DEEP-LEVEL DIVERSITY AND TEAM CREATIVITY: THE MEDIATING ROLE OF TEAM CREATIVITY CLIMATE

By

VINIT GHOSH

Department of Humanities & Social Sciences

Indian Institute of Technology Guwahati

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VINIT GHOSH

Department of Humanities & Social Sciences
Indian Institute of Technology Guwahati

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STATEMENT

The work contained in this thesis entitled "Deep-level Diversity and Team Creativity: The Mediating Role of Team Creativity Climate" has been carried out by me under the supervision of Dr. Nachiketa Tripathi, Professor, Department of Humanities and Social Sciences, Indian Institute of Technology Guwahati, India. This work has not been submitted elsewhere for the award of any degree.

Guwahati
October, 2018

Vinit Ghosh
Research Scholar
Department of Humanities and Social Sciences
Indian Institute of Technology Guwahati
Guwahati- 781 039, Assam,
INDIA

CERTIFICATE

This is to certify that the work contained in the thesis entitled "Deep-level Diversity and Team Creativity: The Mediating Role of Team Creativity Climate" by **Mr. Vinit Ghosh** (Roll No. 146141001), a student in the Department of Humanities & Social Sciences, Indian Institute of Technology Guwahati, for the award of the degree of Doctor of Philosophy was carried out under my supervision. The results embodied in the thesis have not been submitted to any other University or Institute for the award of any degree or diploma.

Guwahati
October, 2018

Dr. Nachiketa Tripathi
Professor
Department of Humanities and Social Sciences
Indian Institute of Technology Guwahati
Guwahati- 781 039, Assam,
INDIA

Dedicated

To

My Mother

ACKNOWLEDGEMENT

I still remember the day I decided to quit my cushy job to pursue a full-time PhD course. I could sense a tint of uncertainty and doubt on the faces of my family members. They thought it was a hasty decision. After working in multi-national organizations for eight long years, the decision was tough for me too. As a middle aged man, I was skeptical about my perseverance to sustain such a long journey of a PhD and thinking about the possible effects it could bequeath on my mind and body, let me had some sleepless nights in the initial days. I knew that I had to walk an extra mile to gain the academic orientation and discipline required for fulfilling the stringent requirements of a PhD.

At this juncture when I am submitting my thesis, I feel that I would have missed a beautiful life experience if I would not have enrolled in the PhD course at IIT Guwahati. The systematic process of such a course has equipped me with the knowledge and tools to approach any critical problem. I am thankful to my organizational experiences that made me understand the essence of psychology and management theories and their strong implications in the workplace.

I believe that people encounter a few select individuals in their life who bring new perspectives and goals to their lives. In my PhD journey, one such person is my supervisor Prof. Nachiketa Tripathi. Like a philosopher and guide, he directed me to understand the different paradigms of academics. He had faith in my abilities and motivated me in my low days where I was struggling to balance my work and family issues. I thank my supervisor for his patience and support for my work without which the research would not have been completed. He will always hold a special place in my heart.

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Vinit Ghosh

Deep-level Diversity and Team Creativity: The Mediating Role of Team Creativity Climate

Synopsis

Name of the Student	:	**Vinit Ghosh**
Roll No	:	146141001
Programme	:	PhD (Psychology)
Department	:	HSS, IIT Guwahati
Name of the Supervisor	:	**Prof. Nachiketa Tripathi**

Organizational diversity refers to the variety of differences between people in the organization and mainly encompasses race, gender, ethnic group, age, educational background, and many more (Patrick & Kumar, 2012). According to Thomas (2005), diversity cannot be judged solely by the observable differences among the elements of a specific mix. It has a much broader connotation.

There are contradictory findings in the work psychology and HRM literature related to the importance of diversity in leveraging the competitive advantage of an organization. Researchers who believe in the information decision approach (Cox & Blake, 1991; Iles & Hayers, 1997; Richard & Shelor, 2002) argue that a well-managed informational diversity can lead to creativity at the workplace. On the other hand, proponents of social identity theory (Ely & Thomas, 2001; Tajfel, 1982) view diversity as the inhibitor of group cohesiveness and group communication which results in "in-group" and "out-group" formation.

Many researchers have questioned the group diversity benefits on the point that heterogeneous groups experience more conflict, higher turnover, less social integration and suffer from communication problems than their homogeneous counterparts (Knight et al., 1999; O'Reilly III, Caldwell, & Barnett, 1989; Williams & O'Reilly, 1998). Few studies have suggested that individuals who perceive themselves to be different from their co-workers, experience lower organizational attachment

(Mighty, 1997; Tsui, Egan, & O'Reilly, 1992). However, Latimer (1998) argued that diversity promotes employees to take "more" risk and thus facilitates creativity and problem-solving capability. It has been observed that conflict of ideas between team members can facilitate generating new ideas (Janis, 1982). Proponents of diversity also argue that homogeneity encourages "group-think" which generates serious problems in decision making. Researches on diversity have suggested that group cohesiveness results in "groupthink"-ing while lack of it increases group conflict. However, effective management of group conflict can generate more alternatives and greater critical evaluation of the different perspectives of group members which can lead to creative problem-solving and decision-making (Bassett-Jones, 2005). Thomas and Ely (1996) argued that cognitive and experiential diversity encourages clarification, organization and combination of new ideas to accomplish critical goals. Independent researches by Donnelon (1993) and Tushman (1997) suggested that diversified groups have access to broader networks of information which help them to acquire new information quickly to make better-informed decisions. Therefore, to tackle this "double-edged" logic of diversity, two broad approaches have been adopted by modern diversity researchers. The first approach emphasizes the mechanisms to reduce the ill-effects of surface-level diversity (which leads to social categorization) while in the other approach, priority has been given on knowledge diversity over surface-level to reap informational benefits. However, many studies on diverse groups have challenged the underlying mechanisms of these two approaches (Srikanth, Harvey, & Peterson, 2016). Srikanth et al. (2016) argued that social identity and social categorization are rarely measured explicitly; instead, are theoretically linked to negative outcomes such as relationship conflict, low trust or increased turnover. Van der Vegt and Bunderson (2005) identified that group-identity of a deep-level diverse group is a critical driver to determine the degree of information benefits. However, team categorization through surface-level attributes may influence a group member's organizational identity and group relevant identity formation. Therefore, the reasons for a diverse team's poor performance are rooted in some form of social categorization which has been left unmeasured to date (Srikanth et al., 2016).

In the diversity-creativity literature, a strong inclination towards analyzing the diversity-creativity relationship at an individual level has been observed. Though Neuman and Wright (1999) emphasized the importance of examining relationships at both the individual and group-level creativity, and till date most creativity studies have generally focused at the individual level of analysis (Woodman, Sawyer, & Griffin, 1993). Although, team, group composition or in other words the configuration of member attributes in a group (Levine & Moreland, 1990) was found to have a significant influence on group's processes and outcomes (Kozlowski & Bell, 2003), diversity researchers have paid little attention to the role of team members' dispositional differences in team creative output (Bechtoldt, De Dreu, & Nijstad, 2007). Therefore, modern creativity researches need to tap the team-generated knowledge which can leverage the performance of a team as well as an organization (Guzzo & Dickson, 1996). This is possible when more research on team creativity is conducted (Joo, 2007). It has been observed that in diversity-creativity or diversity-performance literature, there is a lack of consideration of psychological climate variables like learning culture and creativity climate. The lack of research on the dispositional antecedents of such psychological climate limit the development of concrete intervention mechanisms to tackle the problem of negative climate perceptions which evolve due to the differences in employee orientations (Wang, Tsai, & Tsai, 2014).

Recent research indicates that deep-level characteristics play a more important role than surface-level dimensions in a group (Harrison, Price, & Bell, 1998). The deep-level characteristics are more mutable than surface-level characteristics (Harrison et al., 1998) and therefore analyzing deep-level diversity effects on team creative performance can help organizations to bring changes in the individual, group and organizational level for higher productivity. According to Klein and Wang (2010), shared organizational values, goals, and attitudes among team members engender deep-level similarity within teams, which might result in positive organizational outcomes.

While most of the creativity based researches have dealt with the influences of individual characteristics on creativity, studies on group diversity effects on creative output are very few (e.g., Kurtzberg & Amabile, 2001). One of the reasons may be the lack of valid criteria to measure creative output. Though some mixed findings regarding the correlation between individual creativity and team level creativity have surfaced in the creativity literature, empirical findings on team level and organizational level creativity are still rare. From the classical study by Taggar (2002), it can be assumed that individual creative outcome acts as a proxy of group level creative outputs. However, such a strong correlation does not surface in the findings of Hanke (2006). To bridge the gap, most of the research findings have appreciated the presence of the creative climate as an intervening variable in the individual and team creativity link (Eagan 2005; Kurtzberg & Amabile, 2001). The climate and culture that encourages risk-taking and innovation, along with effective feedback and support from the different effective sources, help to nurture a creative organization (Madjar, 2005). However, most of the creativity researches have provided few clear associations linking organizational practices and structures with perceptions of climate (Tesluk, Farr, & Klein, 1997). It is surprising that till date, there is no concrete evidence regarding the creativity climate dimensions which are important for creativity to take place (Mumford & Hunter, 2005). Moreover, examination of the effects of team or organizational-level mediators or moderators influencing climate and its subsequent effect on creativity is scarce in the literature (Anderson et al., 2004).

In team creativity literature, the examination of the combined effect of team learning culture and team characteristics is rare (Joo, Song, Lim and Yoon, 2012). Moreover, group members' perception of such type of quality of learning environment has been identified as an antecedent to creativity climate (Sundgren et al., 2005). The degree to which the collective learning will valorize into something useful, depends on the organization's ability to enable, support and reward the use of what is learned (Marsick & Watkins, 2003). Marsick and Watkins (2003) identified few

factors which build the characteristics of a learning organization. According to them, such organizations create continuous learning opportunities, encourage collaborative learning, develop mechanisms to capture and share new knowledge, and empower people to have a collective orientation. The role of learning culture is particularly critical for a team in uncertain or non-routine situations. In such cases, the learning culture provides social cues or guidelines for coping up with unknown events (Zellmer-Bruhn, 2003).

