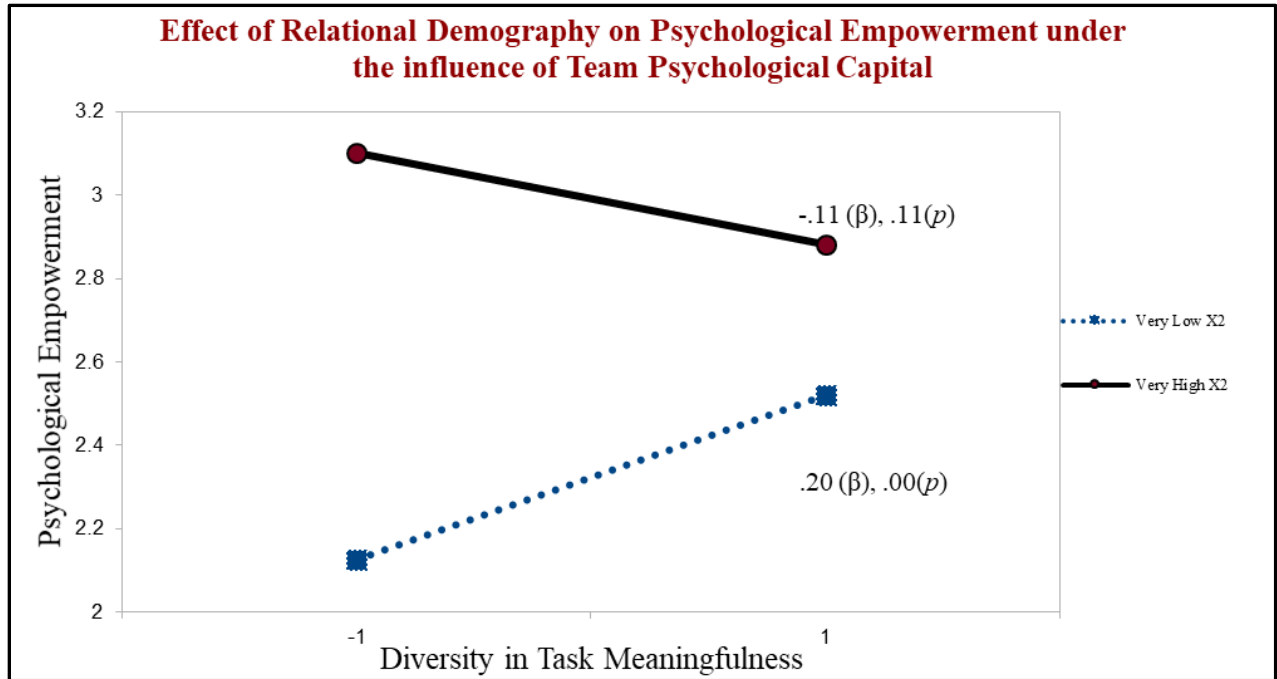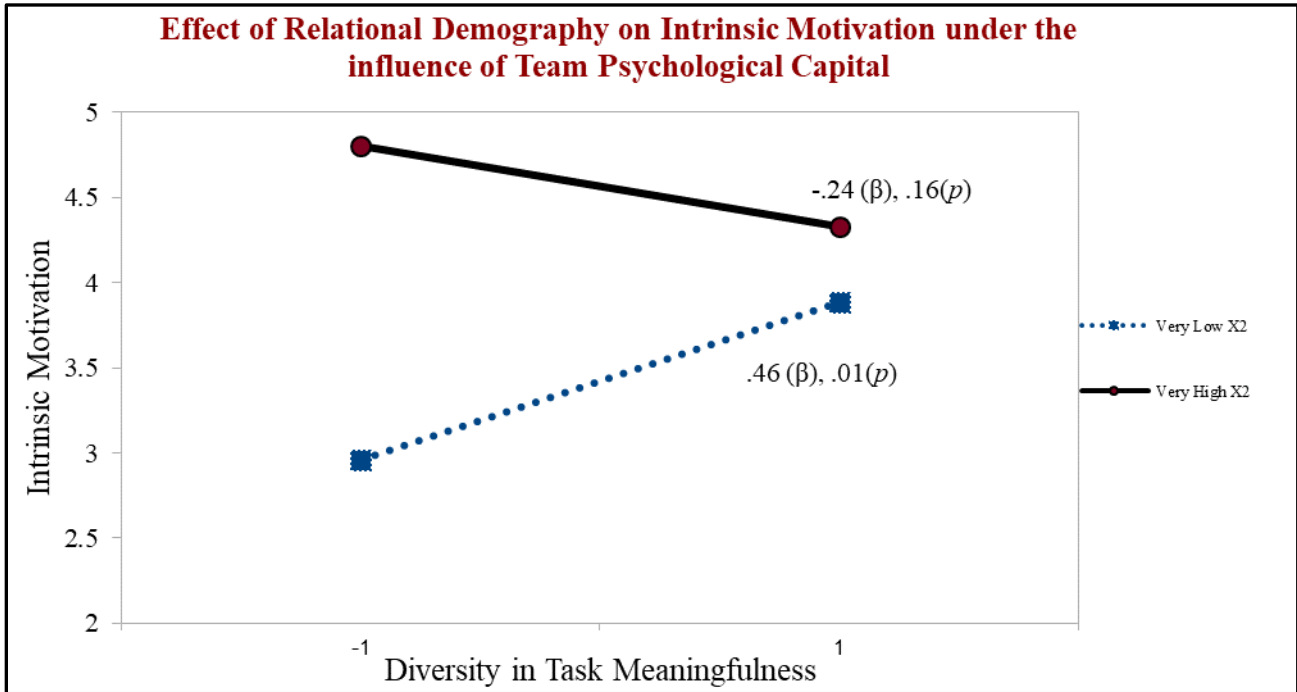
Figure 2h

Interaction of Relational Demography (Race) and

Team Psychological Capital with Intrinsic Motivation as Dependent Variable
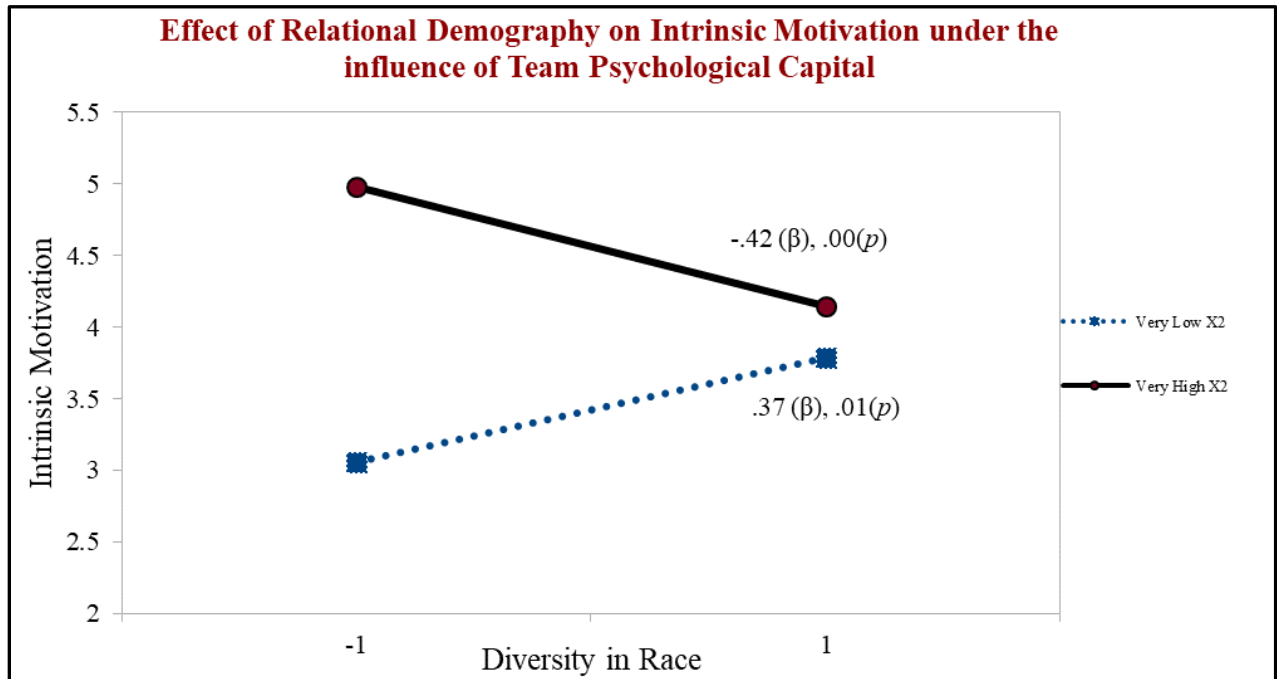
APPENDIX B

TABLES

Table 1

Confirmatory Factor Analysis Results

	CFI	RMSEA	IFI	SRMR
Wave 1	0.9	0.05	0.9	0.08
Wave 2	0.95	0.07	0.95	0.10

Wave Wise Variables	
Wave 1	*Wave 2*
Task Meaningfulness	Intrinsic Motivation
Power Distance	Psychological Empowerment
Individualism	
Terminal Values	
Goal Commitment	
Psychological Capital	
Cultural Intelligence	
Team Empowerment	

Table 2a

Means, Standard Deviations and Correlations Among Individual-Level Variables

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Gender	.45	.32													
2 Race	.6	.28	.06												
3 Functional Background	.62	.29	.09	.06											
4 Task Meaningfulness	1.2	.72	-.01	.03	.12*										
5 Individualism	1.4	.73	.08	.03	.01	.11*									
6 Power Distance	1.16	.7	.03	.06	.12**	.22**	.40**								
7 Terminal Values	1.43	.74	-.01	.02	.22**	.09*	.06	.05							
8 Goal Commitment	1.03	.69	.02	.10*	-.08	.25**	.22**	.34**	.03						
9 Cultural Intelligence	2.48	.94	0	-.11*	-.01	-.05	-.08	-.09*	.03	-.01					
10 Psychological Capital	2.53	.73	.08	-.01	-.03	-.02	-.02	.04	-.03	-.01	.437**				
11 Intrinsic Motivation	3.78	1.49	-.01	-.05	-.02	.02	-.07	-.09	.04	-.12**	.15**	.25**			
12 Psychological Empowerment	2.6	.74	.03	.02	.06	.04	-.07	0	.04	0	.22**	.43**	.41**		
13 Thriving at Work	2.36	.91	.10*	-.08	0	.02	-.03	0	-.04	-.05	.34**	.51**	.25**	.41**	

*Note. * p < .05. ** p < .01. N=481*

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Table 2b

Means, Standard Deviations and Correlations Among Team-Level Variables

Variables	Mean	*SD*	1	2
1 Team Psychological Capital	2.53	.43		
2 Team Empowerment	2.53	.74	.25**	
3 Team Size	3.6	.77	0	-.03

*Note. * p < .05. ** p < .01. N = 481*

Table 3

The Direct Effect of Relational Demography Variables with the Intervening Variables

Predicator Variables	Psychological Empowerment	Intrinsic Motivation
Gender, *d* score	.08	.07
Race, *d* score	.05	-.13
Functional Background, *d* score	.11	-.19
Task Meaningfulness, *d* score	.04	.13
Individualism, *d* score	-.08	-.07
Power Distance, *d* score	.02	-0.10
Terminal Values, *d* score	.04	.12
Goal Commitment, *d* score	0	-.24*
Team Size, *d* score	-.03	-.09
Variance Components		
Level-1		2.16
Level-2		.03
Level-3		.01

*Note. ** $p < .01$. * $p < .05$. N=481*

Table 4a

**Regression Results for Interaction Effect of Relational Demography with
Cultural Intelligence on Psychological Empowerment**

Variable	Main Effects	Interaction Effects								
Intercept		2.67***	2.68***	2.68***	2.66***	2.62***	2.65***	2.67***	2.65***	2.68***
Gender, *d* score	.07	.02								.02
Race, *d* score	.06		.04							.05
Functional Background, *d* score	.16			.05						.04
Task Meaningfulness, *d* score	.04				.04					.03
Individualism, *d* score	-.07					-.04				-.04
Power Distance, *d* score	.01						.01			.02
Terminal Values, *d* score	.05							.03		.01
Goal Commitment, *d* score	0								.01	-.01
Team Size		-.02	-.02	-.02	-.02	-0.00415	-.01	-.02	-.01	-.02
Cultural Intelligence		0.16***	0.17***	0.17***	0.17***	0.16***	0.17***	0.16***	0.16***	0.17***
Gender X CI		.02								.04
Race X CI			-.03							-.04
Functional Background X CI				-.05						-.03
Task Meaningfulness X CI					-.04					-.06
Individualism X CI						-.01				-.01
Power Distance X CI							-.05			-.06
Terminal Values X CI								.02		.03
Goal Commitment X CI									.06	.10**

Note. *** $p < .001$. ** $p < .01$. * $p < .05$. (n = 481)

Table 4b

Mixed Model for Relational Demography with Cultural Intelligence on Intrinsic Motivation

Variable	Main Effects	Interaction Effects								
Intercept		4.18***	4.10***	4.17***	4.17***	4.10***	4.11***	4.22***	4.10***	4.04***
Gender, *d* score	.02	.01								.02
Race, *d* score	-.19		-.02							.03
Functional Background, *d* score	-.07			-.01						-.04
Task Meaningfulness, *d* score	.05				.04					.1
Individualism, *d* score	-.13					-.07				-.01
Power Distance, *d* score	-.18						-.12			-.06
Terminal Values, *d* score	.11							.07		.04
Goal Commitment, *d* score	-0.25*								-.16*	-.19*
Team Size		-.11	-.09	-.11	-.11	-.09	-.09	-.12	-.09	-.08
Cultural Intelligence (CI)		0.23**	0.23**	0.24***	0.24**	0.22**	0.23**	0.21**	0.22**	0.23**
Gender X CI		-.03								.03
Race X CI			-.12							-.12
Functional Background X CI				-.14						-.12
Task Meaningfulness X CI					-.08					-.12
Individualism X CI						.03				.05
Power Distance X CI							-.13			-.15
Terminal Values X CI								.09		.12
Goal Commitment X CI									.1	0.15*
Variance Components										
Level-1		2.14	2.12	2.13	2.13	2.14	2.11	2.13	2.13	2.06
Level-2		.03	.04	.03	.04	.03	.04	.03	.01	.04
Level-3		--	--	--	--	--	--	--	--	--

Note. *** $p < .001$. ** $p < .01$. * $p < .05$. (*n = 481*)

Table 5a

**Regression Results for Interaction Effect of Relational Demography with
Psychological Capital on Psychological Empowerment**

Variable	Main Effects	Interaction Effects								
Intercept		2.67***	2.68***	2.70***	2.68***	2.62***	2.67***	2.70***	2.67***	2.71***
Gender, *d* score	.07	0								0
Race, *d* score	.06		.02							.02
Functional Background, *d* score	.16			.06						.05
Task Meaningfulness, *d* score	.04				.04					.03
Individualism, *d* score	-.07					-.04				-.04
Power Distance, *d* score	.01						-.01			-.01
Terminal Values, *d* score	.05							.04		.03
Goal Commitment, *d* score	0								0.002596	.01
Team Size		-.02	-.02	-.03	-.02	-.01	-.02	-.03	-.02	-.03
Psychological Capital (PC)		0.32***	0.32***	0.32***	0.32***	0.32***	0.32***	0.31***	0.32***	0.31***
Gender X PC		.03								.02
Race X PC			-.04							-.04
Functional Background X PC				0						-.01
Task Meaningfulness X PC					-.01					0
Individualism X PC						.02				.05
Power Distance X PC							-.03			-.05
Terminal Values X PC								.04		.04
Goal Commitment X PC									-.01	0

Note. *** *p* < .001. ** *p* < .01. * *p* < .05. (*n* = 481)

Table 5b

Mixed Model for Relational Demography with Psychological Capital on Intrinsic Motivation

Variable	Main Effects	Interaction Effects								
Intercept		4.18***	4.11***	4.20***	4.20***	4.11***	4.19***	4.27***	4.13***	4.10***
Gender, *d* score	.02	-.02								-.03
Race, *d* score	-.19		-.05							-.03
Functional Background, *d* score	-.07			0						-.04
Task Meaningfulness, *d* score	.05				.04					.12
Individualism, *d* score	-.13					-.08				-.02
Power Distance, *d* score	-.18						-.14*			-.09
Terminal Values, *d* score	.11							.09		.08
Goal Commitment, *d* score	-0.25*								-.17*	.18*
Team Size		-.11	-.09	-.12	-.12	-.09	-.11	-.13	-.1	-.09
Psychological Capital (PC)		0.38***	0.37***	0.38***	0.39***	0.37***	0.39***	0.37***	0.38***	0.37***
Gender X PC		.02								-.01
Race X PC			-.18**							-.20**
Functional Background X PC				-.04						-.03
Task Meaningfulness X PC					-.03					.02
Individualism X PC						.02				.09
Power Distance X PC							-.13*			-.19*
Terminal Values X PC								.03		.04
Goal Commitment X PC									-.01	.03
Variance Components										
Level-1		2.06	2.03	2.06	2.06	2.07	2.03	2.07	--	2.0
Level-2		.02	.02	.02	.02	.01	.02	.01	--	--
Level-3		--	--	--	--	--	--	--	--	.02

Note. *** $p < .001$. ** $p < .01$. * $p < .05$. (*n = 481*)

Table 6a

**Regression Results for Interaction Effect of Relational Demography with
Team Psychological Capital on Psychological Empowerment**

Variable	Main Effects	Interaction Effects								
Intercept		2.68***	2.68***	2.71***	2.67***	2.62***	2.67***	2.71***	2.67***	2.66***
Gender, *d* score	.07	.01								.01
Race, *d* score	.06		.02							.02
Functional Background, *d* score	.16			.06						.04
Task Meaningfulness, *d* score	.04				.04					.04
Individualism, *d* score	-.07					-.05				-.06
Power Distance, *d* score	.01						0			.01
Terminal Values, *d* score	.05							.04		.02
Goal Commitment, *d* score	0								.01	0
Team Size		-.02	-.02	-.03	-.02	0	-.02	-.03	-.02	-.02
Team Psychological Capital (TPC)		0.15***	0.14***	0.15***	0.16***	0.15***	0.15***	0.15***	0.15***	0.17***
Gender X TPC		-.01								-.02
Race X TPC			-.07*							-.07*
Functional Background X TPC				-.03						-.03
Task Meaningfulness X TPC					-.06					-.08*
Individualism X TPC						0				.01
Power Distance X TPC							-.02			.01
Terminal Values X TPC								.01		.02
Goal Commitment X TPC									0	.04