Identities and beliefs held by team members shape their psychological attachment which in turn develops a shared mental model towards acceptance of ideas, the degree of dialogue and inquiry permissible, group learning and empowerment opportunities in the team. Deutsch's (1949, 1973) interdependence theory rests on the proposition that group members' perception of task interdependence can facilitate (in case of shared goals) or inhibit decision making (in case of conflicting or independent goals) in the group. In a positive interdependent goal context, the differentiation created by diversity in a group results in a simultaneous exhibition of group members' cooperative (to achieve group goals) and competitive behaviours (to attain personal goals) (Ayestaran, 1999). It has been argued that from a longitudinal perspective, the teams develop effective learning mechanisms to use both co-operative and conflict management strategies to integrate co-operation and competition within a team (Aritzeta & Balluerka, 2006; Russ-Eft, Preskill, & Sleezer, 1997).

Therefore, from the review of literature on diversity and creativity and the various factors which affect the relationship, the following research questions were formulated –

1. How is the surface-level diversity of a team related to deep-level diversity?
2. How is the deep-level diversity of a team related to team creativity?

3. How the team climate for creativity influences the effects of deep-level diversity on team creativity?
4. How the team climate quality influences the relationship between deep-level diversity and team creativity?
5. How a deep-level diverse team's perceived learning climate influences the teams' creativity climate perception?
6. How task interdependency influences the deep-level diversity and team learning?

In the past, diversity researchers were busy studying the effects of actual differences in group members' surface level characteristics (e.g., age, race, gender, religion etc.). Recently, the idea has been challenged by a growing line of research which emphasizes the effects of perceived diversity in teams (van Knippenberg, De Dreu, & Homan, 2004). The underlying logic is based on the argument that individuals differ in their way of interpreting similarity and dissimilarity and thus react differently to objective similarity or dissimilarity. Different team dynamics evolve due to the differences in the team members' perceived diversity and not on actual reality per se (Shemla, Meyer, Greer, & Jehn, 2016).

In the present research work, an experimental study (Study 1) has been designed to address few research questions viz., a) how deep-level diversity is related to team creativity, and b) how team climate of creativity influences diversity and team creativity. Study 1 aims to examine the role of perceived deep-level diversity in teams, with an expectation that such focus may provide more accurate insight into the effects of diversity on team's creative output. Considering the fact that diversity researchers have paid little attention to the role of group members' psychological differences in group creative output (Bechtoldt, De Dreu, & Nijstad, 2007), Study 1 focuses on understanding the effects of perceived deep-level diversity on team's creative performance. Secondly, to understand the conditions under which team creativity prosper, the researcher has explored the role of the team's creative climate as an intervening variable in the team diversity and team creativity link.

Study 1 (N=90; n=30 in each experimental condition viz., homogeneous, heterogeneous, and mixed) was carried out on full-time employees from four different organizations in Guwahati, Assam, India. The core business domains of these four organizations are electronics manufacturing, oil refining and financial service, respectively. Homogeneous, heterogeneous and mixed conditions questionnaires containing respective vignettes were randomly distributed between 90 employees across the four organizations. The researcher ensured that each condition had exactly 30 subjects. Out of 90 employees, 40 were males, and 50 were females. Study 1 has used vignette methodology as it gives the researcher an opportunity to carefully craft scenarios of the constructs being tested (Aguinis & Bradley, 2014). In this experimental study, three question booklets were prepared, each representing one of the three experimental conditions (Homogenous group, Heterogeneous group, and Mixed group). Generally, homogeneity is taken as a baseline to understand the effects of heterogeneity (Apfelbaum, Philips & Richeson, 2014). However, according to Apfelbaum et al. (2014), homogeneity has its own independent effects. Therefore, to understand the independent effects of homogeneity and heterogeneity, a mixed group (where both homogeneity and heterogeneity were varied) was considered as a prototypical group (i.e., the baseline group).

It was found that deep-level homogeneous team's perceived creative output was higher than that of heterogeneous team. The study findings revealed that the perceived creativity climate of a homogeneous team was higher than that of a heterogeneous team. Perceived team creativity climate which is groups' "shared mental concept of how far team's values and norms emphasize creativity and innovation", partially mediated the effects of group's perceived deep-level diversity on its creative output. In the present study, no significant difference between the creativity outputs of a homogeneous team and a heterogeneous team under positive climate condition was observed. However, unlike Schachter's (1951) study, under a

negative climate condition, a deep-level homogeneous group performed better than a heterogeneous group.

Study 1 aimed to analyze the cumulative effect of perceived deep-level diversity on team creative output from a member-to-team perspective. Some of the limitations of the study include lack of investigation on the actual deep diversity effects of identity and belief attributes on creativity climate and team creativity. Moreover, the analysis of deep diversity effects in real teams taking into consideration group and organizational contextual variables as moderators and mediators of the underlying process were missing. Therefore, a questionnaire-based survey study (Study 2) was carried out to address these gaps and answer the remaining research questions.

Data for Study 2 were collected from two different samples. The first sample (sample 1) data comprised of junior and middle-level employees (N= 303) working in teams across 24 organizations (located in metropolitan cities of India). The second sample (sample 2) was drawn from their respective team managers (N=73) to know the perceptions of their team's overall team creativity and creativity output. The average age of the employees in sample 1 was 29.2 years (SD = 6.2 years), and their average work-experience was 5.27 years (SD = 4.9 years). The average group tenure of the 73 teams surveyed was 20.58 months (SD = 13.84) where more than 50% of the teams had group tenure of fewer than 15 months. The average age of the team managers (sample 2) was 36.28 years (SD = 7.18 years) and the average work experience was 11.97 years (SD = 6.27 years). In sample 1, 70.6% were male employees, and 29.4% were female employees. In sample 2, 80.8% were male team managers and 19.2 % were female team managers.

Mixed evidence (positive and negative) was found for the direct effects of subjective surface diversity on deep-level diversity. Moreover, no significant effects of objective or actual surface diversity on deep-level diversity validated that surface diversity interacts with the task and team process variables to deliver its intended

effects. It was observed that under a high task variety situation, objective and subjective surface level diversity (task/relational) negatively influenced task-related deep diversity (e.g., creative role identity and creative self-efficacy). On the other hand, under high task variety situation, surface level diversity (task/relational) positively influenced relation-oriented deep diversity (e.g., group identity and organizational identity).

A negative relationship was observed between group identity (affect) diversity and teams' task orientation climate. Similarly, a negative relationship was observed between organizational identity diversity and team climate of creativity (support and communal feeling). The significant indirect effects of identity diversity on team creativity supported that the differences in identities among team members (group and organizational) had negative influence on team creativity through the team climate perceptions. In other words, team climate perception mediated the negative effects of identity diversity on team creativity. It was apparent that differences in team members' inclusion beliefs (inclusion in the group and organizational decision-making processes) can create a sense of insecurity among members about being accepted in the team. This in turn, fostered a negative perception of the way the work is being executed in the team.

Moreover, excluded members' perception that their ideas were not valued and supported by other members created a non-supportive team climate (support and communal feeling). When there were creative self-efficacy differences among team members, the weaker members perceived that they were unnecessarily monitored, controlled and only their weaknesses were pointed out by other members. The negative relationship observed between inclusion-beliefs diversity and team's support and communal feeling, and between creative self-efficacy diversity and task orientation perception, created a negative mental model about the overall team climate. The shared perception of task-oriented climate evolved from the differences in group identity (affect) and organizational identity, prompted the members to undergo a process of testing the team's output against the relevant criteria for its

usefulness or appropriateness. It was observed that differences in creative role identities among members violated or threaten members' perception of team's uniqueness which was manifested in the perception of non-uniqueness of the product quality (novelty characteristic of the product/service produced).

It was found that collaborative learning may get hampered due to the differences in team members' group identities, creative self-efficacy beliefs and inclusion beliefs. These negative effects of deep diversity on team learning climate helped to form a shared perception of negative team creativity climate. Team-level deep diversities can adversely affect team's perception of autonomy over team related work and activities. The negative relationship was further facilitated in the condition of low task dependency. However, a positive relationship was observed between diversity and learning in case of high task inter-dependency.

Contributions and Implications

The thesis has investigated team diversity from a social identity perspective focusing on the effects of team members' deep-diversity on team creativity. The contributions of the present research are divided into three parts 1) theoretical contributions, 2) methodological contributions, and 3) practical implications.

Theoretical Contributions

In the present empirical research, the analysis of implicit workgroup categorization (identity and beliefs differences among team members) has attempted to strengthen the concept of social identity and social categorization in workplace settings. Study 1 has focused on the team creativity output based on team members' subjective experiences that are bounded by their views and understanding of their relative positions (deep-level similar or dissimilar) with other members (self-team deep-level diversity). Study 2 has focused on the effects of actual differences of deep-level variables (deep-level heterogeneity) at team level on team creativity and

creative output. Therefore, both subjective and objective analysis of deep-diversity at the team level is a unique contribution of this research study. This research has strong implications for the categorization-elaboration theory which posits that intergroup biases from identity threats or challenges hinder information elaboration in diverse groups. To an extent, the present research has attempted to address the diversity-creativity paradox by reinforcing the importance and relevance of deep-level diversity and team creativity climate in interpreting the puzzling results of diversity and creativity.

Moreover, team creativity was conceptualized from both process and outcome perspectives. The underlying assumption for such an approach was that creativity output guarantees team creativity, but the reverse may not be true. Therefore, analysis of the effects of both identity and beliefs diversity on team creativity and team creativity output through team climate perception is a unique contribution to the body of diversity and creativity literature.

Methodological Contributions

In Study 1, vignette technique was used to manipulate independent variables and the quality of creativity climate. This technique gives the opportunity to carefully craft scenarios of the constructs being tested (Aguinis & Bradley, 2014). It provides greater control over the manipulation of independent variables. By using this method, any difference between the participants can be directly attributable to the objective value of the scenario described (Aguinis et al., 2014). In Study 2, mediation analyses were tested through PROCESS macro V.2.16 (Hayes, 2013). Traditional rules for mediation testing following Baron and Kenny's (1986) guidelines revealed some weaknesses (Zhao, Lynch, & Chen, 2010). The causal relationship between independent and dependent variable is no longer a precondition for mediation analysis (Hayes, 2009; Rucker, Preacher, Tormala, & Petty, 2011) and thus the strength of the indirect path through a mediator is only reported in recent

studies. Both macros in Study1 and Study 2 used the bootstrap confidence interval technique to test the significance of the indirect effect (Preacher and Hayes, 2004).