Note. *** $p < .001$. ** $p < .01$. * $p < .05$. (n = 481)

Table 6b

Regression Results for Interaction Effect of Relational Demography with Team Psychological Capital on Intrinsic Motivation

Variable	Main Effects	Interaction Effects								
Intercept		4.18***	4.11***	4.22***	4.18***	4.10***	4.15***	4.26***	4.15***	4.00***
Gender, *d* score	.02	-.02								.01
Race, *d* score	-.19		-.04							-.03
Functional Background, *d* score	-.07			.01						-.05
Task Meaningfulness, *d* score	.05				.04					.11
Individualism, *d* score	-.13					-.1				-.03
Power Distance, *d* score	-.18						-.13			-.07
Terminal Values, *d* score	.11							.1		.07
Goal Commitment, *d* score	-0.25*								-.17	-.19*
Team Size		-.11	-.09	-.12	-.11	-.09	-.1	-.13	-.1	-.06
Team Psychological Capital (TPC)		0.25***	0.24***	0.25***	0.28***	0.25***	0.25***	0.26***	0.24***	0.29***
Gender X TPC		.04								-.01
Race X TPC			-.16*							-.20**
Functional Background X TPC				-.06						-.09
Task Meaningfulness X TPC					-.14*					-.18*
Individualism X TPC						0				-.01
Power Distance X TPC							0			.11
Terminal Values X TPC								-.02		-.02
Goal Commitment X TPC									-.04	.01

Note. *** $p < .001$. ** $p < .01$. * $p < .05$. (*n = 481*)

Table 7a

Regression Results for Interaction Effect of Relational Demography with Team Empowerment on Psychological Empowerment

Variable	Main Effects	Interaction Effects								
Intercept		2.67***	2.71***	2.69***	2.70***	2.65***	2.68***	2.69***	2.69***	2.66***
Gender, *d* score	.07	.01								.01
Race, *d* score	.06		.02							.02
Functional Background, *d* score	.16			.01						.01
Task Meaningfulness, *d* score	.04				.04					.03
Individualism, *d* score	-.07					-.03				-.03
Power Distance, *d* score	.01						-.01			-.02
Terminal Values, *d* score	.05							.03		.01
Goal Commitment, *d* score	0								.02	.03
Team Size		-.02	-.03	.05	.05	.05	.05	.05	.05	-.01
Team Empowerment (TE)		0.22***	0.22***	0.23***	0.23***	0.22***	0.23***	0.21***	0.23***	0.22***
Gender X TE		-.04								-.03
Race X TE			-.04							-.02
Functional Background X TE				-.05						-.05
Task Meaningfulness X TE					-.04					-.02
Individualism X TE						0.003313				.01
Power Distance X TE							-.04			-.02
Terminal Values X TE								.05		.06
Goal Commitment X TE									-.03	-.03

Note . *** *p* < .001. ** *p* < .01. * *p* < .05. (*n = 481*)

Table 7b

Mixed Model for Relational Demography with Team Empowerment on Intrinsic Motivation

Variable	Main Effects	Interaction Effects								
Intercept		4.16***	4.09***	4.18***	4.28***	4.14***	4.10***	4.27***	4.13***	4.16***
Gender, *d* score	.02	0								0
Race, *d* score	-.19		-.11							-.1
Functional Background, *d* score	-.07			-.02						-.06
Task Meaningfulness, *d* score	.05				.11					.14
Individualism, *d* score	-.13					-.04				.01
Power Distance, *d* score	-.18						-.1			-.07
Terminal Values, *d* score	.11							.09		.09
Goal Commitment, *d* score	-0.25*								-.1	-.12
Team Size		-.08	-.06	-.09	-.11	-.08	-.07	-.11	-.08	-.08
Team Empowerment (TE)		0.24**	0.24**	0.25**	0.24**	0.24**	0.24**	0.24**	0.23**	0.25**
Gender X TE		-.04								-.04
Race X TE			-.07							-.08
Functional Background X TE				-.04						.01
Task Meaningfulness X TE					.06					.07
Individualism X TE						.05				.11
Power Distance X TE							-.05			-.11
Terminal Values X TE								-.02		-.05
Goal Commitment X TE									.03	.05
Variance Components										
Level-1		2.06	2.06	2.07	2.03	2.06	2.06	2.07	2.06	2.06
Level-2		.05	.03	.04	.07	.05	.05	.03	.05	.04
Level-3		.04	.06	.05	.05	.03	.02	.06	.03	.06

Note. *** *p* < .001. ** *p* < .01. * *p* < .05. (*n* = 481)

Table 8

The Direct Effect of Intervening Variables on Thriving at Work

Predicator Variables	Thriving at Work
Intrinsic Motivation	.04
Psychological Empowerment	.20**
Variance Components	
Level-1	.53
Level-2	.04
Level-3	--

*Note. ** p < .01. * p < .05. n=481*

Table 9

The Mediation Effect of Intervening Variables

Variable	Coefficient	
Intercept	2.27***	2.23***
Intrinsic Motivation		.12
Psychological Empowerment		0.20***
Gender, *d* score	.07	.07
Race, *d* score	-.07	-.08
Functional Background, *d* score	-.02	-.03
Task Meaningfulness, *d* score	.06	.04
Individualism, *d* score	-.02	-.01
Power Distance, *d* score	0	.01
Terminal Values, *d* score	-.03	-.04
Goal Commitment, *d* score	-.06	-.06
TeamSize	.02	.03
Variance Components		
Level-1	.57	.53
Level-2	.04	.04
Level-3	--	--

Note. *** $p < .001$. ** $p < .01$. * $p < .05$.

APPENDIX C

MEASURES

S. No	Construct	Source	Number of Items	Items	Reliability
1	Functional background	Self-reported		Area of major	
2	Gender	Self-reported		Male/Female	
3	Race/Ethnicity	Self-reported		Caucasians, African American, Asian, Hispanics, Others, country of origin	
4	Task Meaningfulness	Harrison *et al.* (2002)	3	1. I learn a lot from the course 2. It is more than busy work 3. Taking the course is worthwhile	0.82
5	Culture (Individualism/ Collectivism)	Wagner III (1995)	6	1. Only those who depend on themselves get ahead in life. 2. In the long run, the only person you can count on is yourself. 3. To be superior, a person must stand alone. 4. A group is more productive when its members do what they want to do rather than what the group wants them to do. 5. A group is most efficient when its members do what they think is best rather than doing what the group wants them to do. 6. A group is more productive when its members follow their own interest and concerns.	0.83

S. No	Construct	Source	Number of Items	Items	Reliability
6	Culture (Power distance)	Earley & Erez (1997)	6	1. In work-related matters, team leaders have a right to expect obedience from their subordinates. 2. Team members who often question authority sometimes keep their leaders from being effective. 3. Team members should not express disagreements with their team leaders. 4. Authority structures in teams are useful for ensuring that each person knows who has power over him or her. 5. The team leader's authority should not be questioned 6. In most situations, team leaders should make decisions without consulting their team members.	0.76
7	Value (Goal Commitment)	Klein *et al.* (2001)	5	1. It's hard to take our group project seriously (R) 2. Quite frankly, I don't care if I complete the group project or not (R) 3. I am strongly committed to pursuing the group project 4. It wouldn't take much to make me abandon the group project (R) 5. I think this is a good project to work on	0.71
8	Intrinsic Motivation	Grant (2008)	4	*Introductory question* – why are you motivated to do your work: 1. Because I enjoy the work itself 2. Because it's fun 3. Because I find the work engaging 4. Because I enjoy it	.95

S. No	Construct	Source	Number of Items	Items	Reliability
9	Value (Terminal values)	Harrison *et al.* (2002)	18	*Terminal Values* Introductory question - to what extent will a university course help you attain- 1. A comfortable life (a prosperous life) 2. Equality (brotherhood and equal opportunity for all) 3. An exciting life (a stimulating, active life) 4. Family security (taking care of loved ones) 5. Freedom (independence and free choice) 6. Health (physical and mental well-being) 7. Inner harmony (freedom from inner conflict) 8. Mature love (sexual and spiritual intimacy) 9. National security (protection from attack) 10. A world at peace (free of war and conflict) 11. Self-respect (self-esteem) 12. Happiness (contentedness) 13. Wisdom (a mature understanding of life) 14. Salvation (saved, eternal life) 15. True friendship (close companionship) 16. A sense of accomplishment (a lasting contribution) 17. A world of beauty (beauty of nature and the arts) 18. Pleasure (an enjoyable, leisurely life)	0.95

S. No	Construct	Source	Number of Items	Items	Reliability
10	Psychological Empowerment	Spreitzer (1995)	12	*Meaning* 1. The work I do is very important to me 2. My job activities are personally meaningful to me 3. The work I do is meaningful to me	0.91
				Competence 1. I am confident about my ability to do my job 2. I am self-assured about my capabilities to perform my work activities 3. I have mastered the skills necessary for my job	0.84
				Self-Determination 1. I have significant autonomy in determining how I do my job 2. I can decide on my own how to go about doing my work 3. I have considerable opportunity for independence and freedom in how I do my job	0.80
				Impact 1. My impact on what happens in my group is large 2. I have a great deal of control over what happens in my group 3. I have significant influence over what happens in my group	0.86

S. No	Construct	Source	Number of Items	Items	Reliability
11	Psychological Capital	Luthans *et al.* (2007)	24	*Psychological Capital Questionnaire* *Self-Efficacy* 1. I feel confident analyzing a long-term problem to find a solution. 2. I feel confident in representing my work area in meetings with management. 3. I feel confident contributing to discussions about the company's strategy. 4. I feel confident helping to set targets/goals in my work area. 5. I feel confident contacting people outside the company (e.g., suppliers, customers) to discuss problems. 6. I feel confident presenting information to a group of colleagues.	0.87
				Hope 7. If I should find myself in a jam at work, I could think of many ways to get out of it. 8. At present, I am energetically pursuing my work goals. 9. There are lots of ways around any problem. 10. Right now I see myself as being pretty successful at work. 11. I can think of many ways to reach my current work goals. 12. At this time, I am meeting the work goals that I have set for myself.	0.84

S. No	Construct	Source	Number of Items	Items	Reliability
	Psychological Capital *(contd.)*	Luthans *et al.* (2007)	24	*Resiliency* 13. When I have a setback at work, I have trouble recovering from it, moving on. (R) 14. I usually manage difficulties one way or another at work. 15. I can be "on my own," so to speak, at work if I have to. 16. I usually take stressful things at work in stride. 17. I can get through difficult times at work because I've experienced difficulty before. 18. I feel I can handle many things at a time at this job.	.74
				Optimism 19. When things are uncertain for me at work, I usually expect the best. 20. If something can go wrong for me work-wise, it will. (R) 21. I always look on the bright side of things regarding my job. 22. I'm optimistic about what will happen to me in the future as it pertains to work. 23. In this job, things never work out the way I want them to. (R) 24. I approach this job as if 'every cloud has a silver lining.'	0.73

S. No	Construct	Source	Number of Items	Items	Reliability
12	Team Empowerment	Kirkman *et al.* (2004)	12	*Potency* 1. My team has confidence in itself. 2. My team can get a lot done when it works hard. 3. My team believes that it can be very productive.	0.88
				Meaningfulness 4. My team believes that its projects are significant. 5. My team feels that its tasks are worthwhile. 6. My team feels that its work is meaningful.	0.91
				Autonomy 7. My team can select different ways to do the team's work. 8. My team determines as a team how things are done in the team. 9. My team makes its own choices without being told by management.	0.64
				Impact 10. My team has a positive impact on this course. 11. My team performs tasks that matter to this course. 12. My team makes a difference in this course.	0.89

S. No	Construct	Source	Number of Items	Items	Reliability
13	Cultural Intelligence - Motivational	Ang *et al.* (2007)	5	1. I enjoy interacting with people from different cultures 2. I am confident that I can socialize with locals in a culture that is unfamiliar to me 3. I am sure I can deal with the stresses of adjusting to a culture that is new to me; 4. I enjoy living in cultures that are unfamiliar to me 5. I am confident that I can get accustomed to the shopping conditions in a different culture.	.85
14	Thriving at Work	Porath *et al.* (2012)	10	*Learning –* 1. I find myself learning often 2. I continue to learn more as time goes by 3. I see myself continually improving 4. I am not learning (R) 5. I am developing a lot as a person *Vitality –* 1. I feel alive and vital 2. I have energy and spirit 3. I do not feel very energetic 4. I feel alert and awake 5. I look forward to each new day	0.88 .92

ESSAY 3

THE TEAM DIVERSITY-PERFORMANCE RELATION FROM A POSITIVE

PSYCHOLOGY LENS

In response to the rapidly changing and challenging business environments, organizations have increasingly adopted work teams as a functional unit to increase flexibility and performance. Team-based organizations can promote productivity through the effective cross-fertilization of ideas and skill sets because work teams help integrate various type of information, perspectives, and experiences that are conducive for efficient and effective organizational functioning. Benefits of such an operationalization are, however, accompanied by its unique impediments. When people with different demographic characteristics and varied background come together, it increases diversity of the functional unit. *Team diversity* can be described as the distributional differences among team members with respect to a common attribute (Harrison & Klein, 2007). As described earlier, it facilitates positive outcomes on one hand, and negative outcomes on the other. For instance, increased diversity can lead to decreased cooperation, coordination, and integration among team members, and consequently decrease performance (Milliken & Martins, 1996). These findings have been supported by several categorization theories, which suggest that individuals are attracted to others that share similar attributes and categorize dissimilar others into subgroups, creating the in-group out-group distinction. The opposing beneficial approach of diversity is grounded in information-processing theory which posits that diversity brings in a broader territory of available knowledge and perspectives that will enhance performance. As a result of these conflicting outcomes, diversity is also referred to as 'the double-edged sword'.

Scholars have endeavored to find solutions to these opposing views and findings can be classified in themes, however, they are inconsistent and varied. For instance, a generic perception is that demographic characteristics such as age and gender have a negative effect on performance and other outcomes (Ely, 2004; Harrison *et al.*, 2002; Pelled *et al.*, 1999), however, results might vary when this effect is examined in presence of different contexts. Wegge and colleagues (2008) posit that the level of task-complexity will positively moderate the age diversity-group performance relation when the group is performing complex decision-making tasks. This highlights the pertinence of context and has been accentuated by previous scholars (c.f. Joshi & Roh, 2009). A careful perusal of the situational settings in which the diversity-performance relation is examined might help in reconciling the mixed results from past and unveil new findings.

Researchers have examined a variety of contextual factors, such as – time (Watson *et al.*, 1993), task complexity and task interdependence (Jehn *et al.*, 1999), task routineness (Pelled *et al.*, 1999), team level (Webber & Donahue, 2001), outcome interdependence and group longevity (Schippers *et al.*, 2003), and leadership type (Kearney & Gebert, 2009). A closer look at these variables reveal negligence on two aspects – first, these contexts are based on attributes peripheral to the unit and are dependent on external traits of the task, leader, organization, or outcome, on which the team members have no direct control. On the contrary, immanent qualities of team members that can shape a team's personality are not focused as much. Second, although research in organizational behavior has realized the importance of positivity (positive organizational behavior, positive organizational scholarship), however, its significance still remains unidentified in context to the diversity-performance relationship. These are important

prospects because inherent positive traits are a never-ending resource and access to these is not dependent on external factors, such as organizational support or transformational leadership.

The purpose of this study is to infuse the positivity theme with diversity and analyze its effect on processes and outcomes. This is important because there is a negative bias in diversity research and this limits our understanding of the conditions that promote the benefits of diversity and mechanisms that foster those (Stahl *et al.*, 2010). Promoting this line of thought, a recent meta-analysis (Stahl & Tung, 2015) reveals that there is a pervasive tendency in international business literature of focusing on adverse outcomes of cultural diversity more than the positive outcomes. The authors argue that this imbalance is an inaccurate reflection of cross-cultural contacts and hinders our understanding of the wide range of benefits that organizations leverage from cultural diversity. In order to overcome this microscopic view, the inceptive step is to examine the moderating effect of three positive traits (collective psychological capital, team goal orientation, and team empowerment) on diversity-team processes relation and also the direct effect of collective psychological capital on team performance (refer to Figure 1). Effect of these concepts are grounded in theories such as broaden and build theory of positive emotions (Fredrickson, 1998, 2001), self-determination theory (Ryan & Deci, 2000), expectancy theory (Vroom, 1964), and goal-setting theory (Locke & Latham, 1990).

This study contributes to existing literature and theory in several ways. First, it amalgamates the positive psychology theme with the diversity research in the form of contextual variables. Second, a new set of theoretical underpinnings are intertwined with diversity literature to elucidate cause and effects of the above-mentioned constructs that are new to the subject. Next, this study contributes to team learning theory by exploring its role in heterogeneous teams and identifying effect of positive psychology traits on it. Finally, this essay significantly adds to

the psychological capital literature by empirically examining the construct at team level. Also, it is virtually the first study to investigate the construct as a moderator at the team-level of analysis. PsyCap has previously not been investigated for its role in diversity literature and this study fills this void. I will discuss these more elaborately later in the essay.

Insert Figure 1 about here

CONCEPTUAL BACKGROUND AND DEFINITIONS

Antecedents

Diversity

Diversity is a unit-level compositional construct that refers to the distribution of differences among unit members with respect to a common attribute, such as tenure, ethnicity, conscientiousness, or task attitude (Harrison & Klein, 2007). It has commonly been differentiated as observable (readily detectable attributes, viz. age, gender, and race) and non-observable (less visible or underlying attributes, e.g. skills or knowledge) characteristics (Milliken & Martins, 1996). Later, Harrison and colleagues (2002) proposed another classification – *surface-level diversity* that is defined as 'differences among team members in overt demographic characteristics (pg. 1030) and *deep-level diversity,* which is defined as 'differences among team member's psychological characteristics, including personalities, values, and attitudes' (pg. 1031). Another recent classification by Harrison & Klein (2007) differentiates diversity as separation (differences in position or opinion among unit members), variety

(differences in kind or category of information, knowledge, or experience among unit members), and disparity (differences in concentration of valued social assets or resources).

Intervening Variables

Social Integration

Social integration is a multi-faceted phenomenon that reflects 'the attraction to the group, satisfaction with other members of the group, and social interaction among the group members' (O'Reilly *et al.*, 1989, pg. 22). Guillaume *et al.* (2012) describe these individual dimensions as follows – *attachment* or attraction refers to refers to the overlap of an individual's self-image with his or her image of the work group and comprises the two related constructs of commitment and identification (Riketta, 2005). *Satisfaction* refers to a cognitive and/or affective evaluation of one's work as more or less positive or negative (Brief & Weiss, 2002). *Quality of social relations* refers to an individual's perceptions of the status of his or her social relations with other group members (Asendorpf & Wilpers, 1998).