Simultaneous examination of both surface level and deep level diversity was carried out in the present research. Both objective (actual) and subjective surface diversity were measured. Standardized indices (Blau index) were determined to measure the real surface-level diversity of the team sample. Variables such as Team Creativity Climate, Team Learning Climate, Task Interdependency, Team Creativity and Creativity Output were aggregated to team level constructs using inter-rater agreement (rwg) technique developed by Blisse (2000).

To reduce the common method bias and social desirability effect of team members, responses on their team creativity and creativity output were taken from both team members (Sample 1) and their respective team managers (Sample 2). Therefore, to reduce the self-reported bias on these measures, the overall creativity of an individual team was finally calculated by averaging the scores given by the team manager (sample 2) and aggregated group score (sample 1) on the perceptions on team creativity and creativity output.

Practical Implications

Organizations working in diversity-sensitive culture can adopt a dynamic perspective on managing diversity which deals with the psychological processes and dynamics underlying the relationship between diversity and work outcomes (Avery & McKay, 2010). Such adoption of a diversity model can help to find out the causes for low diversity tolerance in a workgroup which can hinder the evolution of effective creativity climate in organizations (Roffe, 1999). Thus, our diversity-climate-creativity framework can help the top management to understand how group composition affects the perception of some critical facets such as risk-appetite, idea-support, trust and openness prevailing in the team. This, in turn, can act as a platform to build effective diversity policy formulation. The model has an impact on

the organizational recruitment and selection practices as selectors can develop better organizational-fit and team-fit measures to select the appropriate candidates for creative workgroups.

Deep diversities are mutable (Roberson, 2013), i.e., they can be changed over the period. Group members should be able to discover similarities at deep-level to bring them together (Roberson, 2013). Effective diversity training programs with a focus on increasing team creativity can be designed and delivered to newly formed teams. Also, by making people understand the value and benefits of "being different", deep-level differences among team members can be reduced over a period. However, at the same time, organization's HR policies such as team-based incentive plans, intra-team co-operation and inter-team competition-linked appraisal systems, "pat on the back" initiatives for demonstrating citizenship behaviours can help to develop a sense of collective group and organizational identity.

Lastly, HRs and top management should understand the creative preferences of individuals, groups and organization together with the desired creative outcomes of their activities. This can help in developing specific creativity practices for individuals, team and organization.

Limitations of the Study

Doctoral dissertations mark the research journey of scholars and are not the destination in itself; they are bound to have some limitations. There is no exception to this research too. Following are some limitations of this research work.

1. Study 2 comprises of responses mostly from private sectors of which majority of the organizations belong to the IT sector. Therefore, limited generalizations can be drawn to the other types of organizations.

2. In Study 2, it was not possible to obtain 100% response rate from all the team members of most of the teams. However, to minimize the bias that could occur due to the missing team member responses, cut-off criteria of 60% within-team response rate was decided for team selection in the sample.

3. The average team size of the sample was 4.13 members which can be considered as small groups. However, more than 50 % of teams had group tenure of fewer than 15 months which made them relatively newly formed groups. The negative influence of deep diversity effects on team learning and climate may be more salient than others in such small teams.

4. A qualitative study aiming to analyse the deep-diversity perspectives and creative-orientation of a team from a few key team members could have augmented the results of the quantitative study.

Direction for Future Research

1. Future research should focus on the analysis of simultaneous effects of surface-level and deep-level diversity on creativity climate and creative outcomes. Moreover, the interaction effects of surface and deep-level attributes on team creativity can reveal interesting insights in creativity studies. There are chances of forming stronger faultlines which can impede the performance of a workgroup. There is a strong need to explore how surface level, deep level or their composite faultline strength can impact team conflict, information elaboration and team performance in different workgroup settings.

2. Future research may analyze top management views on creativity and how it affects the formulation of policies, structures and processes in the system. The orientation of an organization towards creativity, be it divergent

(breakthrough innovation) or convergent (incremental innovation), may influence creativity climate of an organization to a large extent.

3. The research conducted by Chang, Duck and Bordia (2006), indicated that group members' feelings on the similarity, closeness, and bonding within the teams help to develop the perception of team's effectiveness which is centered on the group task as a whole. In the study by Joo, Song, Lim and Yoon (2012), an apparent positive interaction effect of learning culture and team level cohesion on creativity has been observed. The interaction implies that a high level of task cohesion enhances the positive effect of learning culture on team creativity. Future research can look at the role of task and social cohesion at the various stages of a team learning process to ascertain the nuances of team-level co-operation and competition required for group creativity to emerge.

4. Future research can develop an efficient method to calculate the composite deep-level diversity of a variable. At the team level, standard deviation determines the average degree of separation of the members on the attribute. However, it fails to capture the effect of that member who is very high or low on that particular attribute. It is quite possible that its effect gets diluted in the overall diversity calculation. The problem becomes prominent in the case of social-loafing where a team performs well because of the excellent performance of a team member and others take a free-ride.

Finally, it can be concluded that social categorization is a common phenomenon even in modern workplaces. Organizations can focus on building a culture which does not pose any threat to an individual's identity but at the same time value differentiation and collaboration. As this research indicates, the nature of the task plays a crucial role in moderating the effects of diversity on team learning. It ultimately shapes a shared mental model of task-orientation and participative-safety in the team. Team climate of creativity is instrumental in achieving team creativity

and creative outcomes, and this process enables team members to fulfill their respective needs for maintaining *personal* identities and beliefs.

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Chapter 1

"We have become not a melting pot but a beautiful mosaic. Different people, different beliefs, different yearnings, different hopes, different dreams." - Jimmy Carter (Former President, United States of America)

Introduction

The above passage highlights a powerful concept called *Diversity*. Organizational diversity refers to the variety of differences between people in the organization and mainly encompasses race, gender, ethnic group, age, educational background, and many more (Patrick & Kumar, 2012). According to Thomas (2005), diversity cannot be judged solely by the observable differences among the elements of a specific mix. It has a much broader connotation. In today's world, organizations are trying to understand this dynamic and interactive nature of workplace diversity. Organizations have realized that to gain long-run profitability, they must orient their diversity management policies and practices toward creativity and innovation. Such a kind of strategic perspective helps to create a work environment conducive to creativity and innovation. A work environment which is perceived by employees as creativity-nurturant, helps organizations to remain competitive in the long run (Guillaume et al., 2014; Agbor, 2008).

Often creativity in organizational research is used interchangeably with organizational innovation. However, creativity is identified with the production of novel and useful ideas while innovation deals with the implementation of those ideas and thus involves creativity (Oldham & Cummings, 1996). Moreover, innovation can happen independently without creativity, as it could be a mere adaptation of already existing ideas, processes, products or services. This makes 'creativity' a necessary but not a sufficient condition for innovation. According to Woodman, Sawyer and Griffin (1993), innovation or creativity at the organizational level is the creative behaviours exerted at the individual or group level within an organizational context. However, the difficult part of

organizational creativity lies in its measurement. Amabile, Conti, Coon, Lazenby and Herron (1996) and Ekvall and Ryhammar (1999), posited that the perceived creative climate is the closest representation of organizational creativity. Therefore, creativity climate can be broadly described as "*workplace atmosphere that includes the factors of an organization's socio-environmental context like care for employees; enjoyable ambiance; openness of communication; emotional and functional support provided by supervisors to their staff; employees' willingness to share expertise, ideas and responsibilities in the creative process; and risk-orientation*" (Ghosh, 2015). The creativity climate dimensions were found to be effective predictors of creative performance across several studies encompassing research criteria, samples, and settings (Hunter, Bedell, & Mumford, 2007).

Social Context of Diversity and Creativity in India

Diversity in India is unique in its way. Though it is one of the most diverse nations in the world (Sowell, 2002), the country is still struggling to resolve its diversity issues such as age, education, religion, caste, ethnicity, gender and lifestyle (e.g., vegetarian vs non-vegetarian) (Som, 2007). Over 80% of the Indian population are Hindus (Indian Census, 2001) and hundreds of local languages exist in the country. However, demographical differences constitute only one part of Indian diversity whereas the sources of social diversity lie in identity and identity politics (Sowell, 2002). Identity issues are very much prominent in Indian workplaces (Cooke & Saini, 2010).

Though India has been recognized as a rapidly growing economic nation, surprisingly, it has failed to boost its economic growth by any breakthrough innovations (Nielsen, 2014). India has positioned itself as a low labour cost service provider in the competitive business scenario. However, innovations in India tend to be largely incremental in nature (Iyer, LaPlaca, & Sharma, 2006), and *Juggad* products and services are widely common in rural and metropolitan cities (Indian Institute of Technology Kanpur, 2016). 'Juggad' is a Hindi colloquial term meaning creative trick to find a temporary solution to an existing problem. However, most of the juggad products are inefficient, unsafe and have failed to

impact the lives of people (Indian Institute of Technology Kanpur, 2016). It is the cultural tradition of India where beliefs like "chalta hai" (it happens), and behaviours such as "adjust" and "making do" are quite prevalent. In recent times, limited progress regarding India's innovation index has been observed. India has jumped to the 57th position from the 60th position out of 126 countries surveyed (WIPO, 2018). However, India ranks low (75th position) on the overall creative output where it lags in the areas such as the development of intangible assets, creation of creative goods and services, and online creativity.

Diversity and Creativity - The Double-Edged Sword

Most of the research on creativity and innovation has concentrated on creative individuals rather than social creativity involving groups and collaborations (Montuori & Purser, 2000). By social creativity, Montuori and Purser (2000), emphasize group-members' interactions which trigger and nurture the development of creative products. According to Montuori and Purser, the prime reason for the dearth of social creativity research lies in its conceptualization from an *atomistic* viewpoint which emphasizes *methodological individualism.* However, if one holds a *holistic* perspective, then creativity is by definition “a social phenomenon”, where the individual is epiphenomenal or secondary.

There are contradictory findings in work psychology and HRM literature related to the importance of diversity in leveraging the competitive advantage of an organization. Researchers who believe in the *information decision approach* (Cox & Blake, 1991; Iles & Hayers, 1997; Richard & Shelor, 2002) argue that a well-managed informational diversity can lead to creativity in the workplace. On the other hand, proponents of *social identity theory* (Ely & Thomas, 2001; Tajfel, 1982) view diversity as the inhibitor of group cohesiveness and group communication which results in “in-group” and “out-group” formation.