Team Learning

There are two different approaches to present organizational learning – some discuss it as an outcome while most others focus on it as a process. In this study, I opt for the latter. Team learning processes are exemplified by the construct of 'learning behavior' defined as 'an ongoing process of reflection and action characterized by asking questions, seeking feedback, experimenting, reflecting on results, and discussing errors or unexpected outcomes of actions' (Edmondson, 1999: 129). Further, team learning behavior is defined as 'activities by which team members seek to acquire, share, refine, or combine task-relevant knowledge through interaction with one another (Argote *et al.*, 1999, pg. 370).

Contextual Variables

Team Goal Orientation

Goal orientation can be described as a disposition towards developing or demonstrating ability in achievement situations (Dweck, 1986). Three different dimensions of goal orientation are identified in literature and Mehta and colleagues (2009, pg. 1029) define these different dimensions at the team level as follows - *team learning goal orientation* is 'a state when team members perceive their group as having learning goals, mutual support mechanisms, and challenging tasks'. *Team performance-prove orientation* is defined as 'a state in which team members perceive high competition and focus on performance and task specificity within their group'. Finally, *team performance-avoid orientation* represents 'a state in which team members perceive their group as focusing more on avoiding negative outcomes and less on task accomplishment'.

Team Empowerment

Employee psychological empowerment is an individual's subjective experience of empowerment based on cognitions about oneself in relation to one's work role (Spreitzer, 1995), whereas team empowerment refers to shared perceptions among team members regarding the team's collective level of empowerment (Seibert *et al.*, 2011). It is described as an increased task motivation due to team member's collective, positive assessment of their tasks within the organizational context (Kirkman & Rosen, 2001). Maynard *et al.* (2012) in their multi-level review of the concept explain that team psychological empowerment is often viewed as an emergent concept and it exists not only because teams have control over their work (i.e. structural empowerment) but rather because members actually believe that they possess the said

authority and responsibility. Alternatively, Avery *et al.* (2013) describe empowerment at the team level as a psychological state consisting of team's ability to make decisions for which they are accountable and accept responsibility.

Collective Psychological Capital

Walumbwa *et al.* (2011) developed a measure of 'collective' psychological capital (PsyCap) and describe it as the product of interactive exchanges between members that created an emergent sense of the group's ability to achieve desired collective goals. It is grounded in the notion of individual level PsyCap that is defined as 'the positive psychological state of development that is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success' (Luthans *et al.*, 2007, pg. 3). Luthans and colleagues (2004, 2007) identified self-efficacy, hope, resilience, and optimism from the positive psychology literature; although these four have differing perspectives and definitions but taken together have been theoretically developed and empirically tested as a state-like positive core construct termed PsyCap.

Outcome

Performance

Team performance can be generally defined as the extent to which a team is able to meet its output goals (e.g., quality, functionality, and reliability of outputs), the expectations of its members, or its cost and time objectives (Ancona & Caldwell, 1992). In recent years, many

studies have focused on describing performance by outcomes and behaviors. For this study, I used the grade assigned by instructors for the team project focus in an academic course.

THEORY AND HYPOTHESES DEVELOPMENT

The domain of 'diversity' has grown tremendously over the past two decades and related research has encompassed a wide variety of phenomena (Jackson *et al.*, 2003). This emphasis can be attributed to the increasing use of functional unit for organizational operations and to the changing nature of workforce. Scholars have attempted to investigate existing and new characteristics, patterns, and contexts while analyzing diversity, with some proclaiming it as beneficial (information processing perspective) while most others identifying it as detrimental (categorization approach). Scholars have been accused of exhibiting a bias of emphasizing the negative effects of diversity more than the positive ones (Stahl *et al.*, 2010). There is ascendency of a 'problem focused view' (Stevens *et al.*, 2008) in diversity research that needs to be addressed. A possible solution to the problem is adoption of the positivity psychology approach (c.f. Stevens *et al.*, 2008, Stahl *et al.*, 2010, Stahl & Tung, 2015). Stahl *et al.* (2010) highlight that there is a notable shortcoming of use of Positive Organizational Scholarship (POS) in team research given its potential to explain team performance. POS offers a fresh lens that encourages scholars to look at common phenomena in new ways. It seeks to resolve processes through which positive or unexpected results can be produced at individual, team, or organizational level (Stahl & Tung, 2015).

I reinforce this approach to adopt positive scholarship in team diversity research and fuse the positive psychology traits as contextual variables to identify their effect on the amply researched diversity-process-performance link. I examine the role of team's goal orientation,

team empowerment, and collective psychological capital on the aforementioned relation. All of these are motivational and encouraging constructs and are expected to mitigate the detrimental effects of diversity. The notions are grounded in a set of theories novel to diversity research. For instance, broaden and build theory of positive emotions, self-determination theory, expectancy theory, and goal-setting theory.

Diversity and Team Processes (Social Integration and Team Learning)

To explain diversity effects on outcomes such as performance, most scholars posit relationship between diversity and team processes, such as interaction process effectiveness (Watson *et al.*, 1993), task, process, and relationship conflict (Jehn *et al.*, 1999), communication (Keller, 2001), information sharing (Bunderson & Sutcliffe, 2002), collective team identification (Kearney & Gebert, 2009), and creativity (Stahl *et al.*, 2010). Research indicates that diversity in terms of demographic attributes such as age, gender, and ethnicity typically have a negative effect on team processes such as communication, conflict, and integration. On the contrary, diversity in terms of education and functional background could improve team performance (c.f. Williams & O'Reilly, 1998; Jackson *et al.*, 2003). A few studies also examine these processes as potential mediators of the proposed diversity-performance relation. In this study I examine the vastly examined process of social integration for the effect of surface-level and deep-level diversity. Team learning is another process and is relatively under-explored in context to diversity effects and needs more examination. I next theorize the effect of diversity on these two processes.

Social integration is a multifaceted phenomenon that refers to the extent to which an individual is psychologically linked to other group members (O'Reilly *et al.*, 1989). It includes elements of cohesiveness, satisfaction with coworkers, positive social interaction, and enjoyment

of team experiences (Harrison *et al.*, 2002). Effect of team diversity on social integration has been extensively researched (e.g. O'Reilly *et al.*, 1989; Smith *et al.*, 2004; Stahl *et al.*, 2010; Guillaume *et al.*, 2012) and scholars have identified a negative relation between diversity and social integration with a few exceptions. For instance, Horwitz and Horwitz (2007) in their meta-analysis of team diversity effects on team outcomes found that team diversity has no discernible effect on social integration. The underlying rational for the negative effect of team diversity on social integration is grounded in the social identity approach (self-categorization theory and social identity theory) which posits that people differentiate themselves from others based on observable differences, such as demographic characteristics. This differentiation leads to categorization of dissimilar others as out-group members to enhance and maintain an individual's social identity. Further, the perceived out-group members are considered less trust-worthy, honest, and cooperative than are members of in-group (Turner, 1982). Likewise, similarity attraction paradigm (Byrne, 1971) suggests that people are more attracted to others that have psychologically similar characteristics. This similarity of personality, attitudes, and values eases interpersonal interaction, assists in communication, and reinforces people's own attitudes and beliefs. This attraction with similar others and stereotyping towards dissimilar others fosters discordance between team members, resulting in lowered sense of satisfaction with the work and work environment, reduced attachment with one's work unit, and overall disarrayed social relationships, thereby hampering social integration. Thus, I supplement previous research on team diversity and social integration and contend that both surface- and deep-level diversity will decrease social integration in a group.

Next, team learning is conceptualized as an ongoing process of reflection and action, characterized by acts of asking questions, soliciting feedback, experimenting, and discussing

errors or unexpected outcomes of actions (Edmondson, 1999). It can also be described as interpersonal interactions that expand the range of options a team considers when seeking to improve its performance. In this study, I propound that a diverse team will hinder the learning process because as explained above and based on self-categorization and social-identity theories, group integration suffers in a heterogeneous team and other processes such as communication and concurrence become difficult and affective conflict increases. Although diverse teams are a resource for enormous information, access to that information will be impeded because of lack of supportive communication and a psychologically safe environment (Edmondson, 1999). Such a setting will restrict team members from working with others, willingness to work in new and ambiguous situations, and confidence in offering solutions (Edmondson *et al.*, 2001). Thus, in spite of information availability and competence, such team member behaviors will hinder the sharing process, leading to disagreements and lack of clarity, and finally ineffective learning. Previous scholars have investigated the issue from varied perspectives. For instance, Gibson & Vermeulen (2003) examined the effect of subgroup strength on team learning behavior and contrary to conventional wisdom, propose that subgroups may stimulate learning behaviors. The authors argue that both very homogeneous and very heterogeneous teams are inclined to engage in learning behaviors, but only when subgroup strength is controlled. On the other hand, Ely and colleagues (2012) inspect the racial diversity-performance relation considering the moderating effect of minority and white team member's assessment of team's learning behavior. The authors propose that the moderating effect will be negative when minority team members view the learning environment as unsupportive whereas it will be positive when both minority and white team members view the learning environment as supportive. Largely, based on the above arguments it can be inferred that diversity will have a negative relation with team learning.

Based on the above stated rationales, I propound that diversity will have deleterious effect on social integration and team learning behavior. Thereby I propose the following hypotheses:

Hypothesis 1: Team diversity will have a negative relation with (a) social integration and (b) team learning behavior

Effect of Contextual Variables (Team Goal Orientation, Team Empowerment, Collective Psychological Capital)

Many scholars have reviewed team diversity literature and propose that more than a half of studies reported null effects of diversity on team outcomes, and this pattern is similar for both demographic and task-related diversity measures (cf. Jackson *et al.*, 2003; Joshi & Roh, 2009; Joshi *et al.*, 2011). This calls in for the relevance of context and an analysis of how it may offer explanation for the inconsequential findings on team diversity. Joshi and Roh (2009) conducted a meta-analysis to examine the role of contextual factors in team diversity research. The authors identified broad categories of contingency constructs such as occupational demography, industry setting, team interdependence, and team type. Other scholars have examined the effect of time (Watson *et al.*, 1991; Harrison *et al.*, 2002), task complexity (Pelled *et al.*, 1999), cooperative teams (Ely, 2004), and human resource practices (Jehn & Bezrukova, 2004), among others. As mentioned previously and is evident from the information above, these factors are beyond a team's jurisdiction and dependent of external circumstances. Thus, there is a need to identify the potential of inexhaustible immanent resources that are self-restrained and have an affirmative influence.

Goal orientation (GO) has its roots in social and educational psychology (Diener & Dweck, 1978) and has been integrated into organizational studies since the 1990s (Farr *et al.*, 1993). GOs are inherently tied to achievement situations. Dweck (1986) describe goal orientation as a disposition towards developing or demonstrating ability in achievement situations. GO was initially conceived as having two dimensions (learning and performance goal orientation), research now verifies that it has three distinct dimensions (e.g. Mehta *et al.*, 2009) – these are (a) learning, (b) performance-prove, and (c) performance-avoid. Individuals with high learning GO consistently seek to acquire new skills, increase their knowledge and competence, and have a higher intrinsic motivation to succeed (Chadwick & Raver, 2015). Individuals with high level of performance-prove GO are task focused and desire to demonstrate their potential to others. Such people exhibit high levels of aspiration and task immersion (e.g. Wegner, 1994). On the contrary, people with high performance-avoid GO are also task focused but are mainly concerned with avoiding failures. This risk-aversive approach distracts them from engaging in tasks, resulting in a passive viewpoint towards task completion and maladaptive response patterns (Elliot & Church, 1997). For the purpose of this study and to stay aligned with the positive theme, I examine the effect of team learning GO and team performance-prove GO as these have been demonstrated to have a positive effect.

Self-determination theory (SDT) is a motivation theory that investigates people's inherent growth tendencies and innate psychological needs that are the basis for their self-motivation and personality integration (Ryan & Deci, 2000). This can help understand why some people are more motivated for task achievement and have higher level of goal orientation, which is a motivational construct. Mehta *et al.* (2009) explain that when individuals in a team interact, they evaluate and interpret events and adapt their perceptions and achievement motivations

accordingly. This leads them to become more invested and committed to their teams (Dragoni, 2005) and to conform and seek social approvals. Consequentially, a team climate emerges offering cues for expected behaviors, based on which team members adopt those cues to gain social approval from their peers. Thus, individual level achievement orientations get translated into team-level goal orientation. It can be surmised that team GO is based on the notion of shared climate perceptions; it is theorized as a state induced by shared perceptions of team members regarding the goals pursued by their teams (DeShon *et al.*, 2004). Further, teams with high GO will be more inclined towards enhancing its knowledge and developing skill sets. As a result of this interest, teams will streamline their efforts into getting a thorough understanding of tasks for which team members make use of deep-level information processing (Pieterse *et al.*, 2013). Based on the learning approach orientation, this focus on gaining an in-depth understanding motivates team members to explore different perspectives within a team for which they have a more open-minded and accepting attitude of diverse viewpoints (Gully & Phillips, 2005). Such teams will be motivated by any challenges, such as those posed by diversity in teams, and view them as opportunities for learning and development (c.f. LePine, 2005). Likewise, since performance-prove orientation is associated with a focus on positive outcomes and high need for achievement, it will help team members view problems as prospects (Porath & Bateman, 2006). Thus, I propose that teams with high level of GO will be determined and have objective mindset which will mitigate the negative effects of diversity on social integration and team learning.

Team empowerment refers to shared perception among team members regarding the collective level of empowerment of a team (Chen, Kirkman *et al.*, 2007). There are four dimensions of team empowerment, Kirkman and Rosen (2001) describe them as - (a) sense of potency refers to belief in the team and a high competency attitude (b) sense of meaningfulness

gives the team a strong collective commitment towards the goal (c) sense of autonomy helps the team to have more freedom and discretion for making task and goal related decisions, and (d) sense of impact is experienced by team members when they see the effect of their work on colleagues. Team empowerment is not merely an aggregation of individual empowerment (Hempel *et al.*, 2012); research suggests that varying effects of individual empowerment and team empowerment are possible for practices such as shared decision making (Kirkman & Rosen, 1999). Based on the cognitive theories of motivation, such as expectancy theory (Vroom, 1964) and goal-setting theory (Locke & Latham, 1990), which explain why and how individuals choose one behavior option over the other (former) and that specific and challenging goals contribute to higher and better task performance (latter), it can be argued that teams that are more empowered feel that they have more intrinsically meaningful work and as a group have a higher degree of discretion in making task related decisions (Seibert *et al.*, 2011). This belief will give teams a collective ability to accomplish work-related tasks and stay attuned with task objectives, for which team members will engage in interactions and information exchanges to make task-related decisions. This interface and collaboration will enhance integration and learning in the team and team members will ignore and avoid any disruptions that may arise as a result of diversity in teams and thereby enhance team learning and social integration processes. Based on this theorizing, I propound that team psychological empowerment will weaken the negative effect of diversity on the above stated processes.

Collective psychological capital (PsyCap) is a team level representation of the individual level concept of psychological capital (PsyCap) proposed by Walumbwa and colleagues (2011). The authors define it as the 'group's shared psychological state of development that is characterized by self-efficacy, hope, resilience, and optimism' (pg. 6) and is made up of the four

psychological resources (hope, self-efficacy, resilience, and optimism). The authors describe

collective PsyCap as a product of interactive exchanges between team members that create an

emergent sense of the group's ability to achieve desired collective goals (Newman *et al.*, 2014).

Positive psychological capital represents positive psychological states that contribute to higher

levels of effectiveness and flourishing in organizations (Luthans *et al.*, 2007). Previous scholars

have primarily investigated the effect of PsyCap at the individual level and as a mediator or

antecedent to performance. A few exceptions are – Clapp Smith *et al.* (2009) examined PsyCap

at the group-level for its effect on sales performance mediated via trust in management. Another

study that examined PsyCap at the group level is by Walumbwa and colleagues (2011) who

referred it to as collective PsyCap. The authors explored the effect of collective PsyCap as a

mediating variable between authentic leadership and group performance. Finally, McKenny *et al.*

(2013) proposed a measure of organizational-level PsyCap using computer-aided text analysis.

The broaden and build theory of positive emotions (Fredrickson, 1998, 2001) posits that positive

emotions such as joy, interest, contentment, and happiness, have the ability to 'broaden' the

momentary thought-action repertoire by expanding the available range of thoughts and actions

that come to mind. This capacity to experience the positive is proposed to be central to the ability

to flourish, mentally prosper, and grow psychologically (Fredrickson, 2001). Evaluating each of

the core constructs of PsyCap for the moderating effect, hope is characterized by two dimensions

– will power and pathways where the former drives experiences to attain a goal and pathways

complement by providing psychological resources to find alternatives to attain a desired goal

(Clapp Smith *et al.*, 2009). Self-efficacy can be interpreted as the conviction and belief in one's

ability to perform specific tasks (Bandura, 1997), which means that even if there is a challenging

situation in the team, diversity generated socialization issues in this case, members high on self-

efficacy will have faith in themselves and complete their tasks, thereby diminishing the negative influence of demographic heterogeneity. Resiliency is characterized by positive coping and adaptation in the face of significant risk or adversity (Masten & Reed, 2002); this means that if there is an adverse situation, high PsyCap individuals will have a better coping mechanism due to the positive attributes they possess. It is unique from the other three components of PsyCap in that it is reactive and not proactive; to elucidate, when groups have a setback while performing their tasks, the extent to which they bounce back promptly and efficiently depends on its level of resiliency. Finally, optimism adopts a broader perspective. The attribution mechanisms of optimism, especially for negative events and failures, are not just external but also include external factors (Seligman, 1998). This holistic positive approach in groups will help combat the negative effects of diversity and stay motivated to accomplish goals and contribute towards team performance. Overall, it can be argued that teams with high level of PsyCap will have belief in themselves and will be more hopeful about overcoming problems and attaining their objectives. Consequently, it can be inferred that PsyCap will diminish the deleterious effects of heterogeneity and enhance social integration and team learning behavior.

Based on the above stated rationales regarding the moderating effect of team's goal orientation, team empowerment, and collective PsyCap, I hypothesize the following:

Hypothesis 2: Team goal orientation will moderate the effect of team diversity such that when the level of team goal orientation is high, the negative effect of team diversity on (a) social integration and (b) team learning behavior will be attenuated.

Hypothesis 3: Team empowerment will moderate the effect of team diversity such that when the level of team empowerment is high, the negative effect of team diversity on (a) social integration and (b) team learning behavior will be attenuated.

Hypothesis 4: Collective psychological capital will moderate the effect of team diversity such that when the level of collective psychological capital is high, the negative effect of team diversity on (a) social integration and (b) team learning behavior will be attenuated.