Many researchers have questioned the group diversity benefits on the point that heterogeneous groups experience interpersonal conflict, witness high

member turnover, have less social and cognitive integration and suffer from communication problems than their homogeneous counterparts (Knight et al., 1999; O'Reilly III, Caldwell, & Barnett, 1989; Williams & O'Reilly, 1998). Few studies have suggested that employees who perceive themselves to be different from their co-workers, experience lower organizational attachment (Mighty, 1997; Tsui, Egan, & O'Reilly, 1992). However, Latimer (1998) argued that diversity promotes employees to take "more" risk and thus facilitates creativity and problem-solving capability. It has been observed that conflict of ideas between team members can facilitate generating new ideas (Janis, 1982). Proponents of diversity also argue that homogeneity encourages "group-think" which generates serious problems in decision making. Diversity research suggests that *group cohesiveness* results in "groupthink"-ing while lack of it increases group conflict. However, effective management of group conflict can generate more alternatives and greater critical evaluation of the different group member perspectives which lead to creative problem-solving and decision-making (Bassett-Jones, 2005). Thomas and Ely (1996) argued that cognitive and experiential diversity encourages clarification, organization and combination of new ideas to accomplish critical goals. Independent research by Donnelon (1993) and Tushman (1997) suggested that diversified groups have access to broader networks of information which help them to acquire new information quickly and make better-informed decisions.

To tackle the "double-edged" logic of diversity, two broad approaches have been adopted by modern diversity researchers. The first approach emphasizes the mechanisms to reduce the ill-effects of surface-level diversity leading to social categorization, while in the other approach, priority has been given to skill and knowledge diversity to reap informational benefits. However, many studies on diverse groups have challenged the underlying mechanisms of these two approaches (Srikanth, Harvey, & Peterson, 2016). Srikanth et al. (2016) argued that social identity and social categorization are rarely measured explicitly; instead, are theoretically linked to adverse outcomes such as relationship conflict, low trust or increased turnover. Van der Vegt and Bunderson (2005) identified 'group-identity' of a deep-level diverse group as an important driver to determine the degree of information benefits. However, team

categorization through surface-level attributes may influence a group member's organizational identity and group-relevant identity formation. Therefore, the reasons for a diverse team's poor performance are rooted in some form of social categorization which has been left unmeasured to date (Srikanth et al., 2016).

In the diversity-creativity literature, a strong inclination toward analyzing the diversity-creativity relationship at an individual level has been observed. Though Neuman and Wright (1999) emphasized the importance of examining relationships at both the individual and group-level creativity, till date, most of the creativity studies have generally focused on the individual level of analysis (Woodman, Sawyer, & Griffin, 1993). Although, group composition or in other words the configuration of member attributes in a group (Levine & Moreland, 1990) was found to have a significant influence on the group's processes and outcomes (Kozlowski & Bell, 2003), diversity researchers have paid little attention to the role of team members' dispositional differences in the team's creative output (Bechtoldt, De Dreu, & Nijstad, 2007). Therefore, modern creativity research needs to tap the team-generated knowledge which can leverage the performance of a team and an organization (Guzzo & Dickson, 1996). This is possible when more research on team creativity is conducted (Joo, 2007). It has been observed that in diversity-creativity or diversity-performance literature, there is a lack of consideration of psychological climate variables such as learning climate and creativity climate. The lack of research on the dispositional antecedents of such psychological climate limit the development of concrete intervention mechanisms to tackle the problem of negative climate perceptions which evolve due to the differences in employee-orientations (Wang, Tsai, & Tsai, 2014).

In India, diversity research has been focusing mainly on socio-cultural dimensions and the demographic dimensions. Research on socio-cultural dimensions such as caste (e.g., Venkata & Chandra, 1996), religion (e.g., Rao, 2012), region, language and cultural beliefs (e.g., Budhwar, 2003; Sinha, 1980; Sinha, Gupta, Singh, Srinivas, & Kumar, 2001; Sinha & Sinha, 1995) deserve special

mention as they tried to position Indian characteristics (parts) with the National characteristics (whole) along these dimensions.

Theoretical Foundation of Team Diversity

A team is a conglomerate of individuals having different social and individual identities. Therefore, the relevance of Social Identity Theory (SIT) cannot be neglected. SIT tries to unveil the connection between different social entities and individual identity by emphasizing the *meanings* people attach to their memberships in groups such as race, ethnicity and gender (Tajfel, 1982). People tend to classify themselves into social categories which form the basis of their interaction with others inside or outside the group (Tajfel 1978, 1982; Tajfel & Turner, 1986; Turner, 1987). The core concept is that people enjoy belonging to groups which have distinct and positive identities (Tajfel, 1978). While SIT tries to explain differentiation from the perspective of an individual's derived meanings of his or her group membership affiliations, *Social Categorization Theory* explains the underlying cognitive mechanisms for deriving those meanings (Richter, West, Van Dick, & Dawson, 2006). It is due to the implicit categorization by individuals, people develop an attachment toward similar identity groups (in-groups) and ill-feelings toward others (out-groups). This ultimately curves the path for intra-group or inter-group conflict. Thus, a systematic mechanism of categorization not only helps an individual with a social identity to define oneself and others in the social system but also prescribes appropriate behaviours within that system or group. SIT considers social and individual identity as separate concepts, whereas in self-categorisation, the individual identity is a reflection of social identity, just at a different level of abstraction (Turner, 1987).

The organizational diversity dimensions are broadly classified into *relationship-oriented-diversity* and *task-oriented-diversity* (Jackson & Joshi, 2011). The former refers to the distribution of attributes through which interpersonal relationships are shaped while the latter form of diversity involves those attributes that are relevant to the team's work. *Age*, *gender* and *personality characteristics* are examples of relationship-oriented diversity and *organizational*

tenure, *formal credentials and titles*, and *cognitive abilities* are examples of task-oriented-diversity. Relations-oriented diversity is also known as social-category diversity (Jehn, Chadwick, & Thatcher, 1997) as they play an important role in forming social relationships. On the other hand, the task-oriented diversity attributes are tied to an employee's work-related or performance-relevant characteristics. The task-oriented and relation-oriented diversities are further classified as *readily-detected* or *surface-level* attributes (which focus on factors that are easily recognized by group members), and *underlying attributes* or *deep-level dimensions* which are psychological in nature and become evident as team members spend considerable time with each other (Joshi & Jackson, 2003). Moreover, a meta-analysis by Bell (2007) emphasized the importance of deep-level composition variables (e.g., work beliefs, personality factors etc.) in influencing group performance. It is crucial to analyse deep-level variables as they are psychological attributes and team members varying in different deep-level attributes can be quite problematic for groups, resulting in more conflict and less cohesion.

A Step Toward Addressing the Diversity - Creativity Paradox

Apart from some concrete evidence of the positive effects of diversity on creativity, most of the studies have observed mixed results in the relationship between team diversity and creative performance (Jackson, Joshi, & Erhardt, 2003; van Knippenberg, De Dreu, & Homan, 2004; Williams & O'Reilly, 1998). The mixed results emerged because of the varying effects of diversity variables on performance (Harrison & Klein, 2007; Horwitz & Horwitz, 2007; Joshi & Roh, 2009). Therefore, it is apparent that researchers need to select the diversity variables that are conceptually relevant to the outcome variables (Shin, Kim, Lee, & Bian, 2012). Also, the researchers need to examine the conditions under which these diversity variables deliver their effects on employees' creativity (Mannix & Neale, 2005; Williams & O'Reilly, 1998). Therefore, to address the diversity-creativity paradox in a team context, we need to conceptualize work diversity keeping the above points in mind.

In this present research, a workgroup or a team is defined as a unit consisting of more than one person who works closely with each other on a daily basis to accomplish some organizational goal(s). Therefore, a group or a team is perceived as an aggregate of people performing a specific job function which forms a major part of their work within a department or across departments in an organization. Therefore, the terms *group* and *team* have been used interchangeably in this study.

The Importance of Deep-level Characteristics

Recent research indicates that deep-level characteristics play a more important role than surface-level dimensions in a group where members spend considerable time with each other (Harrison, Price, & Bell, 1998). The deep-level characteristics are more mutable than surface-level characteristics (Harrison et al., 1998) and therefore analyzing deep-level diversity effects on team creative performance can help organizations to bring changes in the individual, group and organizational level for higher productivity. Klein and Wang (2010) posited that shared organizational values, goals, and attitudes among team members engender deep-level similarity within teams, which might result in positive organizational outcomes.

Deep-Level Variables in the Study and their Relevance to Creativity

In line with the diversity taxonomy defined by Harrison and Klein (2007), deep-level diversity in teams has been conceptualized as the differences (diversity as a *separation* concept) in idiosyncratic or deep-level characteristics (e.g., identities and beliefs) between members. The researcher has identified a few deep-level variables relevant to team creativity, assuming "Social Identity" as the source of people differentiation.

According to Ryan and Deci (2003), identities are formed in an individual out of his/her basic psychological needs for autonomy, competence and relatedness. Farmer, Tierney and Kung-Mcintyre (2003) further elaborated that it

is important "how we see ourselves; who we think we are - has a great deal to do with how we act." Interestingly, personal identity may manifest as a reaction toward need deprivation or to avoid feelings of vulnerability (Vlachopoulos, Kaperoni, & Moustaka, 2011). Therefore, behaviours catering to gaining power over others or opposing the value of controlling others may emerge. Generally, people tend to form groups with those members where they can maintain their positive identity, belongingness and status (Chattopadhyay, George, & Lawrence, 2004). It has been established that an individual's identity is formed from the interactions within small teams (Oyserman & Packer, 1996). Therefore, it is likely that an individual would not identify with a member of a team from where he or she perceives a threat to his or her identity. This, in turn, may engender conflict and undermine trust and willingness to co-operate which can adversely impact the team performance (Tsui & Gutek, 1999). Therefore, members' derived meaning of group membership (*group identity*) may heighten or alleviate the identity concerns of group members (Guillaume et al., 2014). However, it is argued that an inclusive super-ordinate identity (*organizational identity*) can negate the ill-effects of employees' differentiation based on group identification. Past diversity research has revealed that super-ordinate identity promotes a positive-valued identity and thereby reduces threats toward identity concerns (Dovidio, Gaertner, & Validzic, 1998). However, it has been observed that time pressure and commitment to organizational policies may act as detrimental factors of performance where employees may succumb defensively to the influences of organizational identification (Rotondi, Jr., 1975).

There has been little attempt to examine the link between self-identity and workplace creativity (Farmer et al., 2003) and more specifically how the differences in beliefs among team members relate to team creativity performance. In a workplace setting, understanding self-views and perspectives of others on the role an individual performs, become relevant and important. Co-workers' expectations of creative actions from a team member shape the member's *creative role identity* (Riley & Burke, 1995). Strong creative role-identity acts as a function of commitment toward one's role and act as a catalyst for creative performance. In case of a creative role conflict (i.e., a threat to his or her creative identity), an

individual would refrain from any creative actions as the individual perceives such actions are not valued or confirmed (Farmer, Tierney, & Kung-Mcintyre, 2003). Therefore, creative role identity differences among team members may impede team creativity performance.

In a similar vein, team members' diversity perspectives (Ely & Thomas, 2001) or attitudes (Nakui, Paulus, & Van Der Zee, 2011) need to be considered as the key proponents of team effectiveness and innovation (van Knippenberg & Schippers, 2007). It is to be noted that the individual's perception about valuing diversity may not yield effective results unless there is an inclusive climate for diversity in the team (Bilimoria, Joy, & Liang, 2008; Shore et al., 2011). High *inclusion-beliefs* can make dissimilar employees feel not only valued and respected, but also empowered. Research shows that such team members are capable of producing creative outputs (Gilson, Lim, Luciano, & Choi, 2013). Drawing on the work motivation theory, the researcher assumes that one's intrinsic motivation is likely to play a crucial role in exhibiting such creative behaviours. However, an individual can sustain such behaviours only when he or she accepts the performance standards of the team (Guillaume et al., 2014). Thus, the acceptance of the performance standards of a team plays a crucial role and can undermine the need for strong group identification of members to perform. Moreover, the acceptance of performance standards in the case of creative or complex tasks depends on the individual's motivation level as well as on the *creative self-efficacy*. Thus, people who are highly motivated may enjoy their work but would engage in task-related behaviours only when they have high self-efficacy as compared to employees who are low in self-efficacy. Guillaume et al. (2014) argued that a surface-level diverse team consisting of members with high self-efficacy often overcomes the interpersonal adversities and, in turn, contributes toward creativity and innovation.

Group Identity

The perception of in-group homogeneity or heterogeneity is a function of member's *in-group identification* (Doosje, Ellemers, & Spears, 1995) which is one's

sense of belongingness to the group or in Tajfel's (1978) words "*individual's self-concept derived from the knowledge of membership of a group together with value and emotional significance to that membership attached to that group*" (p. 63). Such kind of psychological attachment to the group has been found to be positively related to group performance (Tsui & Gutek, 1999). Guillaume et al. (2014) argued that team identification determines the form through which people regulate their work-related behaviours. Given the above literature, the present study considers *group identity* - the deduced group membership meaning to an individual, as one of the underlying *relationship-oriented deep-level dimensions*.

Organizational Identity

Organizational Identification (OI) is defined as the alignment of an individual with his or her organizational values (Pratt, 1998), including the perception of oneness and belongingness to the organization he or she works (Ashforth & Mael, 1989). OI has been researched and classified in terms of individual-self with respect to organizational membership (Rousseau, 1998). It has been conceptualised from the social identity perspective which is commonly used in explaining employee-organization relationships (Ashforth, Harrison, & Corley, 2008; Ashforth & Mael, 1989). SIT argues that in the absence of a strong organizational identity, intergroup comparisons generate conflict between differentiated groups (Ashforth & Mael, 1989).

Recent research has established significant relationships between organizational identity and creativity in organizations (Madjar, Greenberg, & Chen, 2011). If employees perceive positive organizational identity, they engage in more creative efforts which lead to creative outcomes (He & Brown, 2013). The present study considers *organizational identity* - the deduced organizational membership meaning to an individual, as one of the underlying *relationship-oriented deep-level dimensions*.

Creative Role Identity

A creative role identity is the derived meaning of one's creative-self through the perceived appearance of self to others, the self-assessment of that appearance, and consequent affect based on that judgement (McCall & Simmons, 1978). The basis for taking creative role identity as a deep-level variable is the fact that creative role expectations trigger creative performance (Ford, 1996). As a role identity is highly context sensitive, co-workers act as a salient referent for creativity expectations which shape the creative role identity of an employee (Farmer et al., 2003). In a situation when co-workers have low creativity expectations of a role, the incumbent opt-out from creative actions to protect his or her self-views (Wang & Cheng, 2010). In contrast, when co-workers have high creativity expectations of a role, the incumbent perceives a right fit to his or her role identity set, feels psychologically empowered and is likely to exhibit higher creative behaviours (Stryker & Burke, 2000). The present study considers *creative role identity* as one of the underlying *task-oriented deep-level dimensions*.

Inclusion/Exclusion Beliefs

Diversity beliefs refer to an employee's perceptions toward the value of diversity given in the overall team functioning. These beliefs (van Knippenberg & Schippers, 2007) or perspectives (Ely & Thomas, 2001) or attitudes toward diversity (Nakui, Paulus, & van der Zee, 2011), if positively construed, can act as a positive reinforcement for team effectiveness, creativity and psychological well-being (van Knippenberg & Schippers, 2007). A similar concept but broader in scope, inclusion/exclusion beliefs of an employee at the workplace, deal with his /her perceptions of being valued, respected and empowered in a group (Guillaume et al., 2014). In other words, it reflects the degree to which the individual considers himself or herself a part of critical organizational processes such as his/her access to information, involvement and participation in decision-making processes (Barak, 2013). A study reveals that team members who feel that their input is sought after in a group are more creative (Gilson, Lim, Luciano, & Choi,

2013). The present study considers *inclusion beliefs* of an individual as one of the underlying *relationship-oriented deep-level dimensions*.

Creative Self-efficacy

Based on Bandura's (1977) self-efficacy theory, creative self-efficacy can be defined as the belief in one's self-capacity in terms of knowledge, skills and abilities required to successfully perform any creative task. Recent creativity studies in organizations emphasize creative self-efficacy as one of the core factors for mobilizing the creative efforts of individuals (Tierney & Farmer, 2002; Wang et al., 2013). The literature suggests that creative self-efficacy is context dependent and influence subsequent creative behaviour (e.g., Drazin, Glynn, & Kazanjian, 1999). The present study considers *creative self-efficacy beliefs* of an individual as one of the underlying *task-oriented deep-level dimensions*.

The Relationship Between Surface-level and Deep-level Diversity

Meta-analytic studies have reported mixed results between demographic diversity and team performance. Specifically, in a high task and low task situations, Webber and Donahue (2001) found no relationship between demographic diversity and group performance. However, Horwitz and Horwitz (2007) observed that task-related demographic diversity is positively related to the quality and quantity of team performance. On the other hand, race and ethnicity are likely to trigger similarity-attraction and categorization process due to their salience for being surface-level attributes (Tajfel, 1982) and thus, may negatively influence team performance. There has been less attention paid to how surface and deep-level diversity dimensions interact to affect the group and individual behaviour (Phillips & Loyd, 2006).

Phillips and Loyd (2006) posited that surface-level diverse teams can be beneficial when they have deep-level similarity. In line with this finding, one might propose that surface-level diversity may influence deep-level diversity (Hoever, van Knippenberg, van Ginkel, & Barkema, 2012). As most diversity

studies have considered either surface-level (e.g., Pelled, 1996) or deep-level diversity (e.g., Barrick, Stewart, Neubert, & Mount, 1998; Neuman & Wright, 1999), there is a need to concurrently examine the effects of both diversities that are present in teams (Jackson, 1992; Kozlowski & Bell, 2003).

Considering the above literature on diversity and creativity, the researcher has raised the following questions -

1. How is the surface-level diversity of a team related to deep-level diversity?
2. How is the deep-level diversity of a team related to team creativity?

The Role of Creativity Climate in Team Creativity

The *Interactionist Model* of creativity (Woodman & Schoenfeldt, 1990) proposed that organizational creativity is a function of individual creativity and group creativity. Individual creativity depends on the individual attributes of an individual (cognitive styles/abilities, personality etc.) while group creativity encompasses group composition, characteristics and situational influences. Therefore, an explicit connotation of team diversity as an influencing factor in organizational creativity can be found. As the creativity climate of any organization manifests in the interaction between the employees and organizational realities (structures, policies, tasks, goals, strategies, leadership, resources, workload, technology, and employee characteristics), team diversity can be conceptualized as an antecedent to perceived creative climate. This is also indicated by Brown and Leigh (1996) who suggested that the psychological climate is likely to result from individual differences among employees as well as from the interaction between the person and situation.

While most of the creativity based research has dealt with the influences of individual characteristics on creativity, studies on the effects of workgroup diversity on creative output are very few (e.g., Kurtzberg & Amabile, 2001). One of the reasons may be the lack of valid criteria to measure creative output. Though

some mixed findings regarding the correlation between individual creativity and team-level creativity have surfaced in the creativity literature, empirical findings on team- level and organizational-level creativity are still rare. From the classical study by Taggar (2002), it is assumed that individual creative outcome acts as a proxy of group-level creative outputs. However, such a strong correlation does not surface in the findings of Hanke (2006). To bridge the gap, creativity research has appreciated the presence of the creative climate as an intervening variable in the individual and team creativity link (Eagan 2005; Kurtzberg & Amabile, 2001). The climate and culture that encourages risk-taking and innovation, along with effective feedback and support from the different effective sources, help to nurture a creative organization (Madjar, 2005). However, most of the creativity research has provided only a few clear associations that link group, organizational practices, and structures to the perceptions of climate (Tesluk, Farr, & Klein, 1997). Therefore, analysis of the group diversity effects on team climate while considering group processes (e.g., team learning and task interdependency) is very much pertinent and relevant in the context of diversity and team creativity.

Norms and procedures which facilitate a proactive and consistent approach toward work, enhance the capacity of teams to innovate (Baer & Frese, 2003). Therefore creativity which is assumed to be the result of an individual's psychological process (Ekvall, 1997), does not rely only on individual capabilities of people but also depends on the groups' role and behaviours of co-workers toward each other. In a similar vein, Scott and Bruce (1994) commented that "*an individual's perception about innovation climate emerges out of the interaction of group members and supervisor*" (p. 586). Though this aspect has not been extensively studied, it can't be overlooked (Oldham & Cummings, 1996). It is obvious that individuals in a team can draw different meanings of the immediate work environment and can develop a favourable or unfavourable attitude toward their co-workers. West and Farr (1990) posited team climate as an important antecedent to team creativity and innovation. A positive team climate of creativity emerges when team members have a common goal and orientation toward good quality output; can share new ideas without being criticized or ostracized, and receive support for creativity. These factors were found to

influence individual and team's creative performance in a number of empirical studies (e.g., Agrell & Gustafson, 1994; Burningham & West, 1995).