Effect of Team Processes (Social Integration and Team Learning) on Team Performance

Diversity has often been described as a 'double-edged sword' because on the one hand it is conceived to have positive effects on team outcomes and on the other it is proclaimed to engender dysfunctional team interactions and suboptimal performance. These effects of heterogeneity on performance have been explained with the help of many intervening processes and offer understanding for effects of heterogeneous composition of teams. It is also sometimes referred to as the input-process-output (I-P-O) model (van der Vegt *et al.*, 2010). Process is defined as 'a logic that explains a causal relationship between independent and dependent variables', (Van de Ven, 1992, pg. 169). Some of the popularly examined processes are task, relationship, and process conflict (Jehn *et al.*, 1999), communication (Keller *et al.*, 2001), task interdependence (Horwitz & Horwitz, 2007), information sharing (Bunderson & Sutcliffe, 2002), social integration (Harrison *et al.*, 2002), cohesiveness (Shapcott *et al.*, 2006), and creativity (Stahl *et al.*, 2010). I next investigate two team processes – social integration and team learning for their effect on team performance.

Social integration is an expected requisite for a diverse team to function optimally and perform well. Social integration has been frequently analyzed as a predictor for team outcomes (O'Reilly *et al.*, 1989; Harrison *et al.*, 2002; Smith *et al.*, 1994; van der Vegt *et al.*, 2010). O'Reilly *et al.* (1989) examined the effect of social integration on turnover by stating that satisfaction with coworkers or degree of inclusion in communication networks affect the propensity to leave. Likewise, Harrison *et al.* (2002) propose that team social integration will

have a positive effect on team performance supported by evidence that group cohesiveness (a primary dimension of social integration) facilitates performance. Smith *et al.* (1994) also found social integration to be positively associated with both return on investment and sales growth. In another study, van der Vegt *et al.* (2010) propose a partial mediation by social integration of the team turnover and effectiveness relationship. The authors argue that socially integrated teams perform better because they function as a group and not as a collection of individuals. Further, research indicates that groups with higher level of social integration should be able to integrate their perspectives and coordinate their efforts more proficiently and persuasively (Polzer *et al.*, 2002). Such coordinated efforts and unified approach towards problems and tasks will help teams to synchronize individual efforts, knowledge, and information thus facilitating task accomplishment. Also, integration behaviors have been found to be positively associated with close relationships among coworkers (Dumas *et al.*, 2013). Consequentially, this proximity with team members will lead to willingness to overcome individual interests for team goals that direct resources towards higher team task performance (Harrison *et al.*, 2002) and a more acceptable approach for other's efforts on task execution and reduced interruptions, thereby yielding higher performance.

Team learning is commonly described as interpersonal interactions that expand the range of options a team considers when seeking to improve its performance. The notion has gained popularity since the influential work of Senge (1990) who argued that teams comprise the fundamental learning unit in organizations. Kostopoulos *et al.* (2013) conceptualize team learning as an emergent phenomenon that has risen as a collective property of the team by traversing individual and team levels. Team learning has been investigated in different contexts, for instance Edmondson *et al.* (2001) explored the team learning process in a hospital setup

where implementation of new technology lead to disruption of organizational routines. O'Leary *et al.* (2011) propose that greater variety in team memberships is positively related to learning at the individual and team level. Likewise, Zellmer-Bruhn and Gibson (2006) hypothesize that team learning increases team task performance as the learning process in teams result in a phase of adaptation around the new information and situations, and such teams are more likely to arrive at effective performance strategies. The balance of learning is likely to increase overall effectiveness and it can be stated that the most obvious function of team learning is its capacity to affect team performance (Mathieu *et al.*, 2008). The primary rationale of this positive effect is that the learning process helps a team to adapt to changing situations, to continually refine procedures and practices, and to implement new and better ways of achieving its objectives (Edmondson, 1999). The learning process advances coordination of activities, which further enhances team performance (Argote, 1999). By partaking in a cognitive learning process, teams will be able to adapt to the shifting task requirements and also treat them as opportunities to perform better (Gibson & Vermeulen, 2003). Hoopes and Postrel's (1999) in their study of new product development teams demonstrated that greater common task knowledge will result in superseding possible glitches and coordination errors, thereby enabling better performance. In a similar context, other studies (e.g. Marks *et al.*, 2002) have shown that learning improves team performance by facilitating information sharing and compatibility of activities among team members. Effective learning will therefore allow better understanding of both, the task to be performed and the environment in which the team operates, thus enabling a team to accomplish its goals successfully (Wong, 2004). Based on the above lines of reasoning, I propose the following:

Hypothesis 5: Team social integration will have a positive relationship with team performance.

Hypothesis 6: Team learning behavior will have a positive relationship with team performance.

Effect of Collective Psychological Capital on Team Performance

As previously narrated, Psychological Capital (PsyCap) is a state-like positive core construct constituting of four psychological resources, viz. hope, efficacy, resilience, and optimism (Luthans *et al.*, 2007). PsyCap is an off-shoot of the overarching concept of positive organizational behavior (POB) that was proposed by Luthans and Youssef (2004) and in an overtly simple fashion can be explained as 'who you are' and 'what you can become in terms of positive development' (Luthans *et al.*, 2008, pg. 223). Since its inception, PsyCap has been explored in numerous contexts. Avey *et al.* (2008) examined PsyCap as an antecedent to overcome employee's negativity in the form of cynicism and intentions to quit. Luthans *et al.* (2007) theorized that employee's level of PsyCap will be positively related to their performance and job satisfaction. In another study Luthans *et al.* (2008) proposed its positive relationship with an employee's performance, satisfaction, and commitment. Avey *et al.* (2010) explore the effects of PsyCap on organizational cynicism, intentions to quit, counterproductive work behaviors, and organizational citizenship behaviors. The primary rationale behind the positive effect of PsyCap on performance is that people high in PsyCap have more resources to draw upon to pursue goals (Hobfoll, 1989) and to confront challenging situations, and these aspects help an individual perform better than those low in PsyCap. In her broaden and build theory of positive emotions, which posits that experiences of positive emotions broaden people's momentary thought-action repertoires, Fredrikson (1998, 2001) found that this positivity builds on intellectual (e.g. creativity and problem solving), social (e.g. relationships and networks), physical (e.g. coping with stress and coordination), and psychological resources (e.g. endurance and resilience). This reserve of resources will help teams stay motivated and buoyant during challenging situations

and also function more efficiently and effectively. Research on positive emotions also indicate that groups of people with higher levels of positive emotions operate at more optimal levels of cognitive and emotional functioning (Fredrickson & Losada, 2005), and since there is a strong link between cognitions and emotions (c.f. Lazarus, 1993) it offers support for theoretical explanation and better understanding of PsyCap and its effect on performance (Luthans *et al.*, 2008). Further, PsyCap is a state like capacity (Luthans *et al.*, 2007), implying that these resources can be expanded and adapted according to the level and complexity of task and thus achieve better performance. Based on the above stated exposition, I propose that collective PsyCap will be positively related with team performance.

Hypothesis 7: Collective psychological capital will have a positive relationship with team performance.

METHOD

Research Setting and Data Collection

The research was conducted using teams comprising of undergraduate students at two large public universities located in the Midwestern and Western regions of United States. The students came from different departments and colleges across the university and were working together on projects during a 16-week semester. University-based research teams provide for a good source of data collection to test my proposed model because it assured high level of diversity in cultural beliefs, functional backgrounds and gender, among others. Data was collected in three phases during a 16-week period using surveys.

Surveys

Electronic surveys were distributed to the potential participants in two-phases. The first phase of surveys was preceded by a cover letter describing the study and explaining the purpose and scope of the research. Participation to the surveys was voluntary, however, students were incentivized with extra-credit points for participation by the course instructors. The Phase I survey items included pre-validated questions for (a) surface-level and deep-level diversity attributes (b) collective psychological capital (c) goal orientation and (d) team empowerment. The second wave of data collection comprised of survey questions for (a) social integration and (b) team learning. Participants were also requested to provide their names so that I could match follow-up surveys across the time periods. However, they were assured that this information would only be used for research purposes and would not be reported or shared in any form or shape with their instructors. For the last wave of data collection, I collected information on team performance (team project grade) directly from the instructors. Surveys for the two waves were distributed 8 weeks apart and participants had 1 week to take part in the survey. Reminder emails encouraging participation were sent five-days after the initial contact to all the potential participants.

Sample

Surveys were distributed to a total of 1280 participants and 662 valid response were obtained, resulting in a 51.72% response rate. The team size ranged from 2-7 members, only teams with more than 50% with-in team response rate were included. Thus, my final data comprise of 99 teams. There were 11.11% teams with a 100 percent intra-team response-rate, 5% with ≥80%, 28.28% with ≥70%, 10.10% with ≥60% and 45.45% with ≥50% intra-team response rate. The team's composition based on ethnicity is as follows: Caucasian Americans (47.89%)

African Americans (3.17%), Hispanics (16.77%), Asians (23.26%) and the remaining 8.91%

were from ethnicities such as Native-America and Middle-East. The team member's age range

was from 19 to 55 (median=22). 53 percent of the team members were females. Majority of the

team members were from the following disciplinary backgrounds: Business

Management/Administration (15.71%), Finance (10.12%), Accounting (11.78%), Marketing

(23.56%), Human Resource Management (15.11%), Information Technology Management

(3.78%), 10.12% of the students had double majors and the remaining were from other

disciplines such as Supply Chain Operations Management and Entertainment and Tourism

Management.

MEASURES

To design and validate an appropriate survey instrument, I undertook a thorough review

of the literature to identify scales used in past research for the constructs in my model (refer to

Appendix C). Description of each scale is mentioned below. Responses for all the items were

measured on a 7-point Likert scale, unless otherwise stated.

Surface-Level Characteristics

The surface-level characteristics chosen are functional background (area of major study),

gender, and race/ethnicity, which was self-reported by the participants during the first phase of

data collection. As proposed by previous scholars (Harrison & Klein, 2007), the team's surface-

level diversity (functional background, gender, and ethnicity) is assessed using Blau's index

(1977). Blau's index is the most commonly employed measure for diversity (Bunderson &

Sutcliffe, 2002) and is measured as $(1 - \sum p_k^2)$, where p is the proportion of individuals in kth

category.

Deep-Level Characteristics

There are three deep-level traits chosen for this study, viz. attitude, values, and culture. To assess diversity of these deep-level variables, I computed the standard deviation of each variable, as these are classified as separation attributes (Harrison & Klein, 2007). *Attitude* is assessed using two variables – *task meaningfulness* (the extent to which the task is relevant and valued). It is measured using a three-item scale from Harrison and colleagues (2002). A sample item is 'I learn a lot from the course' (α=.80). The second variable used to determine attitude was *outcome importance,* which relates to the pertinence of outcome for the individual. It was measured using a two-item scale from Harrison and colleagues (2002). However, this construct had low reliability values (α=.38) and thus was not included in the analysis.

Values was measured using Rokeach's (1973) terminal value scale comprising of 18-items and was adopted from Harrison and colleagues (2002). These are prefixed with an introductory question – 'To what extent will the university course help you attain', and a sample of the terminal value is 'a comfortable life' (α=.96). Additionally, *goal commitment* (the extent to which individuals are committed to their goal) was assessed using five-items from Klein *et al.* (2001) that are adapted for team settings. A sample item is 'It's hard to take this team's goal seriously (R)' (α=.76).

Culture was measured using two dimensions proposed by Hofstede (1980) – individualism/collectivism (IDV) and power distance (PDI). IDV was gauged using a six-item scale from Wagner III (1995). A sample item is 'To be superior a person must stand alone'. PDI was assessed using a six-item scale from Earley and Erez (1997) and a sample item is 'Team members should not express disagreements with their team leaders' (α=.80 and α=.75 for IDV and PDI, respectively).

Intervening Variables

Social Integration was determined using a nine-item scale adapted from Smith and colleagues (1994). A sample item is 'Members of the team are always ready to cooperate and help each other' (α=.72). In accordance with previous studies, individual team member scores were aggregated for team social integration (e.g. Smith *et al.*, 1994). To assess the appropriateness of aggregating individual scores of social integration to the team-level, I first assessed inter-rater agreement using r_{WG} statistic (James, Demaree, & Wolf, 1984). I included teams with a mean r_{WG} value greater than .60, as has been done in other recent studies (Walumbwa *et al.*, 2018). I then calculated intraclass correlation coefficient (ICC2), which refers to the reliability of group-level means (Bliese, 2000). The mean r_{wg} value was .79 whereas the ICC2 value was .50 (Please refer to Table 1 for ICC analysis results and r_{wg} values for all team-level scales).

Team Learning is measured using four-items from van der Vegt and Bunderson (2005). The items were prefixed with an introductory question – 'To what extent does your team…' and a sample item is 'criticize each other's work in order to improve performance' (α=.84, r_{wg}=.83, ICC2=.78).

Moderating Variables

Team Goal Orientation is measured using six-item scale adapted from Elliot and McGregor (2001) with three items for *learning approach* and *performance-prove* dimension, each, of goal orientation. Sample items are 'I want to learn as much as possible from this class' (learning approach) and 'It is important for me to do better than other students' (performance approach) (α=.82, r_{wg}=.83, ICC2=.88).

Collective Psychological Capital is determined using eight-items from Walumbwa *et al.* (2011). There are two items for each of the four constructs – hope, efficacy, resilience, and optimism. Items are prefixed with 'Members of this group…' and sample items include – 'confidently contribute to discussions about the group's strategy' (efficacy); 'think of many ways to reach work goals' (hope); 'are optimistic about what will happen to them in the future as it pertains to work' (optimism); and 'usually take stressful things at work in stride' (resilience) (α=.93, r_{wg}=.85, ICC2=.82).

Team Empowerment is measured using Kirkman, Rosen, *et al.*'s (2004) 12-item scale, with three items each for four team empowerment dimensions (potency, meaningfulness, autonomy, and impact). Sample items include – 'my team has confidence in itself' (potency); 'my team feels that its tasks are worthwhile' (meaningfulness); 'my team can select different ways to do the team's work' (autonomy) (α=.92, r_{wg}=.85, ICC2=.71).

Outcome

Performance is assessed based on the team project grade assigned to the teams. Data was collected from the respective course instructors. To ensure standardization of values, the percentage of grades is used as the final measure.

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Insert Table 1 about here

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Control Variables

Team size can influence a variety of processes, outcomes and diversity measures (e.g. Jackson *et al.*, 1991; Harrison *et al.*, 2002). Therefore, it was used as a control variable in the analysis described below. Also, group total or average scores of deep-level diversity measures can be confounded with within-group standard deviations (Bedeian & Mossholder, 2000). Therefore, group means of task meaningfulness, individualism, power distance, terminal values and goal commitment were also used as control variables. I did not use team tenure as a control variable because all the teams were working together for the same amount of time (a 16-week semester).

RESULTS

Confirmatory Factor Analysis

To further examine the validity of the measures, I conducted confirmatory factor analysis (CFA) using SPSS Amos 24.0. First, I did CFA for variables from the first wave of data collection, viz. task meaningfulness, individualism, power distance, values, goal commitment, collective PsyCap, team empowerment and goal orientation. The results of the CFA test show that a good fit was achieved for the eight-factor model (χ^2=2225.71, df=1236, p < .00). The root mean square error of approximation (RMSEA=.053), standardized root mean square residual (SRMR=.079), comparative fit index (CFI=.897) and incremental fit index (IFI=.898) also suggested a good fit.

Likewise, I did CFA for the variables from second wave of data collection (social integration and team learning). The CFA results are as follows: χ^2=62.07, df=19, p < .00,

RMSEA=.08, SRMR=.056, CFI=.953 and IFI=.953, which suggested a good fit. The CFA

results are presented in Table 2.

Insert Table 2 about here

Hypotheses Testing

I tested all hypotheses using regression analyses in SPSS 24.0. For the hypotheses

involving moderation test of the variables, I used PROCESS macro (v3.0) in SPSS. Table 3

summarizes the descriptive statistics and correlations.

Insert Table 3 about here

Diversity Effect on Team Process

The effect of surface- and deep-level diversity variables on team process, social

integration and team learning, were tested. According to hypothesis 1 a and 1b, team diversity is

expected to have a negative effect social integration and team learning. To test these hypotheses,

I regressed the surface- and deep-level variables (separately) on both the team processes and the

control variables. Referring to Table 4 a-f, no significant effect was found for diversity on team

learning. Interestingly, as opposed to the hypothesized negative effect of diversity on social

integration, I found positive significant effect of deep-level diversity variables (task

meaningfulness and goal commitment) on social integration (β=.21, p<.05 and β=.45, p<.00,

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respectively). Although I was unable to find a researched evidence for this contrasting effect, a possible explanation is that both these variables are related to the relevance of the task, and since social integration is measured later (second wave of data collection), the team may have overcome the initial differences to achieve better performance. Thus, although I found some significant results, these were not as hypothesized, so hypothesis 1a and 1b was not supported.

Insert Table 4 a-f about here

Role of Moderating Variables

Team goal orientation (TGO) was hypothesized to positively moderate the effect of diversity on social integration and team learning behavior (TLB; H2a and H2b, respectively). I regressed the surface- and deep-level diversity variables (separately) on social integration and TLB, with an interaction of TGO. Results indicate that when TGO is very high, it has a positive significant effect (β=.74, p<.05) on the relation between diversity (terminal values) and social integration (refer to Figure 2a) and when low-level of TGO interacts with terminal values, it has a negative, but insignificant effect on social integration (β=-.62, p<.10). High level of TGO was also found to interact with cultural diversity (individualism) to effect social integration significantly, but negatively (β=-.44, p<.05) and low-level of TGO in this relation has a positive and insignificant effect (β=.38, p≤.10; refer to Figure 2b). Further, for the effect of TGO on TLB, results indicate that when TGO level is high, it positively and significantly (β=.51, p<.00) moderates the effect of diversity (terminal values) on TLB (refer to Figure 2c) and the interaction with the same variables, but at low level of TGO, results in a negative and insignificant effect

(β=-.21, p>.05). Also, the interaction of TGO with surface-level diversity (functional

background) has some interesting effect on TLB. I found that high level of TGO has a

significant, but negative (β=-1.52, p<.05) effect on diversity-TLB relation and low-level of TGO

has a positive and significant effect (β=1.33, p<.05) on the same relation (refer to Figure 2d).

However, the hypothesized effect does not hold true for the other diversity variables. Thus,

hypotheses 2a and 2b were partially supported.