It has been observed that apart from the immediate work environment, an organization's supportive creativity climate can positively influence employee's creative and innovative behaviour (Jung, Chow, & Wu, 2003). Most of the theories regarding creativity deal with the enablers of creativity from an organizational perspective (Amabile et al., 1996). An organization's policies and practices that welcome and nurture new ideas are generally manifested in the organization's creativity climate (Charbonnier-Voirin, Akremi, & Vandenberghe, 2010). Thus the development of positive perceptions about the organization's creativity climate plays a significant role in stimulating an individual's creativity (Cerne, Nerstad, Dysvik, & Skerlavaj, 2014). Amabile (1997) demonstrated that the organization's creativity climate differentiates between work environments that produce high creative outputs and low creative outcomes. Thus, the immediate work ambience is affected profoundly by both external and internal organizational structural factors. Such ambient stimuli, uniformly influence all members to develop a broader perception of the *quality of the climate* (James & Tetrick, 1986). From the structuralist perspective, climates are likely to be developed by supervisors or leaders who are termed as "climate engineers". They shape the meaning employees attribute to organizational characteristics (Dansereau & Alutto, 1990; Kozlowski & Doherty, 1989) and group characteristics (Naumann & Bennett, 2000).

Different climate dimensions have been conceptualized by researchers that might influence creativity. For example, Amabile and Conti (1999) presented an eight dimension model of creativity viz., (1) workgroup support, (2) challenging work, (3) organizational encouragement, (4) supervisory encouragement, (5) organizational impediments, (6) freedom, (7) workload pressure, and (8) sufficient resources. In contrast, relying on team-interaction theory, Anderson and his colleague (Anderson & West, 1998) had conceptualized a four-dimensional model consisting of dimensions such as (1) participative-safety, (2) support for innovation, (3) challenging objectives, and (4) task orientation.

Research suggests that employees' dispositions on creativity climate are more accurate than only limiting the antecedents of creative climate to environmental factors (Wang et al., 2014). Wong, Tjosvold and Liu (2009) posited that group potency and group climate for initiative mediate the goal-interdependency and team innovation relationship. A mediating role of support of innovation between transformational leadership and team innovation has been found in a study conducted on research and development teams (Eisenbeiss, van Knippenberg, & Boerner, 2008). Recently, a more concrete proof of the mediating capability of creativity climate has been found in the study conducted by Bornay-Barrachina and Herrero (2018) where they asserted that creative team environment mediates the relationship between teams' average co-worker exchanges and team performance. Drawing on the above findings, the researcher argues that in conditions where group members perceive that there are no threats to their identity concerns, their ideas are valued and respected, and their group supports and recognizes their self-competence, i.e., in the case of deep-level group homogeneity, a positive perception of group creativity climate can evolve which can also be generalized to the organization-level (Scott & Bruce, 1994).

It is surprising that till date, there is no concrete evidence regarding those creativity climate dimensions that are important for creativity to take place (Mumford & Hunter, 2005). Moreover, examination of the effects of the team-level or organizational-level mediators or moderators influencing climate and creativity are scarce in the literature (Anderson, De Dreu, & Nijstad, 2004).

In line with the above literature and the gaps identified, the researcher has formulated the following research question.

3. How team climate for creativity influences the effects of deep-level diversity on team creativity?

Considering the implications of the structuralist perspective, the researcher also argue that the nature of the perceived team creativity climate quality (positive or negative) created by the structural factors like leadership,

organization policies, reward mechanisms can bring a change in employee attitudes and behaviours beyond that accounted for by the team's differences in identities and beliefs which are shaped from the team members' interactions.

In line with the above argument and literature, the researcher has formulated the following research question.

4. How team climate quality influences deep-level diversity and creativity output of a team?

Antecedent to Climate of Creativity

Though arguments have been provided for the role of creativity climate in the context of a deep-level diverse team's creativity, it is necessary to explore the antecedent to such climate. In the team creativity literature, the examination of the combined effect of team learning climate and team characteristics is rare (Joo, Song, Lim, & Yoon, 2012). Moreover, group members' perception of such type of quality of learning environment has been identified as an antecedent to creativity climate (Sundgren et al., 2005). Therefore, the researcher has intended to explore the role of the learning climate in the diversity and team creativity context.

The Role of Learning Climate

In organizations, learning is a collective experience. In a group, individuals increase their capacity to learn. The degree to which the collective learning will valorise into something useful, depends on the organization's ability to enable, support and reward the use of what is learned (Marsick & Watkins, 2003). Marsick and Watkins (2003) identified a few factors which build the characteristics of a *learning organization*. Such organizations create continuous learning opportunities, encourage collaborative learning, develop mechanisms to capture and share new knowledge, and empower people to have a collective orientation. Therefore, under a positive organizational learning culture, learning is structured to promote team-level collaboration and innovative practices

(Argyris & Schön, 1978, 1996; Confessore & Kops, 1998; Garvin, 2000; Jensen, 2005). The role of the learning climate is particularly critical for a team in uncertain or non-routine situations. In such cases, the learning climate provides social cues or guidelines to cope up with unknown events (Zellmer-Bruhn, 2003).

Learning can also take place when people are encouraged to learn from errors (Heimbeck, Frese, Sonnentag, & Keith, 2003). Organizations can benefit from errors when employees engage in a meta-cognitive analysis of errors (e.g., planning, monitoring, and evaluating one's actions). Engagement in such activities is possible when the negative emotional consequences of errors are reduced (Keith & Frese, 2005). Although team learning can take place from committing errors, such positive consequences of errors on innovation and creativity have not been dealt with academic rigour. The researcher assumes that organizations that emphasize learning from errors or have embedded such mechanisms in their learning culture may be able to deal with such interpersonal conflicts. These organizations with a strong learning culture can maintain high profits as they are clearer on their objectives, more prone to experimentation and are likely to innovate (Van Dyck, Frese, Baer, & Sonnentag, 2005).

The paradox of diversity and performance relation can be addressed to some extent by analyzing teams' learning process (Kanter, 1988). The presence or absence of the conditions for team learning needs to be considered to explain a diverse team's improved or impaired performance (Van der Vegt & Bunderson, 2005). Another important aspect is that learning-oriented response of an individual is contingent on the individual's personal identity with his domain of expertise (Scott, 1997). Van der Vegt and Bunderson (2005) argued that collective group identification is positively related to group learning which eventually manifests into team effectiveness. Therefore, in the process of team-members' task-related exchanges, a positive (or negative) learning culture can make the team members intrinsically motivated (or demotivated) (Sundgren, Dimenas, Gustafsson, & Selart, 2005). Subsequently, group members feel very much attached (or detached) from the (un)systematic and ongoing (un)use of knowledge

and information made available to them by the team (Botcheva, RollerWhite, & Huffman, 2002).

The degree of member identification with the team rather than with a particular subgroup can influence the role of diversity as a facilitator or inhibitor of team performance (Edmondson, Dillon, & Roloff, 2007). In the current study, the researcher assumes that the team member's deep-level dimensions (e.g., group identity, organizational identity, inclusion/exclusion beliefs and creative self-efficacy) are basically outcomes of his/her identity concerns with the team and organization as a whole. However, these identity concerns may give rise to multiple homogeneous sub-groups with shared identities which may impede or enhance the overall team performance depending on the subgroup strength (Gibson & Vermeulen, 2003). Thus, identities and beliefs held by team members can shape their psychological attachment which in turn develops a shared mental model toward acceptance of ideas, the degree of dialogue and inquiry permissible, group learning and empowerment opportunities in the team.

Most of the team learning and its outcomes were measured in the laboratory settings which could not explicitly capture how the context affects team learning (Edmondson et al., 2007). Considering the limited research on the effects of deep-level diversity serving as the context to team learning, the researcher has raised the following question.

5. How a deep-level diverse team's perceived learning climate influences the teams' creativity climate perception?

The role of Task-Interdependency in the Diversity and Learning Climate Relation

Shea and Guzzo (1987) argued that task interdependence, outcome interdependence, and potency or collective goal orientation can reduce conflict or can increase cohesiveness in groups. Some researchers posited that the tension between groups can be reduced through shared-leadership by bringing interdependent goals which are task-specific, organizationally relevant or work-

value focused (Mannix & Neale, 2005). In practice, this can be achieved through a diverse team composition governed by groups' shared norms like a common purpose or interdependent goals. Therefore, it is evident that a true synergistic work environment can be established only if there is a common goal existing between teams which can be achieved with other teams' effort with a condition of a non-zero sum goal relationship between the teams (Hogg & Cooper, 2003). However, the extent of collaborative work will be influenced by the nature of goal interdependency perceived by team members in the group. According to interdependence theory, the degree of employees' goal or task interdependency perception affects their problem-solving capability and productivity. It has been observed that perceived goal interests tend to vary more within groups than between groups (Van der Vegt & Janssen, 2003). Deutsch's (1949, 1973) interdependence theory rests on the proposition that group members' perception of task interdependence can facilitate (in case of shared goals) or inhibit decision making (in case of conflicting or independent goals) in the group. In a positive interdependent goal context, the differentiation created by diversity in a group results in the simultaneous exhibition of group members' cooperative (to achieve group goals) and competitive behaviours (to achieve personal goals) (Ayestaran, 1999). It has been argued that from a longitudinal perspective, the teams develop effective learning mechanisms to use both co-operative and conflict management strategies to integrate co-operation and competition within a team (Aritzeta & Balluerka, 2006; Russ-Eft, Preskill, & Sleezer, 1997).

Considering the dynamic nature of the relationship existing between task interdependence and team learning, the researcher has intended to empirically explore the same in the context of deep-level diversity and has raised the following question.

6. How task interdependency influences the deep-level diversity and team learning?

The researcher presents the conceptual framework below which depicts the hypothesized relationships between the various concepts in the present study.

The researcher suggests the need to conduct empirical studies using the framework proposed below (Figure 1).

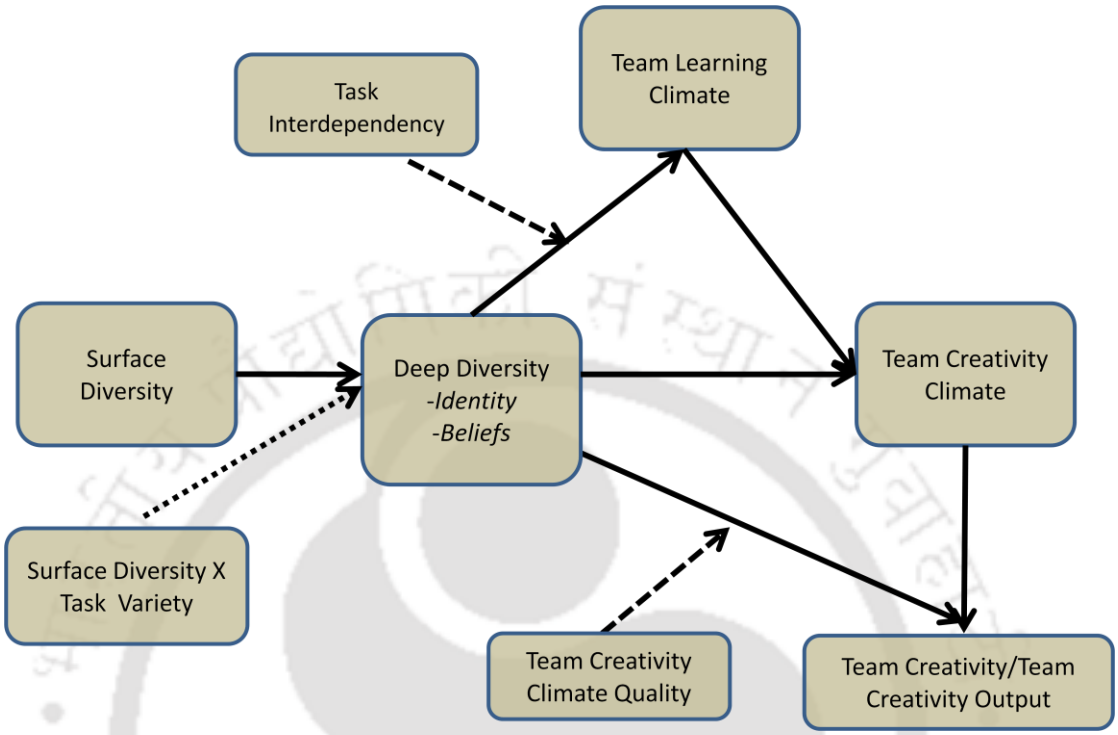

Figure 1.1: Conceptual framework depicting proposed relationships among variables

The proposed framework tries to fill the diversity-creativity research gaps by understanding the underlying mechanisms in 1) the relation between surface-level diversity and deep-level diversity; 2) the effects of deep-level diversity on the creativity climate; and 3) the influence of the perception of creativity climate on team creativity.

Rationale

The surface-level diversity dimensions of team members can trigger a threat to an individual's identity concerns because of his/her need to maintain the sense of a) belongingness and affiliation (manifested through his /her group identity, organizational identity and creative role-identity perception); b) creative

competence (manifested through his /her creative self-efficacy); and c) respect and value from the group or organization (manifested through his /her inclusion beliefs). The degree of the surface-level categorization effect on deep level attributes may vary depending on the group member's tenure, group's size and the complexity of the task. The proposed model tries to address the double-edged sword logic of diversity and creativity by arguing that it is the effect of a team's deep-level diversity on creativity climate that determines its creative performance. The researcher argues that a homogeneous group (surface-level) which is assumed to possess a high cohesion can also experience negative learning (due to deep-level heterogeneity and low task interdependency). This negative learning environment, in turn, can result in a weak creativity climate perception leading to an unfavourable team outcome(s). On the other hand, high task interdependency can make a heterogeneous group (surface-level) perceive high learning climate (due to deep-level homogeneity) which is likely to result in a strong creativity climate perception.

This study has tremendous relevance to the Indian business context, especially in the time when India aims to emerge as an innovative nation. According to the WIPO (2018) report, India stands average (57^{th} position out of 126 countries) as far as innovation is concerned. Moreover, Indians were reported low on all self-creativity perceptual dimensions as compared to Malaysians and Americans except for Initiatives and Artistry (Palaniappan, 1996). It is interesting to find out that India, being a highly diversified country concerning workforce demographics, ranks low on global talent and very low on diversity tolerance. The reason may be attributed to the seven typical characteristics of Indian mindset as observed by Sinha (1990) and are namely (a) manipulative collectivist orientation; (b) respect for status and power; (c) primacy of personalized relationship; (d) desire to be embedded in an in-group; (e) familism; (f) context-sensitive (situational) behaviour; and (g) cynical view about others.

Considering the above typical Indian traits, it is important to explore deep-level diversity from a social-identity lens view and understand its effects on team

creativity. The effect of diversity should be analyzed as it may hinder the evolution of creativity climate in organizations (Roffe, 1999).

Key Research Gaps in the Literature

Although the literature review section has captured the gaps while formulating the research questions, few key research gaps and the research questions have been collated and are presented below.

Research Gaps

- There are contradictory findings in the work psychology and HRM literature related to the importance of diversity in leveraging the creative performance of an individual or a team.

- Social identity and social categorization are rarely measured explicitly; instead, are theoretically linked to negative outcomes such as relationship conflict, low trust or increased turnover. The reasons for a diverse team's poor performance are rooted in some form of social categorization which has been left unmeasured to date.

- Most creativity studies have generally focused on the individual level of analysis (Woodman, Sawyer, & Griffin, 1993) and group-level analysis of creativity is rare (Taggar, 2002). Most of the past creativity based research has dealt with the influences of individual characteristics on creativity, while studies on workgroup diversity effects on creative output are very few (e.g., Kurtzberg & Amabile, 2001).

- Diversity researchers have paid little attention to the role of team members' psychological differences in the team's creative output (Bechtoldt, De Dreu, & Nijstad, 2007). There has been little attempt to examine the link between self-identity and workplace creativity (Farmer et

al., 2003) and more specifically how the differences in such beliefs among team members relate to team creativity performance.

- There is a lack of intervention mechanisms available to tackle the problem of negative climate perceptions which evolve due to the differences in employee orientations (Wang, Tsai, & Tsai, 2014). Most of the creativity research has provided only a few clear associations that link group, organizational practices, and structures to the perceptions of climate (Tesluk, Farr, & Klein, 1997). It is surprising that till date, there is no concrete evidence regarding which of the creativity climate dimensions are important for creativity to take place (Mumford & Hunter, 2005). Moreover, examination of the effects of the team-level or organizational-level mediators or moderators influencing climate and team creativity is scarce in the literature (Anderson et al., 2004).

- In a team, deep-level characteristics play a more important role than surface-level dimensions but they have been rarely empirically investigated (Harrison, Price, & Bell, 1998; Jehn, Northcraft, & Neale, 1999). Diversity studies have considered either surface-level (e.g., Pelled, 1996) or deep-level diversity (e.g., Barrick, Stewart, Neubert, & Mount, 1998; Neuman & Wright, 1999). There is a need to simultaneously examine the effects of both diversity dimensions that characterize teams (Jackson, 1992; Kozlowski & Bell, 2003).

- Positive consequences of team learning (specifically, learning from errors) on innovation and creativity have not been dealt with academic rigour. The presence or absence of the conditions for team learning needs to be considered to explain a diverse teams' improved or impaired performance (Van der Vegt & Bunderson, 2005).

- Most of the team learning and its outcomes were measured under laboratory settings which could not explicitly capture how the context affects team learning (Edmondson et al., 2007).

Research Questions

To address the research gaps, the following research questions have been formulated.

- How is surface-level diversity of a team related to deep-level diversity?
- How is deep-level diversity related to team creativity?
- How team climate for creativity influences the effects of deep-level diversity on team creativity?
- How team climate quality influences deep-level diversity and creativity output?
- How a deep-level diverse team's perceived learning climate influences the teams' creativity climate perception?
- How task interdependency influences the deep-level diversity and team learning?

Plan of the Thesis

The thesis has been organised into five chapters.

Chapter 1 deals with the challenges in diversity and creativity research, and explains the importance of deep-level diversity over surface-level along with the proposed relationships between deep-level variables and team creativity. From an interactionist perspective toward creativity, the chapter also delineates the climate of creativity as an intervening factor for team-level creativity and tries to position learning culture as an antecedent to such climate.

Chapter 2 presents Study 1 which is an experimental study conducted by the researcher to address few research questions raised.

Chapter 3 describes Study 2 which is a survey study conducted to address the few limitations of study 1 and to find answers for the rest of the research questions.

Chapter 4 deals with general discussion related to the findings of Study 1 and Study 2.

Chapter 5 summarizes the key findings of the research work, draws conclusions, contributions and practical implications of the research. The chapter also cites potential limitations and explores directions for future research.

Chapter 2

"Never judge someone by the way he looks or a book by the way it's covered; for inside those tattered pages, there's a lot to be discovered." – Stephen Crosgrove (Author, *Serendipity* series)

As discussed in Chapter 1, diversity research has been dominated by two approaches. The *information decision approach* (Cox & Blake, 1991; Iles & Hayers, 1997; Richard & Shelor, 2002) argues that a well-managed informational diversity can lead to creativity at the workplace. On the other hand, proponents of *social identity theory* (Ely & Thomas, 2001; Tajfel, 1982), posit that diversity results in social divisions which impede group communication resulting in detrimental team performance. Diversity researchers were enthralled in studying the effects of actual differences in group members' surface-level characteristics (e.g., age, race, gender, religion etc.). Recently, the idea has been challenged by a growing line of research which emphasizes the understanding of the effects of *perceived diversity* in teams (van Knippenberg, De Dreu, & Homan, 2004). The underlying logic is based on the argument that individuals differ in their way of interpreting similarity and dissimilarity and thus react differently to objective (actual) similarity or dissimilarity. Team dynamics evolves due to the differences in the team members' perceived diversity and not on the actual reality *per se* (Shemla, Meyer, Greer, & Jehn, 2016).