Hypotheses 3a and 3b suggest the moderating effect of team empowerment on the

diversity-social integration and diversity-team learning behavior relation, respectively. Results

indicate that low level of team empowerment interacts with cultural diversity (individualism) to

have a negative and marginally significant effect (β=-.55, p≤.05) on social integration (refer to

Figure 2e). And at very high-level of team empowerment, there is a positive but almost

insignificant interaction effect on the individualism-social integration relationship (β=1.01,

p<.10). Also, low-level of team empowerment interacts with deep-level diversity (goal

commitment) to have a positive and significant effect on social integration (β=1.04, p<.00) and

high-level of diversity in the same relationship has a negative and insignificant effect (β=-.34,

p>.05; (refer to Figure 2f). However, it does not hold true for the other diversity variables.

Further, for team learning behavior, when team empowerment is high, it has a significant, but

negative interaction effect with individualism (β=-1.01, p<.05) and low-level of team

empowerment in the same relation has a positive and significant effect (β=.85, p<.05; refer to

Figure 2g). It was not found to have a significant interaction with any other diversity variables.

Therefore, it can be concluded that hypothesis 3a and 3b are not supported.

Team PsyCap was theorized to have a positive moderating effect on the diversity

relationship with both, social integration and team learning behavior (hypothesis 4a and 4b,

respectively). Results for hypothesis 4a indicate that very high level of team PsyCap has a positive but insignificant interaction ($\beta=1.98$, $p<.10$) with gender on social integration (refer to Figure 2h). And the moderating effect of very low level of team PsyCap on this relationship is negative and significant ($\beta=-2.39$, $p<.05$). For hypothesis 4b, interestingly, very high level of team PsyCap interacts with cultural diversity (individualism) to have a significant and positive effect on team learning behavior ($\beta=1.23$, $p<.05$). And very low level of Team PsyCap has a significant negative effect ($\beta=-1.39$, $p<.05$) on the individualism-team learning behavior relationship (refer to Figure 2i). Consequently, it can be concluded that hypotheses 4a was not supported and 4b is partially supported.

Insert Figure 2 a-e about here

Effect on Performance

According to hypothesis 5 and hypothesis 6, social integration and team learning behavior will have a positive effect on team performance. Based on the regression results, although team learning behavior has a positive effect on team performance ($\beta=.64$), none of the results were significant. Thus, hypotheses 5 and hypothesis 6 are not supported.

Hypothesis 7 proposed that team PsyCap will have a direct positive effect on team performance. The regression results suggest that team PsyCap has a positive, but insignificant effect ($\beta=1.35$, $p>.05$) on performance. Therefore, hypothesis 7 is not supported.

Post-Hoc Analyses

Although the relationship between diversity and team performance was not hypothesized in my study, post hoc analysis was done to investigate the direct effect of diversity on performance. Results indicate that both surface-(race and functional background) and deep-level diversity (terminal values) have significant negative effect on team performance (β=-10.2, p<.00; β=-8.84, p<.05; β=-2.43, p<.05, respectively). I also checked for the interaction effect of the three moderators (team goal orientation, team empowerment, and team PsyCap) in the above mentioned significant relationships and found that high-level of team PsyCap has a significant, but negative interaction (β=-8.81, p<.05) with deep-level diversity (terminal values) and effects team performance and the same relationship at low-level of team PsyCap has a positive and insignificant effect (β=3.51, p>.05; refer to Figure 2j). Further, I checked the role of social integration and team learning as mediators in the diversity-performance relationship. Table 5 presents results for mediation effect that illustrate that neither of the two variables act as mediators in the above stated relationship.

I also planned to conduct supplemental analysis to investigate the effect of the moderating variables in case of team faultlines, however, for computing faultlines, the teams must consist of at least 4 members (Thatcher, Jehn & Zanutto, 2003). I have a total of 25 teams comprising of 4 or more members, which is not a sufficiently large data set for such an analysis. Thus, I was unable to investigate the interaction effect with faultlines.

DISCUSSION

The purpose of this study was to integrate positive organizational behavior with diversity literature and understand the effect of some positive psychological state-like attributes on the

diversity-team performance relationship. To do so, I examined the moderating effect of positive traits such as team goal orientation, team empowerment and team PsyCap on the relationship between surface- and deep-level diversity with team processes (social integration and team learning behavior). Evidence from longitudinal investigation of 99 teams from academic institutions reflecting extensive diversity suggest interesting direct and interaction effects on team processes and performance. Signifying from existing literature, diversity was hypothesized to have a negative effect on both, social integration and team learning behavior. Evidence from the analysis indicate that cultural value variables (power-distance and individualism) and gender were found to have a negative, but insignificant, effect on social integration. Further, as opposed to the conventional evidence, diversity of values, race, functional background, task meaningfulness and goal commitment were found to have a positive effect on social integration, of which the latter two are significant. A possible explanation for this finding is that I collected information on the diversity variables in the first wave and for social integration in the second wave. This means that the teams had an opportunity to overcome the variations in their task-related approaches (task meaningfulness and goal commitment) and focus on the goal to be achieved, because of which the team showcased higher social integration. However, further research is warranted to offer evidence-based explanation for this effect. For the direct effect of diversity on team learning behavior, although I did not find any significant effect, most of the diversity variables (except values and gender) were found to have a negative effect, as hypothesized.

Further, the direct effect of the two intervening variables and team PsyCap was expected to have a positive effect on team performance. Results indicate that team learning behavior and team PsyCap have a positive, but insignificant effect on team performance. Further investigation,

such as using a larger *n* or an alternative data source that may result in a significant effect, is warranted to conclude that when team members interact more to share knowledge and when the group's members have a higher sense of ability to achieve desired goals collectively, it results in higher team performance.

Analysis for the interaction effects offer some interesting findings. The moderating effect of team goal orientation on diversity-social integration indicate a significant positive interaction with terminal values and a significant negative one with cultural values (individualism), suggesting that the negative effect of values on social integration will decrease with an increase in team goal orientation and vice-versa for individualism. Interaction effect of all the other variables are found to be positive and insignificant. For the interaction effect of team goal orientation on team learning behavior, a similar pattern was observed where values-team learning behavior relation is positively and significantly moderated but interaction with functional background has a negative and significant effect, indicating that team goal orientation augments the effect of values on team learning behavior, and the reverse of it holds true for the interaction with functional background. Moderation with all other diversity variables, except power distance, have a negative and insignificant effect. A plausible reason for the positive significant interaction of team goal orientation with values is that all the three dimensions of goal orientation also reflect deep-level traits, and thus work more efficiently with other deep-level characteristics, as opposed to some other diversity variables such as functional background or cultural variations. The negative (non)significant interaction effects can be further examined using the third dimension of goal orientation, *viz.* avoidance orientation, which refers to the extent to which people desire to avoid disapproving their competence and to avoid negative

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judgements about it (Porath and Bateman, 2006). Exploring this dimension may help us have a better understanding of team's goal orientation overall and its resultant effects.

Team empowerment, as hypothesized, was found to have a positive, but insignificant interaction effect on social integration with all variables, except power distance, functional background and goal commitment. The negative interaction effect was significant with goal commitment suggesting that when team empowerment level is low, it increases the effect of goal commitment on social integration. Further, the positive interaction with individualism offer evidence that the negative effect of cultural diversity on social integration will decrease with an increase in team empowerment. Also, the positive interaction effects with gender and race were found to be mildly significant. In context to team learning behavior, results indicate that interaction with individualism has a negative and significant effect, whereas moderation on the remaining diversity-team learning behavior relations is positive, but insignificant, except for goal commitment, for which it is negative. Siebert and colleagues (2011) meta-analysis that reviewed predictors and outcomes of psychological and team empowerment in organizations suggest that empowerment is positively related to human capital variables and employee work attitudes. A greater variance in such variables may impact the moderating role of team empowerment, given their direct associations as well. Thus, this needs to be investigated further proposing alternative associations between variables.

Lastly, for interaction results with team PsyCap as a moderator, the effect was found to be significantly positive on gender-social integration relation, suggesting that the negative effect of gender diversity on social integration decreases when the team displays PsyCap. The effect was insignificant, but positive for all other diversity variables except power distance, values, goal commitment and functional background. The same interaction effects with team learning

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behavior as an outcome offer some intriguing results. It offers evidence that at when Team PsyCap level is very high, it has a positive and significant effect on individualism-team learning behavior and the same effect is significantly negative when the team has very low level of collective PsyCap. Interactions with all other diversity variables, although insignificant, were positive, except for task meaningfulness and race.

It was also interesting to find that the interaction effect of team goal orientation and team empowerment with diversity variables on team performance, although insignificant, have a positive effect. I discuss the nature and implications of these findings in more detail below.

Contributions

The relevance of diversity in today's organizational and academic domain is undisputable and growing research on the subject provide evidence for it. Although this study investigates the vastly explored diversity literature but does so from a unique viewpoint and thus makes several contributions and offers guidance for further ponderance. The primary contribution of this study is that it amalgamates a positive psychology theme with the diversity research. This is pertinent because in spite of the increasing attention on positive organizational behavior and positive organizational scholarship (c.f. Wright, 2003; Youssef & Luthans, 2007; Luthans & Avolio, 2009), diversity scholars seem to be unheedful of the effects of psychological traits. Integration of the two topics will not only expand the respective subjects but also help identify new results that may offer understanding to many complex patterns and inconsistent findings. It will also help address the accusation of having a biased approach in diversity research (c.f. Stahl *et al.*, 2010; Stahl & Tung, 2015) by adopting an unprecedented viewpoint towards the challenges and issues posed by heterogeneous teams.

Second, the introduction of new contextual variables in the diversity literature is accompanied with a new set of theoretical perspectives to explain their effects. For instance, cognitive motivational theories (e.g. expectancy theory, self-determination theory). These new philosophies provide opportunity to examine a preexisting set of variables from a novel perspective. For instance, in this study I propose that surface- and deep-level diversity decreases team learning. Another approach that needs more scrutiny is offered by Gibson and Vermeulen (2003); the authors propose the construct of 'subgroup strength' and contrary to conventional wisdom, propound that the presence of subgroups within a team may stimulate learning behavior, depending on subgroup strength. A possible theoretical underpinning for this could be offered by the social comparison theory (Festinger, 1954), which posits that people assess their own skills and abilities relative to others. Based on this, members of one subgroup will compare their skills and knowledge with members of another subgroup and will strive to learn more to outperform.

Third, by integrating the construct of team learning, I supplement the team learning theory as there are limited studies on effect of diversity on team learning (e.g. Zahra *et al.*, 2000; Weigelt & Sarkar, 2009; Ely *et al.*, 2012). Most studies on (team) learning examine the construct as an antecedent for its effect on outcomes such as creativity (Miron-Spektor & Beenen, 2015), business unit performance (Bunderson & Sutcliffe, 2003), and employee errors (Naveh *et al.*, 2015) or for the effect of other predictors on learning, for instance turnover (van der Vegt *et al.*, 2010), multi-national organizations (Zellmer-Bruhn & Gibson, 2006), and multiple team membership (O'Leary *et al.*, 2011), *inter alia*. However, the effect of different aspects of diversity (surface- and deep-level) on team learning needs more attention and this study augments this aspect of team learning theory.

Fourth, this study provides significant additions to the psychological capital literature. Foremost, there are very few studies that investigate PsyCap as a team-level construct (e.g. Walumbwa *et al.*, 2011) and virtually none that examine it as a team-level moderator. To offer evidence, Newman and colleagues (2014) in their review of PsyCap provide an exhaustive list of antecedents, mediators, and moderators that effect PsyCap and also other factors and outcomes that are affected by PsyCap. In this, PsyCap is not enumerated as a moderator either at the team level or at the individual level. Also, PsyCap has not been studied in reference to diversity. This study bridges these gaps by examining collective PsyCap as a moderator for the relationship between team level diversity and related processes and explore the direct effect of collective PsyCap on team performance.

Theoretical and Practical Implications

This study also offers theoretical and practical implications and guidelines. First, teams are the most commonly used functional unit in organizations; diversity is another inevitable reality. This study offers an understanding of the possible effects of team diversity on some of the most probable mediating processes, along with guidance on how these negative effects could be mitigated. The dependence on one's positive psychological traits offer reassurance because it implies dependence on no one but yourself, and these are enduring personal resources that offer a myriad of benefits. One act of positivity in the team will motivate others as well by what Fredrickson (2001) refers to as the 'upward spiraling' (positive emotions trigger self-perpetuating cycles that lead to optimal functioning and enhanced social openness). Managers and organizations can amplify these benefits by offering an organizational climate that is conducive of affirmative approach in general and providing a psychologically safe (Edmonsdson, 1999) environment. Finally, propositions from this study can offer recommendations to teams to

collectively build on their unexplored psychological capacities, have definitive goals, and utilize their psychological empowerment to manage hurdles and perform better. Theoretically, the study introduces several new variables and perspectives on the diversity-performance relationship and provide evidence for the positive interaction effect of the notions. It also offers ground for further exploration of the proposed variables in different settings and guidance for using other positive psychological traits, which I discuss in the next section.

Limitations and Future Research

In this study I propose an alternative approach of examining the diversity-performance link and amalgamated two existing topics in organizational behavior. However, there are certain limitations to the study and opportunities for future research. A possible area for future exploration will be to test the existing hypotheses in an alternative setting, using a different data source. It will be interesting to view the interaction effect of the positive psychology traits in an organizational setting, where the teams work on projects for longer durations and thus there is an opportunity to observe effects and variations, if any, to these state-like attributes.

Second, the theory of situational strength suggests that environmental factors provide cues regarding the desirability of potential behaviors (Snyder, 1985). This recommends applying a holistic viewpoint to analyzing relationships and exploring multi-level constructs. One such example could be diversity climate that has been examined to effect outcomes such as turnover intentions (McKay *et al.*, 2007) and motivational cultural intelligence and cultural sales (Chen *et al.*, 2012). Some other alternatives could be psychological safety or organizational support. It will be interesting to investigate how the effect of macro variables will further effect and interact with the proposed model.

Third, current organizational theory and research asserts the beneficial effects of positivity at work, however, it will be valuable to explore if there is an upper limit to how much positivity is good. Research questions the 'more is better' notion for positivity and indicates that there is an inverted-U relationship between positive affect at work and proactive behaviors (Lam *et al.*, 2014). However, such investigations are few and far between and these findings warrant more scrutiny for a definitive conclusion. Thus, it will be intriguing to identify how much positivity will result in favorable outcomes, and what will be the effects of high- or low-levels, beyond the suggested limit.

Fourth, I strived to cover positive psychological traits such as goal orientation, empowerment, and PsyCap, which is a second-order construct comprising of hope, efficacy, resilience, and optimism. However, there are other positive psychological resources such as – flourishing or thriving, endurance, happiness, and compassion, that can be explored. Also, as Luthans and colleagues (2007) explain, there is variation in the individual effect of the four constituent traits and that of PsyCap (examined collectively), thus, these traits can be investigated also for their distinct effect in the context. Also, since these are state-like attributes, a longitudinal examination of the any change will be compelling to observe.

Finally, as I mentioned earlier in the post-hoc analyses, I wanted to expand the study of the effect of the proposed variables in case of faultlines, however, I did not have sufficient data to conduct the analysis. It will be intriguing to extend the positive psychology theme to the faultline literature. Like diversity results, faultlines have been identified as having detrimental effects such as increasing conflict, inhibiting decision making and social integration, and decreasing performance (e.g. Rico *et al.*, 2007; Thatcher *et al.*, 2003). Probing these effects in

light of positive contextual variables may offer differing outcomes and can thus expand our understanding of the related theory.

Conclusion

In today's increasingly diverse workforce, an understanding of and ability to manage the 'double-edged sword' of diversity is crucial. Previous studies on diversity-performance relationship have offered a myriad of perspectives and findings, however, the emphasis has primarily been on understanding factors that limit outcomes. In this study, my endeavor is to view a conventional situation from an unconventional perspective by adopting a positive contextual lens, using positive psychological variables, and attempt to understand its differing consequences. I explore the role of positive psychological resources (team empowerment, team goal orientation, and collective psychological capital) on the diversity-outcome association and identify ways of mitigating the deleterious effects of group heterogeneity. Analysis offers evidence for some interesting interaction effects and some aspects to be explored further. The study contributes to theory in several ways and I anticipate that it will act as a stimulus for others to advance the topic and identify new findings.

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APPENDIX A

FIGURES

Figure 1 – Theoretical Model

ESSAY 3
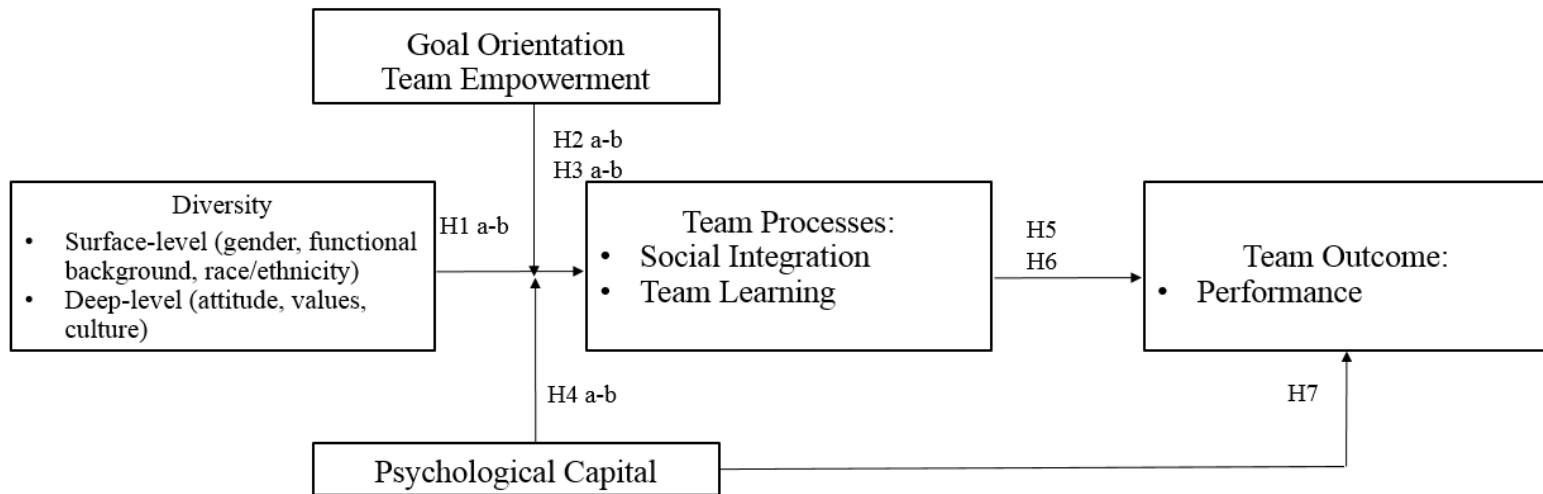
Figure 2a

Interaction of Diversity (Terminal Values) and Team Goal Orientation

with Social Integration as Dependent Variable

Effect of Deep-Level Diversity on Social Integration under the influence of Team Goal Orientation

.74 (β), .02(*p*)

-.62 (β), .09(*p*)

Very Low X2

Very High X2

Social Integration

Diversity in Terminal Values
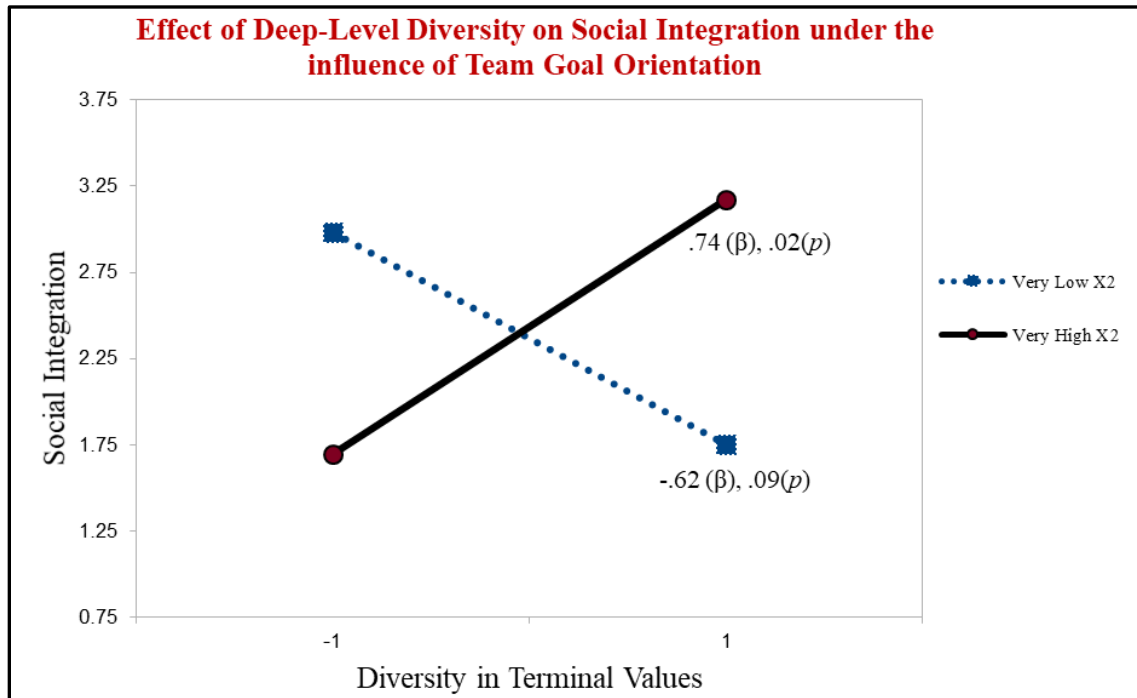
Figure 2b

Interaction of Diversity (Individualism) and Team Goal Orientation with Social Integration as Dependent Variable
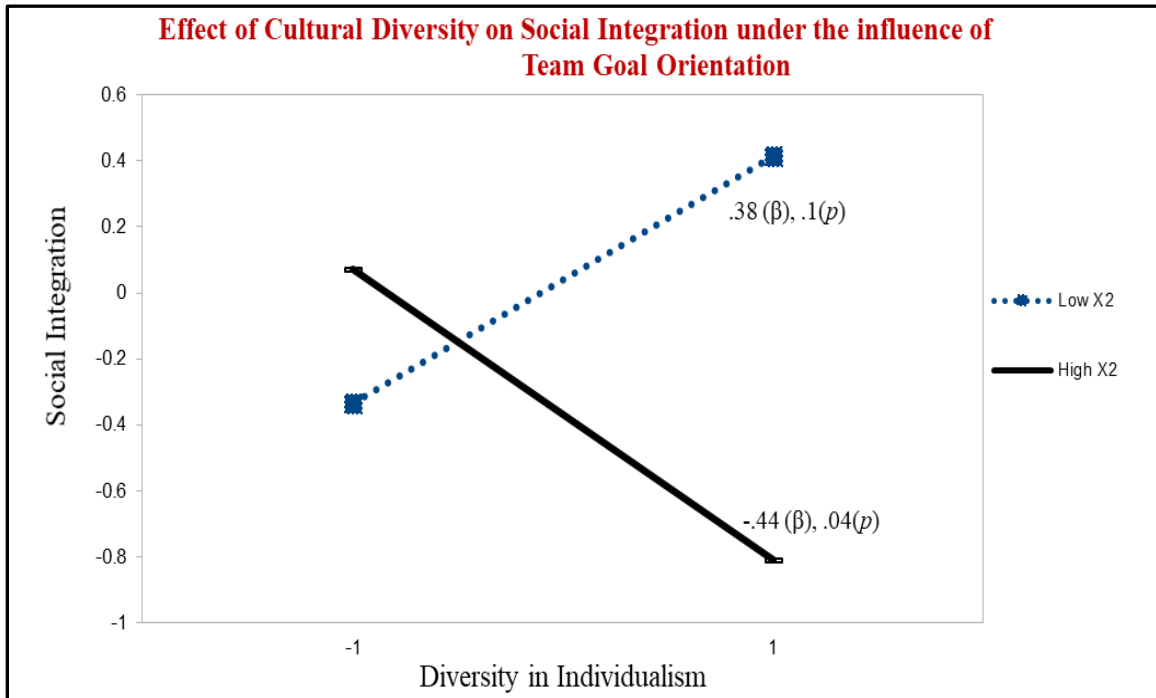
Figure 2c

**Interaction of Diversity (terminal Values) and Team Goal Orientation
with Team Learning Behavior as Dependent Variable**
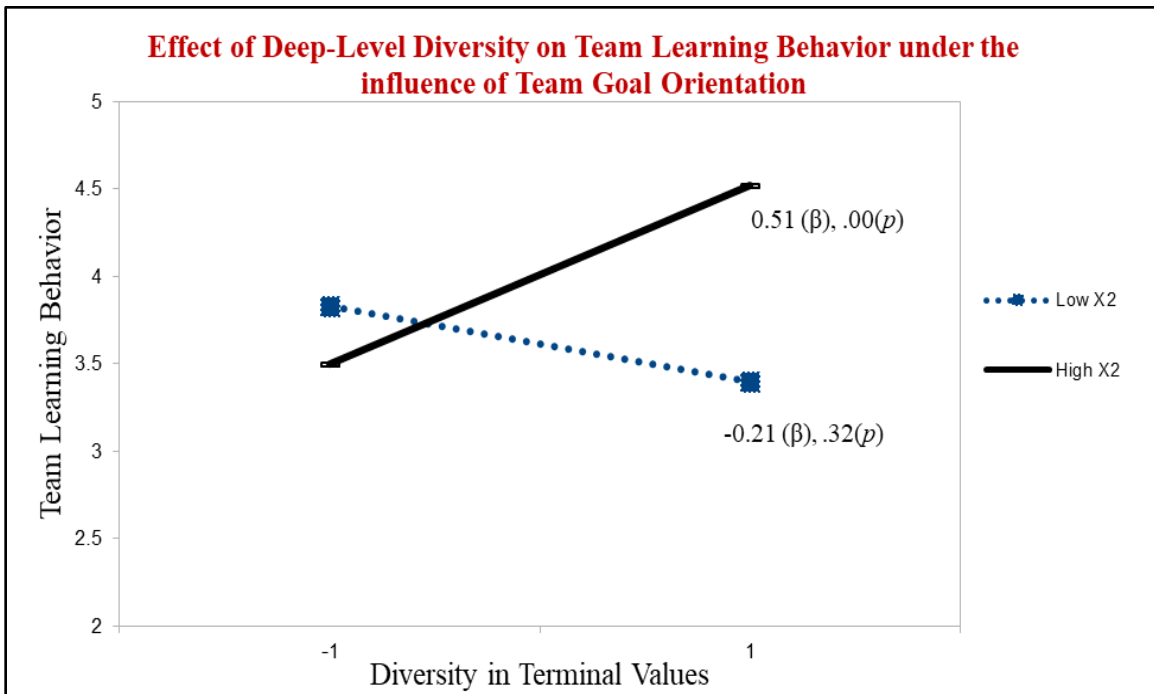
Figure 2d

Interaction of Diversity (Functional Background) and Team Goal Orientation
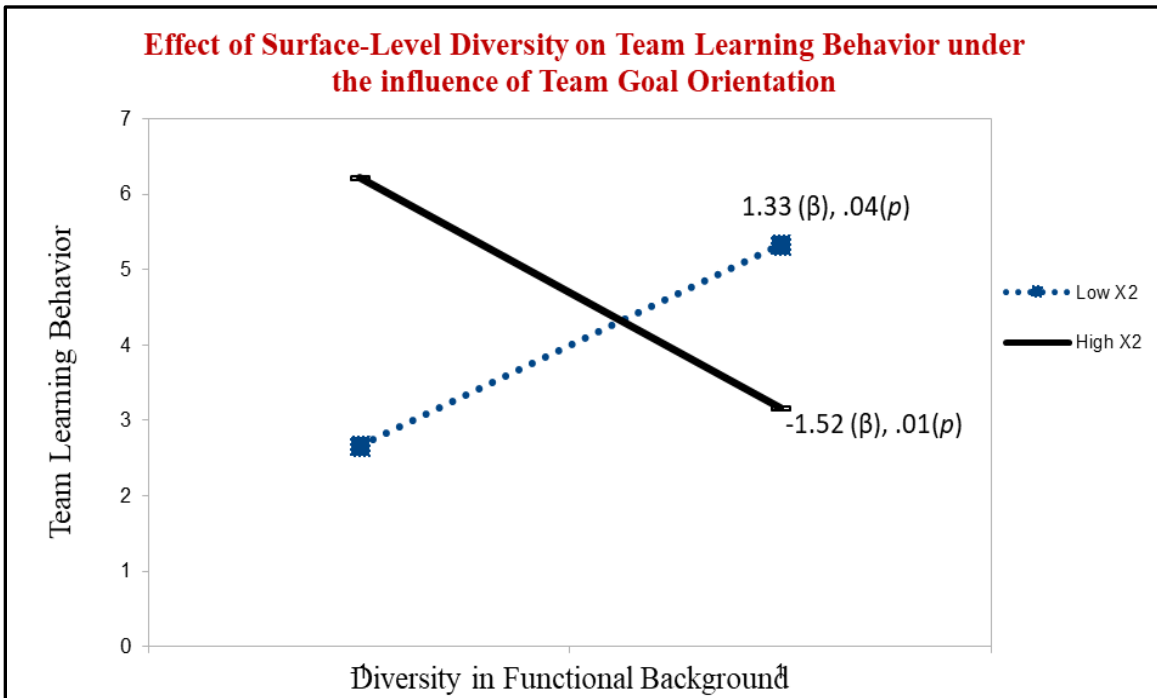
with Team Learning Behavior as Dependent Variable

Effect of Surface-Level Diversity on Team Learning Behavior under the influence of Team Goal Orientation

Interaction of Diversity (Individualism) and Team Empowerment

with Social Integration as Dependent Variable

Effect of Cultural Diversity on Social Integration under the influence of Team Empowerment
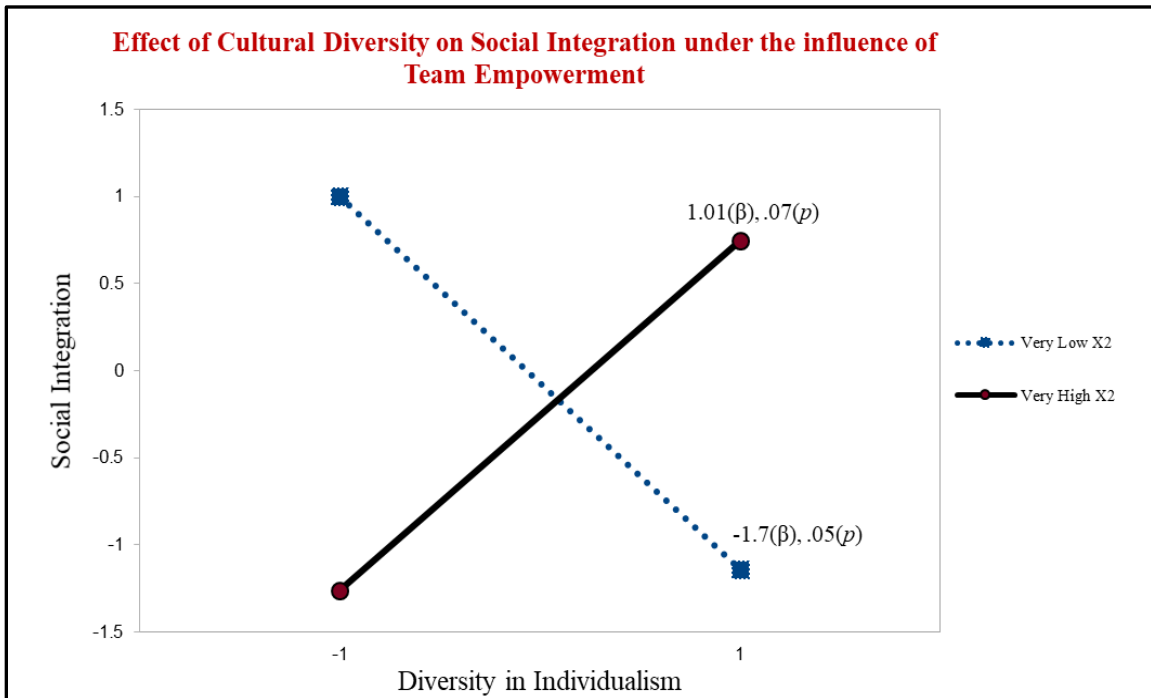
Figure 2f

Interaction of Diversity (Goal Commitment) and Team Empowerment

with Social Integration as Dependent Variable

Effect of Deep-Level Diversity on Social Integration under the influence of Team Empowerment
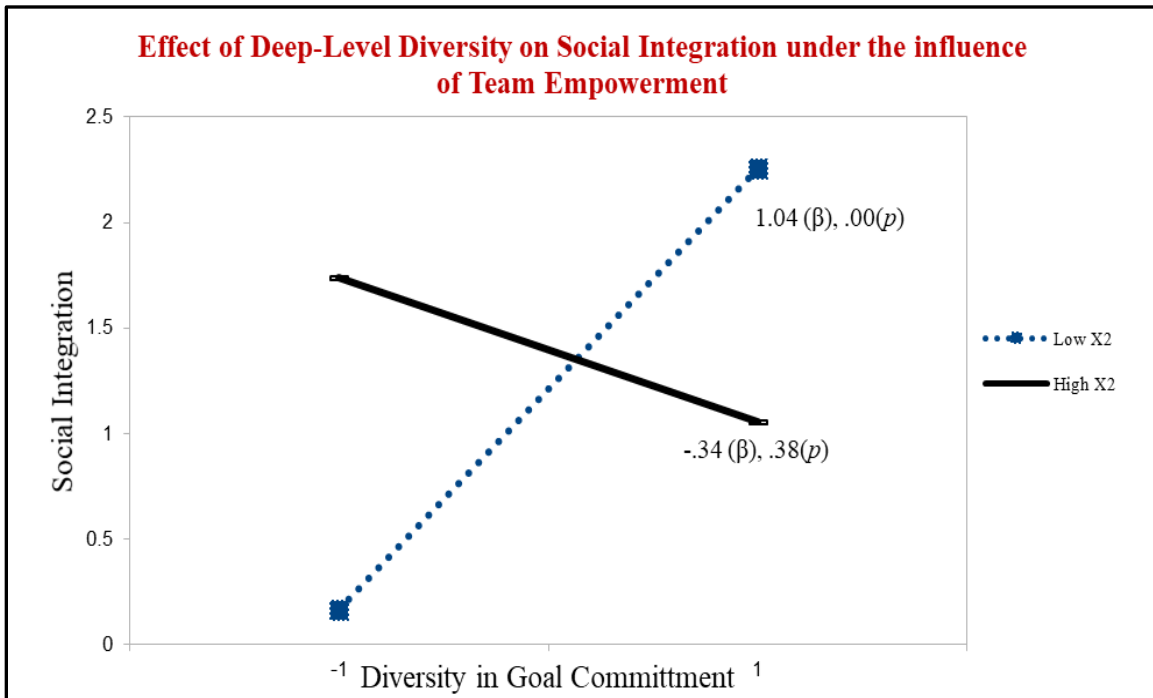
Figure 2g

Interaction of Diversity (Individualism) and Team Empowerment

with Team Learning Behavior as Dependent Variable

Effect of Cultural Diversity on Team Learning Behavior under the influence of Team Empowerment
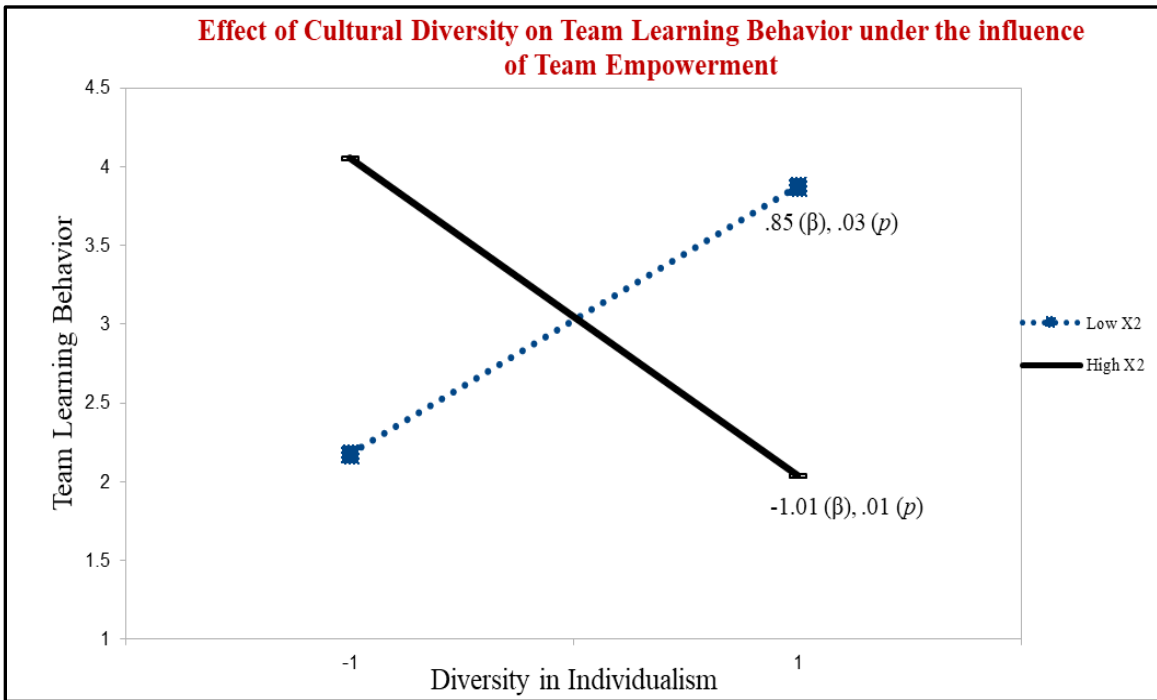
Figure 2h

**Interaction of Diversity (Gender) and Team Psychological Capital
with Social Integration as Dependent Variable**

Effect of Diversity on Social Integration under the influence of Team PsyCap
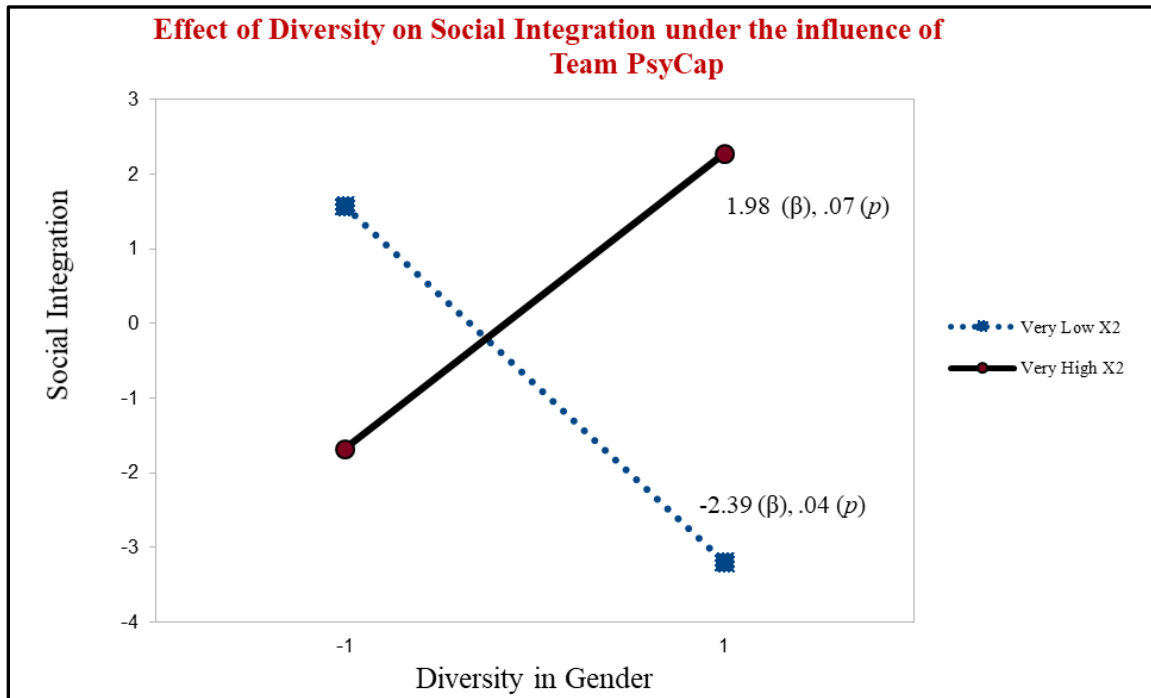
Figure 2i

Interaction of Diversity (Individualism) and Team Psychological Capital

with Team Learning Behavior as Dependent Variable

Effect of Cultural Diversity on Team Learning Behavior under the influence of Team PsyCap

1.23 (β), $.04$ (p)

-1.39 (β), $.03$ (p)

Team Learning Behavior

Diversity in Individualism

Very Low X2

Very High X2
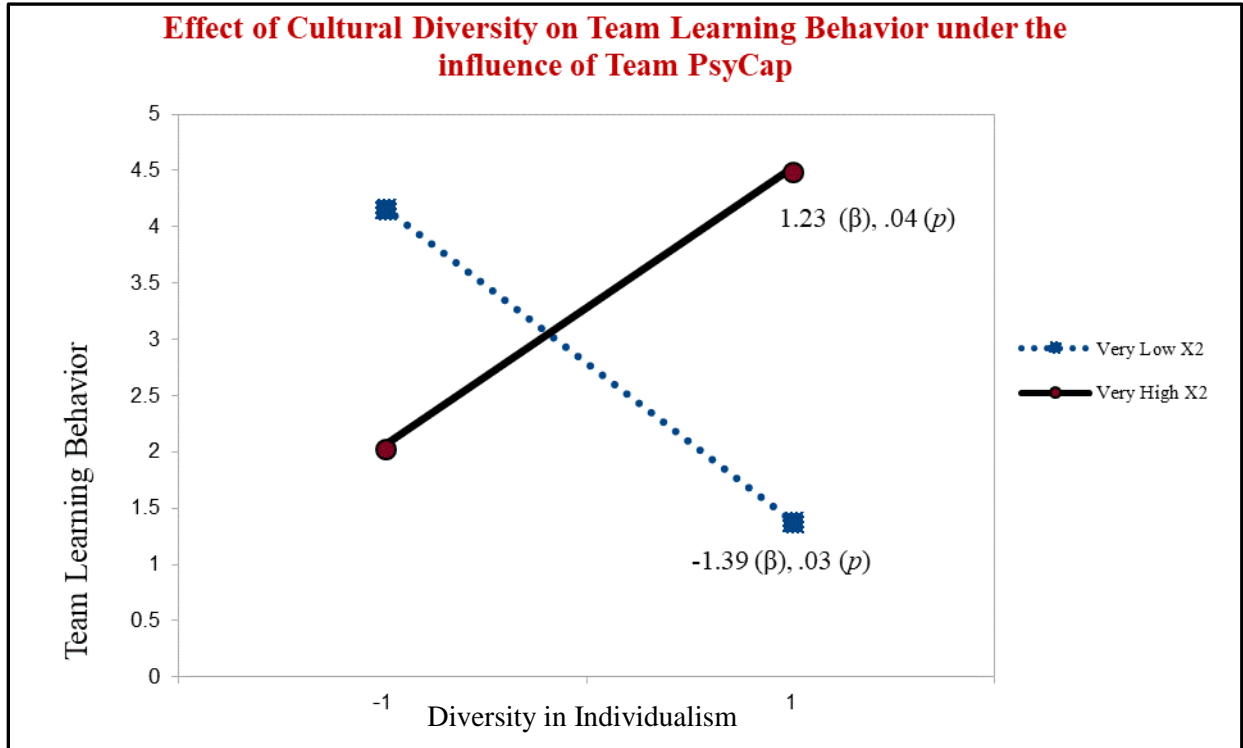
Figure 2j

Interaction of Diversity (Terminal Values) and Team Psychological Capital with Team Performance as Dependent Variable
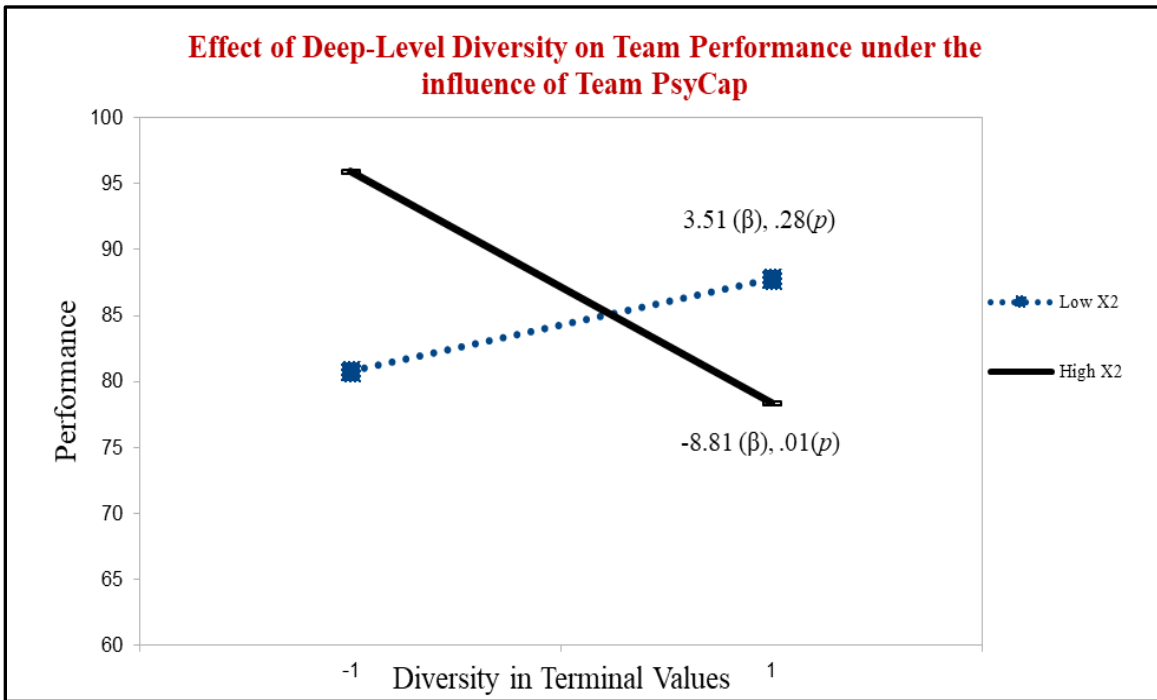
APPENDIX B

TABLES

Table 1

ICC results and R$_{WG}$ Measures

Scale	R$_{WG}$ Value (>=60%)	ICC Value (>=.50)
Team Psychological Capital	0.85	0.82
Team Empowerment	0.85	0.71
Team Goal Orientation	0.83	0.88
Social Integration	0.79	0.50
Team Learning Behavior	0.83	0.78

Table 2

Confirmatory Factor Analysis Results

	CFI	RMSEA	IFI	SRMR
Wave 1	0.90	0.05	0.90	0.08
Wave 2	0.95	0.08	0.95	0.06

Wave Wise Variables	
Wave 1	*Wave 2*
Task Meaningfulness	Social Integration
Power Distance	Team Learning
Individualism	
Terminal Values	
Goal Commitment	
Team PsyCap	
Goal Orientation	
Team Empowerment	

Table 3

Means, Standard Deviations and Correlations Among All Variables

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Deep-level diversity																					
1 Task Meaningfulness, s.d.	.88	.61																			
2 Individualism, s.d.	1.03	.62	.21*																		
3 Power Distance, s.d.	.96	.58	.05	.16																	
4 Values, s.d.	1.2	.69	.32**	0.0	.02																
5 Goal Commitment, s.d.	.78	.49	.04	.16	.15	-.05															
Surface-level diversity																					
6 Gender, Blau's index	.26	.23	0.0	.13	.06	-.09	.12														
7 Race, Blau's index	.33	.25	.04	.1	.19	-.06	.11	.11													
8 Functional Background, Blau's index	.43	.25	.1	.1	.09	.1	.08	.15	.31**												
Other variables																					
9 Team Goal Orientation	2.45	.63	.09	-.04	-.21*	.05	.03	-.19	-.08	.09											
10 Team Empowerment	2.52	.49	-.1	.01	-.18	-.02	.13	-.06	-.06	.03	.56**										
11 Team Psychological Capital	2.53	.53	-.20*	.13	-.07	-.16	.12	.15	0.0	.09	.32**	.69**									
12 Social Integration	2.41	.64	.19	-.05	-.01	.1	.35**	-.03	.06	.08	.13	.19	.30**								
13 Team Learning Behavior	3.78	.73	.01	-.09	-.07	.16	-.15	-.01	-.16	-.04	.22*	.07	.07	.17							
14 Performance	86.06	8.77	-.11	-.08	-.04	-.19	.03	-.04	-.29**	-.24*	-.01	.01	.07	-.02	.05						
Controls																					
15 Team Size	2.87	.88	.21*	.22*	.21*	.05	.09	.31**	.46**	.35**	-.08	-.05	-.04	-.04	-.15	-.35**					
16 Task Meaningfulness, mean	3.04	.67	.26**	-.04	-.21*	.06	.27**	-.03	-.07	.07	.43**	.38**	.21*	.37**	.11	.05	-.01				
17 Individualism, mean	4.9	.8	.04	-.25*	-.12	.06	-.27**	-.02	-.03	.18	-.09	-.11	-.16	-.11	.12	-.03	.06	-.01			
18 Power Distance, mean	4.87	.7	.06	-.1	-.28**	.07	-.37**	-.18	-.05	.02	.17	.09	.06	.09	.16	-.09	0.0	.08	.32**		
19 Terminal Values, mean	3.94	.78	.09	-.09	-.17	-.02	-.17	.14	-.13	.11	.21*	.12	.05	.08	.08	.08	-.03	.09	.23*	.38**	
20 Goal Commitment, mean	2.19	.61	-.02	.06	.18	-.07	.63**	-.04	-.04	.03	.28**	.49**	.36**	.34**	-.09	-.06	-.05	.41**	-.41**	-.35**	-.21*

Notes: *p <.05; **p <.01, N=99.

Table 4 a

Regression Results for Main and Interaction Effects of Team Diversity with Team Goal Orientation on Team Social Integration

Variables	Main Effects		Interaction Effects								
Controls											
Team Size	-.02	-.1	-.02	-.02	-.03	-.01	-.05	-.01	-.07	.04	-.02
Goal Commitment, mean	.31**	.17	.37*	.39**	.33**	.35**	.19	.34**	.34**	.33*	.39**
Task Meaningfulness, mean	0.22*	.16	.24*	.28**	.27**	.24*	.23*	-.26**	.27**	.27*	.28**
Individualism, mean	-.04	-.07	-.03	-.06	-.05	-.03	-.03	-.04	-.04	-.05	-.06
Power Distance, mean	.15	.21*	.17+	.18+	.18+	.15	.2*	.17	.17+	.18+	.18+
Terminal Values, mean	.05	.05	.08	.09	.08	.1	.09	.07	.09	.06	.09
Predictors											
Task Meaningfulness, s.d.		0.21*	-.45								-.45
Individualism, s.d.		-.15		-.34							-.34
Power Distance, s.d.		-.06			-.15						-.15
Values, s.d.		.1				-.15					-.15
Goal Commitment, s.d.		0.46**					1.51				1.51
Gender, Blau's index		-.17						-.69			-.69
Race, Blau's index		.14							0		0
Functional Background, Blau's index		.21								-.32	-.32
Interaction Terms											
Task Meaningfulness, s.d.*			.23								.23
Individualism, s.d.*				-.41*							-0.41*
Power Distance, s.d.*					.08						.08
Values, s.d.*						0.34*					0.34*
Goal Commitment, s.d.*							.16				.16
Gender, Blau's index *								.27			.27
Race, Blau's index *									.15		.15
Functional Background, Blau's index *										.22	.22
Adjusted R^2	.16*	0.21*	.06	.06*	.04	.26*	.08	.04	.05	.04	0.06

Notes: $*p < .05$; $**p < .01$, $+p \leq 0.1$; N=99.

Table 4 b

Regression Results for Main and Interaction Effects of Team Diversity with Team Empowerment on Team Social Integration

Variables	Main Effects					Interaction Effects					
Controls											
Team Size	-.02	-.1	-.03	-.02	-.02	-.02	-.05	-.02	-.06	-.04	-.02
Goal Commitment, mean	.31**	.17	.4**	.39**	.35*	.38**	.17	.41**	.41**	.36*	.39**
Task Meaningfulness, mean	0.22*	.16	.2+	.28**	.23*	.22*	.21*	.22*	.26*	.23*	.28**
Individualism, mean	-.04	-.07	-.03	-.06	-.04	-.04	-.03	-.01	-.03	-.05	-.06
Power Distance, mean	.15	.21*	.17+	.18+	.17	.16+	.21*	.18+	.17+	.17+	.18+
Terminal Values, mean	.05	.05	.06	.09	.07	.07	.07	.06	.08	.06	.09
Predictors											
Task Meaningfulness, s.d.		0.21*	-.26								-.26
Individualism, s.d.		-.15		-.34							-.34
Power Distance, s.d.		-.06			.22						.22
Values, s.d.		.1				-.16					-.16
Goal Commitment, s.d.		0.46**					1.53				1.53
Gender, Blau's index		-.17						-1.68			-1.68
Race, Blau's index		.14							-2.		-2.
Functional Background, Blau's index		.21								.26	.26
Interaction Terms											
Task Meaningfulness, s.d.*			.16								.16
Individualism, s.d.*				0.52*							0.52*
Power Distance, s.d.*					-.08						-.08
Values, s.d.*						.02					.02
Goal Commitment, s.d.*							-.69*				-.69*
Gender, Blau's index *								.69+			.69+
Race, Blau's index *									.94+		.94+
Functional Background, Blau's index *										-.03	-.03
Adjusted R^2	.16*	.21*	.05	.07*	.04	.04	.07*	.05+	.06+	.04	0.07

Notes: *p <.05; **p <.01, +p≤0.1; N=99.

Table 4 c

Regression Results for Main and Interaction Effects of Team Diversity with Team Psychological Capital on

Team Social Integration

Variables	Main Effects		Interaction Effects								
Controls											
Team Size	-.02	-.1	-.05	.01	-.03	-.01	-.04	0	-.06	-.03	-.06
Goal Commitment, mean	.31**	.17	.37**	.24+	.22+	.28*	.05	.33*	.25+	.24+	.25+
Task Meaningfulness, mean	0.22*	.16	.19+	.22*	.23*	.24*	.19+	.26*	.23*	.2*	.23*
Individualism, mean	-.04	-.07	0	-.06	-.04	-.03	-.03		-.03	-.04	-.03
Power Distance, mean	.15	.21*	.15+	.12	.13	.12	.17+	.15+	.12	.13	.12
Terminal Values, mean	.05	.05	.07	.05	.05	.1	.05	.1	.06	.04	.06
Predictors											
Task Meaningfulness, s.d.		0.21*	.1								.1
Individualism, s.d.		-.15		-.67							-.67
Power Distance, s.d.		-.06			.4						.4
Values, s.d.		.1				-.37					-.37
Goal Commitment, s.d.		0.46**					.81				.81
Gender, Blau's index		-.17						-2.41			-2.41
Race, Blau's index		.14							-.39		-.39
Functional Background, Blau's index		.21								0.1	.06
Interaction Terms											
Task Meaningfulness, s.d.*			.15								.15
Individualism, s.d.*				.22							.22
Power Distance, s.d.*					-.13						-.13
Values, s.d.*						-.03					-.03
Goal Commitment, s.d.*							-.16				-.16
Gender, Blau's index *								1.09*			1.09*
Race, Blau's index *									.29		.29
Functional Background, Blau's index *										-.19	-.19
Adjusted R^2	.16*	.21*	.09	.05	.05	.08	.07	.07*	.05	.05	0.07

*Notes: *p <.05; **p <.01, +p≤0.1; N=99.*

Table 4 d

Regression Results for Main and Interaction Effects of Team Diversity with Team Goal Orientation on Team Learning Behavior

Variables	Main Effects		Interaction Effects								
Controls											
Team Size	-.02	-.1	-.13	-.13[+]	-.14[+]	-.12	-.13[+]	-.16[+]	-.09	-.14[+]	-.12
Goal Commitment, mean	.31**	.17	-.17	-.14	-.2	-.19	-.16	-.17	-.16	-.19	-.19
Task Meaningfulness, mean	0.22*	.16	.07	.08	.11	.05	.1	.06	.04	.03	.05
Individualism, mean	-.04	-.07	.07	.09	.07	.11	.06	.07	.07	.03	.11
Power Distance, mean	.15	.21*	.06	.09	.08	0	.09	.09	.05	.02	0
Terminal Values, mean	.05	.05	-.05	-.03	-.04	0	-.08	-.07	-.06	-.03	0
Predictors											
Task Meaningfulness, s.d.		-.03	.15								.15
Individualism, s.d.		-.07		.76							.76
Power Distance, s.d.		-.03			-.19						-.19
Values, s.d.		.17				-1.23					-1.23
Goal Commitment, s.d.		-.17					.93				.93
Gender, Blau's index		.13						1.02			1.02
Race, Blau's index		-.37							1.05		1.05
Functional Background, Blau's index		-.02								2.33	2.33
Interaction Terms											
Task Meaningfulness, s.d.*			-.06								-.06
Individualism, s.d.*				-.31							-.31
Power Distance, s.d.*					.12						.12
Values, s.d.*						.36*					.36*
Goal Commitment, s.d.*							-.4				-.4
Gender, Blau's index *								-.27			-.27
Race, Blau's index *									-.54		-.54
Functional Background, Blau's index *										-1.43**	-1.43**
Adjusted R^2	.16*	.21*	0	.01	0	.03*	.01	0	.01	.02*	.03*

Notes: *$p <.05$; **$p <.01$, [+]$p \leq 0.1$; N=99.

Table 4 e

Regression Results for Main and Interaction Effects of Team Diversity with Team Empowerment on Team Learning behavior

Variables	Main Effects		Interaction Effects								
Controls											
Team Size	-.02	-.1	-.13	-.12	-.14+	-.14+	-.12	-.15+	-.09	-.13	-.12
Goal Commitment, mean	.31**	.17	-.16	-.17	-.19	-.12	-.1	-.16	-.15	-.17	-.17
Task Meaningfulness, mean	0.22*	.16	.15	.13	.17	.11	.15	.14	.16	.01	.13
Individualism, mean	-.04	-.07	.06	.07	.05	.08	.06	.06	.05	.02	.07
Power Distance, mean	.15	.21*	.08	.14	.1	.06	.07	.1	.08	.04	.14
Terminal Values, mean	.05	.05	-.02	.01	-.02	.01	-.02	-.04	-.03	-.03	.01
Predictors											
Task Meaningfulness, s.d.		-.03	-.36								-.36
Individualism, s.d.		-.07		.6							.6
Power Distance, s.d.		-.03			-.32						-.32
Values, s.d.		.17				-.76					-.76
Goal Commitment, s.d.		-.17					.11				.11
Gender, Blau's index		.13						.06			.06
Race, Blau's index		-.37							-2.26		-2.26
Functional Background, Blau's index		-.02								2.62	2.62
Interaction Terms											
Task Meaningfulness, s.d.*			.15								.15
Individualism, s.d.*				-.93**							-.93**
Power Distance, s.d.*					.16						.16
Values, s.d.*						.37					.37
Goal Commitment, s.d.*							-.1				-.1
Gender, Blau's index *								.06			.06
Race, Blau's index *									.78		.78
Functional Background, Blau's index *										.31	.31
Adjusted R^2	.16*	.21*	0	0.01*	0	0	0	0	0	.02	.01

Notes: *p <.05; **p <.01, +p≤0.1; N=99.

Table 4 f

Regression Results for Main and Interaction Effects of Team Diversity with Team Psychological Capital on Team Learning Behavior

Variables	Main Effects		Interaction Effects								
Controls											
Team Size	-.02	-.1	-.13+	-.12	-.13+	-.16	-.12	-.14	-.09	-.14+	-.12
Goal Commitment, mean	.31**	.17	-.16	-.17	-.16	-.18	-.09	-.14	-.17	-.19	-.17
Task Meaningfulness, mean	0.22*	.16	.14	.13	.17	.13	.16	.15	.14	.03	.13
Individualism, mean	-.04	-.07	.06	.07	.07	.08	.06	.06	.06	.03	.07
Power Distance, mean	.15	.21*	.08	.14	.09	.05	.06	.1	.08	.02	.14
Terminal Values, mean	.05	.05	-.02	.01	-.01	0	-.02	-.03	-.03	-.03	.01
Predictors											
Task Meaningfulness, s.d.		-.03	.09								.09
Individualism, s.d.		-.07		.6							.6
Power Distance, s.d.		-.03			-.49						-.49
Values, s.d.		.17				-.5					-.5
Goal Commitment, s.d.		-.17					-.31				-.31
Gender, Blau's index		.13						.07			.07
Race, Blau's index		-.37							-.19		-.19
Functional Background, Blau's index		-.02								2.33	2.33
Interaction Terms											
Task Meaningfulness, s.d.*			-.03								-.03
Individualism, s.d.*				.66*							.66*
Power Distance, s.d.*					.22						.22
Values, s.d.*						.28					.28
Goal Commitment, s.d.*							.06				.06
Gender, Blau's index *								.04			.04
Race, Blau's index *									-.05		-.05
Functional Background, Blau's index *										.43	.43
Adjusted R^2	.16*	.21*	0	0.01*	0	0	0	0	0	.02	.01

Notes: *p <.05; **p <.01, +p≤0.1; N=99.

Table 4 g

Regression Results for Main Effects on Team Performance

Variables	Main Effects
Team Learning Behavior	.64
Team Psychological Capital	1.34
Social Integration	-.77
Adjusted R^2	-.02

*Notes: *p <.05; **p <.01; N=99.*

Table 5

Regression Results for Mediation Effects

Variable	Coefficient	
Intercept	107.54***	107.21***
SI		0
TLB		.11
Gender	-.8	-.83
Race	-6.62	-6.59
FB	-3.41	-3.4
TM	-.75	-.74
GC	3.17	3.19
TV	-2.25	-2.27
IDV	-.26	-.25
PDI	1.7	1.69
Team Size	-2.45*	-2.44*
Mean-TM	2.51	2.49
Mean-IDV	-.53	-.54
Mean-PDI	-1.79	-1.81
Mean-TV	.94	.94
Mean-GC	-5.05*	-5.04*

Note. *** $p < .001$. ** $p < .01$. * $p < .0$

APPENDIX C

MEASURES

S. No	Construct	Source	Number of Items	Items	Reliability
1	Functional background	Self-reported		Area of major	
2	Gender	Self-reported		Male/Female	
3	Race/Ethnicity	Self-reported		Caucasians, African American, Asian, Hispanics, Others	
4	Task Meaningfulness	Harrison *et al.* (2002)	3	1. I learn a lot from the course 2. It is more than busy work 3. Taking this course is worthwhile	0.80
5	Culture (Individualism/ Collectivism)	Wagner III (1995)	6	1. Only those who depend on themselves get ahead in life. 2. In the long run the only person you can count on is yourself. 3. To be superior a person must stand alone. 4. A group is more productive when its members do what they want to do rather than what the group wants them to do. 5. A group is most efficient when its members do what they think is best rather than doing what the group wants them to do. 6. A group is more productive when its members follow their own interest and concerns.	0.80

S. No	Construct	Source	Number of Items	Items	Reliability
6	Culture (Power distance)	Earley & Erez (1997)	6	1. In work-related matters, team leaders have a right to expect obedience from their subordinates. 2. Team members who often question authority sometimes keep their leaders from being effective. 3. Team members should not express disagreements with their team leaders. 4. Authority structures in teams are useful for ensuring that each person knows who has power over him or her. 5. The team leader's authority should not be questioned 6. In most situations, team leaders should make decisions without consulting their team members.	0.75
7	Value (Goal Commitment)	Klein *et al.* (2001)	5	1. It's hard to take our group project seriously (R) 2. Quite frankly, I don't care if I complete the group project or not (R) 3. I am strongly committed to pursuing the group project 4. It wouldn't take much to make me abandon the group project (R) 5. I think this is a good project to work on	0.76

S. No	Construct	Source	Number of Items	Items	Reliability
8	Value (Terminal values)	Harrison *et al.* (2002)	18	*Introductory question* - To what extent do you feel that a university course helps you attain the following- 1. A comfortable life (a prosperous life) 2. Equality (brotherhood and equal opportunity for all) 3. An exciting life (a stimulating, active life) 4. Family security (taking care of loved ones) 5. Freedom (independence and free choice) 6. Health (physical and mental well-being) 7. Inner harmony (freedom from inner conflict) 8. Mature love (sexual and spiritual intimacy) 9. National security (protection from attack) 10. A world at peace (free of war and conflict) 11. Self-respect (self-esteem) 12. Happiness (contentedness) 13. Wisdom (a mature understanding of life) 14. Salvation (saved, eternal life) 15. True friendship (close companionship) 16. A sense of accomplishment (a lasting contribution) 17. A world of beauty (beauty of nature and the arts) 18. Pleasure (an enjoyable, leisurely life)	0.96

S. No	Construct	Source	Number of Items	Items	Reliability
9	Social Integration	Smith *et al.* (1994)	9	1. Members of the team are quick to defend each other from criticism by outsiders 2. Success of other members of the team help me achieve my own objective 3. Everyone's input is incorporated into most important team decisions 4. The members of the team g*et alo*ng together very well 5. Relationships between members of the team are best described as 'win-lose'; if he/she wins, I lose (R) 6. The members of the team are always ready to cooperate and help each other 7. When final decisions are reached, it is common for at least one member of the team to be unhappy with the decision (R) 8. There is a great deal of competition between members of the team (R) 9. The members of the team really stick together	0.72
10	Team Learning Behaviour	Edmondson (1999)	4	*Introductory Question*: To what extent does your team: 1. Criticize each other's work in order to improve performance 2. Freely challenge the assumptions underlying each other's ideas and perspectives 3. Engage in evaluating their weak points in attaining effectiveness 4. Utilize different opinions for the sake of obtaining optimal outcomes	0.84

S. No	Construct	Source	Number of Items	Items	Reliability
11	Goal Orientation	Pieterse *et al.* (2013)	6	*Learning Approach* 1. I want to learn as much as possible from this class 2. It is important for me to understand the content of this course as thoroughly as possible 3. I desire to completely master the material presented in this class *Performance Prove* 4. It is important for me to do better than other students 5. It is important for me to do well compared to others in this class 6. My goal in this class is to get a better grade than most of the other students	0.88 0.91
12	Collective Psychological Capital	Walumbwa *et al.* (2011)	8	*Introductory Question*: I feel that members of the group project for this course do the following: *Efficacy -* 1. Confidently contribute to discussions about the group's strategy 2. Confidently represent our work area in meetings with the instructor *Hope -* 3. Think of many ways to reach work goals 4. See themselves as being pretty successful at work *Resiliency -* 5. Usually take stressful things at work in stride 6. Usually manage difficulties one way or another at work *Optimism -* 7. Are optimistic about what will happen to them in the future as it pertains to work 8. Always look on the bright side of things regarding their job	0.88 0.85 0.84 0.86

S. No	Construct	Source	Number of Items	Items	Reliability
13	Team Empowerment	Kirkman *et al.* (2004)	12	*Potency* 1. My team has confidence in itself. 2. My team can get a lot done when it works hard. 3. My team believes that it can be very productive.	0.89
				Meaningfulness 4. My team believes that the project is significant. 5. My team feels that the tasks are worthwhile. 6. My team feels that the work is meaningful.	0.92
				Autonomy 7. My team can select different ways to do the team's work. 8. My team determines as a team how things are done in the team. 9. My team makes its own choices without being told by instructors.	0.64
				Impact* 10. My team has a positive impact on this course. 11. My team performs tasks that matter to this course. 12. My team makes a difference in this course.	0.89
14	Performance	Course instructors		Grade assigned for team project	

MANPREET KAUR

EDUCATION

LUBAR SCHOOL OF BUSINESS, UNIVERSITY OF WISCONSIN, MILWAUKEE, WI
Ph.D. – Organizations and Strategic Management   2018
Dissertation: Three Essays on Diversity-Performance Relationship from a Positive Psychology Lens

LUBAR SCHOOL OF BUSINESS, UNIVERSITY OF WISCONSIN, MILWAUKEE, WI
Master of Business Administration (Global Management)   2011

INDRA GANDHI NATIONAL OPEN UNIVERSITY, INDIA   2003
Master of Tourism Management

UNIVERSITY OF LUCKNOW, INDIA   2001
Bachelor of Arts (Economics & English Literature)

TEACHING EXPERIENCE

WHITTIER COLLEGE, WHITTIER, CA
Visiting Assistant Professor of Management (Upcoming)   **Fall 2018**
  – *Organizational Leadership*
  – *International Business*
  – *Business and Society*
  – *Management and Organization Behavior*

CALIFORNIA STATE UNIVERSITY, FULLERTON, CA
Lecturer – Organizational Behavior   **Fall 2016-Present**

UNIVERSITY OF WISCONSIN, MILWAUKEE, WI
Lecturer – International Business (Online)   **Winter 2017 and Winter 2018**
Lecturer – International Business   **Summer 2016**

UNIVERSITY OF WISCONSIN, MILWAUKEE, WI
Teaching Assistant – Organizational Behavior   **Fall 2014**
Teaching Assistant – Introduction to Supply Chain Management   **Fall 2012-Spring 2013**

TEACHING INTERESTS

☐ Organizational Behavior ☐ Human Resource Management ☐ Principles of Management
☐ Cross Cultural Management ☐ Diversity in Business Organizations ☐ Managing Workplace Diversity
☐ Business, Ethics and Society ☐ International Management/Business ☐ Employee Motivation and Work Behavior
☐ Leadership and Development ☐ Theories and Practice of Leadership ☐ Negotiation and Conflict Management
☐ Managerial Leadership & Motivation   ☐ Interpersonal Skills and Conflict Resolution

RESEARCH SUMMARY

Research Interests:
- Workplace diversity/faultlines and culture
- Positive Organizational Behavior
- Interdisciplinary research

Conference Paper
- Kaur, M., Ren, H. (2016). Positive Faultlines: An Unconventional Perspective on Team Compositional Dynamics. *Society for Industrial and Organizational Psychology.* Anaheim, CA.

Manuscripts under Review
- Dong, L., Kaur, M., & Ren, H. (Proposal) The Effect of Culture in Multi-Cultural Teams: A Multi-Level Content Analysis (*Journal of World Business*)

Manuscripts in Progress
- Kaur, M. & Shaffer, M. Culture and Supply Chain Management: Past and Prospective Research (*Target: Management Science*)
- Liu, D., Ren, H. & Kaur, M. The Higher-Order Factors of the Big Five as Predictors of Employee Outcomes: A Meta-Analysis (*Target: TBD*)
- Kaur, M., & Ren, H. Separation, Variety and Disparity in Team Diversity Research: A Review of the Role of Context (*Target: TBD*)
- Kaur, M. & Ren, H. Positive Faultlines: A Pioneering Approach to Team Composition (*Target: TBD*)
- Kaur, M. & Ren, H. Positive Faultlines – Empirical Evaluation of a Contemporary Approach (*Target: Small Group Research*)
- Kaur, M. & Ren, H. Relational Demography – A Holistic Review (*Target: TBD*)
- Kaur, M. & Ren, H. Unconventional Viewpoint towards a Conventional Association: Role of Positive Psychological Traits in Diversity-Performance Link (*Target: TBD*)

PROFESSIONAL EXPERIENCE

TECH MAHINDRA, NOIDA, INDIA

Team Manager   **2007 – 2009**
- Transitioned back-office and front-office processes from UK to India for an online British bank; project resulted in a transition of 50 people (FTEs) worth of work and associated cost savings
- Supervised a team of 20 people for application, end-to-end and user acceptance testing for five software applications and 20 processes
- Trained 50 people for new front and back office processes and applications
- Managed a team of 8 associates for general ledger reconciliation and transaction processing
- Managed team development and goal setting in addition to mentoring team members
- Prepared operational reports, provided constructive feedback
- Monitored quality and resolved HR issues

AMERICAN EXPRESS, GURGAON, INDIA   2005 – 2007
Senior Reconciliation Analyst
- Reconciled credit card accounts of North American customers and over achieved targets for ten consecutive months
- Conducted quality monitoring for a team of 12 FTEs to complete over 200 audits a months
- Presented quarterly Business Unit Reviews to senior service operations leaders and regional heads
- Initiated four process improvement projects that enhanced performance and productivity

HINDUSTAN TIMES MEDIA LTD, LUCKNOW, INDIA   2002 – 2004
Department Coordinator
- Managed accounts and budget and inter-department coordination for the department
- Handled third party and internal circulation and accounting audits for the department
- Event management, including fund-raising, organization, and conducting events

GE & STATE BANK OF INDIA, LUCKNOW, INDIA   2000 – 2002
Team Leader
- Supervised a team of 15 tele-callers responsible for handling incoming calls for credit card inquiries
- Prepared and presented operational reports
- Assigned targets, conducted performance and quality audits, and addressed HR issues of team members

ACADEMIC HONORS AND AWARDS

Chancellor's Fellowship   2014 – 2015
Summer Research Fellowship   2013
Summer Research Fellowship   2012
Chancellor's Fellowship   2011 – 2012

PROFESSIONAL HONORS AND AWARDS

Best Team Manager of the Quarter   2009
Best Performing Team   2008
Reconciliation Expert of the Quarter   2006

REFERENCES

Dr. Margaret Shaffer

Professor of Management

Michael F. Price Chair in International Business

Price College of Business

University of Oklahoma, Oklahoma

margaret.shaffer@ou.edu

405-325-5737

Dr. Hong Ren

Associate Professor

Lubar School of Business

University of Wisconsin, Milwaukee

Milwaukee, WI 53201

renh@uwm.edu

414-229-2522

Dr. Gerard Beenen

Professor & Department Chair

Mihaylo College of Business and Economics

California State University, Fullerton

gbeenen@fullerton.edu

657-278-2251

Dr. Xiaojing Yang

Associate Professor

Lubar School of Business

University of Wisconsin, Milwaukee

Milwaukee, WI 53201

yangxiao@uwm.edu

414-229-6537