The mixed results between diversity and performance link emerged because both of the above approaches have taken actual diversity into account while neglecting the team members' perception on dissimilarity (Shemla et al., 2016). Review on the existing literature on perceived diversity reveals that these studies hinge around three focal points *viz*., a) perceived self-to-team diversity; b) perceived subgroup split; and c) team heterogeneity. The first focal point refers to the extent team members perceive themselves to be different from other team members. This perspective focuses on the team processes and outcomes based on the team members' subjective experiences which are bounded by their views and understanding of their relative positions (similar or dissimilar) with other

members (e.g., "I feel I am racially different from others on the team"). Perceived subgroup split refers to the degree to which team members perceive that their team is subdivided into small groups (e.g., "During our work, our team splits up into smaller subgroups"). Perceived team heterogeneity refers to the extent team members perceive that team members are different on a particular attribute (e.g., "Group members vary highly in their area of expertise").

In the current chapter, Study 1 has been reported which addresses few research questions *viz.*, a) how deep level diversity is related to team creativity; and b) how and to what extent climate of creativity influences diversity and team creativity. Study 1 aims to examine the role of *perceived deep diversity* in teams, with an expectation that such focus may provide more accurate insight into the effect of diversity on team's creative output. Considering the fact that diversity researchers have paid little attention to the role of group members' psychological differences in the group's creative output (Bechtoldt, De Dreu, & Nijstad, 2007), the present study focuses on understanding the effects of perceived deep-level diversity on team's creative performance. Secondly, to understand the conditions under which team creativity prosper, the researcher has explored the role of team's *creative climate* as an intervening variable in the team diversity and team creativity link. As discussed in Chapter 1, team creativity climate refers to the behavioural patterns that emerge on a daily basis in the team environment due to the task and social related exchanges between team members. Individuals in a team experience understand and interpret these patterns. The way in which attitudes, intentions, and behaviours toward creativity are shaped in the work environment depends a lot on peoples' perceptions of such patterns (Scott & Bruce, 1994). Thirdly, the study also aims to understand the role of the perception of quality of such climate on a homogeneous and heterogeneous team's creative outcome. A conceptual framework has been presented in Figure 2.1.

Study 1

Perceived Deep-level Diversity

Perceived diversity is "the extent to which one person believes that another person is similar (or dissimilar) in terms of the underlying attitudes, values, and beliefs, as a deeper level similarity (or dissimilarity)" (Turban, Dougherty, & Lee, 2002, p. 243). Recent research has indicated that deep level diversity plays a more important role than surface level dimensions (readily detectable attributes such as age, gender, language etc.) in a team where members spend a considerable time with each other (Harrison, Price, & Bell, 1998; Harrison, Price, Gavin, & Florey, 2002; Pelled et al., 1999).

Based on the literature review presented in the previous chapter, the researcher has considered *group identity, organizational identity, inclusion/exclusion beliefs* and *self-efficacy* as deep-level attributes of a team member. The researcher assumes that an individual encounters uncertainty whenever he or she perceives a threat to any of the above identities or beliefs from other team members. The researcher argues that the varying degrees of these identity concerns resulting from an individual's perception of deep-level dissimilarities with other members in a team can act differently on the individual's mentally constructed beliefs and identities, forming *perceived deep-level diversity or homogeneity*. Therefore, perceived diversity analysis from 'self to team' perspective seems rational and valid. Moreover, drawing on Social Identity Theory (Tajfel & Turner, 1986) and Similar-Attraction Theory (Byrne, 1971), individuals when strive to maintain positive perceptions of their identities, identifies with those team members who share similar values and beliefs (Byrne, 1971; Jehn, Northcraft, & Neale, 1999). According to Byrne (1971), people feel comfortable when they interact with others who hold similar values, opinions, and beliefs. On the contrary, team members are reluctant to interact with others with markedly different values.

Therefore, relying on the above line of arguments, the researcher posits that if people are required to suppress parts of their identity in a team, they limit their potential to value team creativity and thus team creativity would suffer.

Hypothesis 1:

Perceived deep level heterogeneity in a team impedes team's creative output while perceived deep level homogeneity in a team facilitates team's creative output.

Climate of Creativity

According to Scott and Bruce (1994), "An individual's perception about innovation climate emerges out of the interaction of group members and supervisor" (p. 586). Though this aspect has not been extensively studied, it can't be overlooked (Oldham & Cummings, 1996). It is obvious that individuals in a workgroup can draw different meanings of the immediate work environment and can develop a favourable or unfavourable attitude toward their co-workers. According to West and Farr (1990), team climate acts as an important antecedent to team creativity and innovation. A positive team climate of creativity emerges when team members have a common goal and orientation toward good quality output; can share new ideas without being criticized or ostracized; provide support for innovation. These factors were found to influence individual and team's creative performance in a number of empirical studies (e.g., Agrell & Gustafson, 1994; Burningham & West, 1995).

Teams aiming to innovate are required to develop and explore new divergent ideas but a convergent process must exist which can bind these divergent ideas and translate them into real outputs (Bledow, Frese, Anderson, Erez, & Farr, 2009; Pearce & Ensley, 2004). The mediating capabilities of creativity climate have been explored in multiple studies. The mediating role of support for creativity between transformational leadership and team innovation has been found in research and development teams (Eisenbeiss, van Knippenberg, & Boerner, 2008). Recently, a more concrete proof of the mediating capability of creativity climate has been observed by Bornay-Barrachina and Herrero (2018),

where they asserted that creative team environment mediates the relationship between teams' average co-worker exchanges and team performance.

Drawing on the above findings, the researcher argues that in conditions where all the group members perceive that there are no threats to their identity concerns, their ideas are valued and respected and their group supports and recognizes their self-competence, i.e., in the case of a deep-level group homogeneity, a high perception of group creativity climate can evolve. The researcher posits that groups' perception of creativity climate acts as a regulator for generating ideas as well as a facilitator for shaping a group's ideas into a concrete form. From the interactionist perspective (Woodman & Schoenfeldt, 1989), the researcher expects that the perceived creativity climate, which is a shared mental concept among group members about how far a team's values and norms emphasize creativity and innovation, mediates the effects of deep-level diversity on a team's creativity outcome.

On the basis of the above rationale, the following hypotheses are being formulated.

Hypothesis 2:

Perceived creativity climate of a deep level homogeneous team is higher than that of a deep-level heterogeneous team.

Hypothesis 3:

Perceived creativity climate mediates the effect of team diversity on team's creative output.

Creativity Climate Quality

It is true that the perception of climate quality (positive and negative) can also be influenced by the stable features of an organization (Hackman, 1992). The immediate work ambience is affected highly by both external and internal organizational structural factors. Such ambient stimuli uniformly influence all members to develop a broader perception of the quality of the climate (James & Tetrick, 1986). From the structuralist perspective, climates are likely to be developed by supervisors or leaders who are termed as "climate engineers". They shape the meaning employees attribute to organizational characteristics (Dansereau & Alutto, 1990; Kozlowski & Doherty, 1989) and group characteristics (Naumann & Bennett, 2000). Previous research indicates that employees who perceive a highly creative team climate exert a concerted effort to accomplish their goals and maximize their abilities (West & Farr, 1990). A positive creativity climate makes the employees overcome the challenges to actualize creative ideas into creative output. However, if a team perceives negative creativity climate, high quality ideas cannot be transformed into actual creative outcomes (Chen & Hou, 2016).

The researcher hypothesized that in a deep-level homogeneous group where members feel no identity and competency threats at the group or organizational level, the perceived climate of creativity among members is higher than the deep-level heterogeneous team. However, considering the implications of the structuralist perspective, the researcher argue that the nature of the perceived team climate (positive or negative) created by the structural factors such as leadership, organization policies, reward mechanisms can bring a change in the employee's attitudes and behaviours beyond that accounted for by the individual's deep diversity beliefs shaped from the team-member interactions. Schachter et al. (1951) had similar observations where they found the varying effects of positive and negative inductions on group cohesiveness and productivity. They posited that group's cohesiveness plays a dominant role in team's productivity under a negative condition as compared to a positive condition.

Based on the above literature, the researcher argues that under the negative climate of creativity, an individual member in a homogeneous team will attribute "the negativity towards creativity" as a consequence of structural dynamics whereas, in a heterogeneous group, the negative climate is perceived as the result of the deep-level differences among own team members.

Hypothesis 4:

The quality of perceived climate (positive and negative) moderates the relation between diversity and team creative output; In a positive climate condition both the deep-level homogeneous and heterogeneous groups have high creative output but in a negative climate condition, a heterogeneous team has much lower creative output than a homogeneous team.

Methodology

Participants

An experimental study was carried out (N=90; n=30 in each experimental condition *viz.*, homogeneous, heterogeneous and mixed) on full-time employees from four different organizations in Guwahati, Assam, India. The core business domains of these four organizations are manufacturing, oil refining and financial service, respectively. Homogeneous, heterogeneous and mixed conditions questionnaires containing respective vignettes were randomly distributed between 90 employees across the four organizations. The researcher ensured that each condition had exactly 30 subjects. Out of 90 employees, 40 were males and 50 were females. The male to female ratio in homogeneous, heterogeneous and mixed groups were .66, 1 and .76, respectively. This indicated that there were no significant variations between the male-female ratio in the three conditions.

Procedure

The present study has used vignette methodology as it provides the researcher with an opportunity to carefully craft scenarios of the constructs being tested (Aguinis & Bradley, 2014). It gives greater control over the manipulation of independent variables. By using this method, any difference between the participants can be directly attributable to the objective value of the scenario described (Aguinis & Bradley, 2014). In this experimental study, three question booklets, each representing one of the three experimental conditions (Homogenous group, Heterogeneous group, and Mixed group) were prepared. Generally, homogeneity is taken as a baseline to understand the effects of heterogeneity (Apfelbaum, Phillips, & Richeson, 2014). However, according to Apfelbaum et al. (2014), homogeneity has its own independent effects. Therefore, to understand the independent effects of homogeneity and heterogeneity, a mixed group (where both homogeneity and heterogeneity were varied) was considered as a prototypical group (i.e., baseline group).

The manipulations of the experimental conditions were done by creating appropriate scenarios as described below.

Scenario for Setting the Context

The following description was presented in each questionnaire booklet to set the context of the study.

"Imagine that you are asked to work in a highly challenging assignment by the HR of your organization. The goal of the assignment is to provide a brilliant solution to a specific problem. The solution should be new, useful, and at the same time easy to implement. The HR selected few employees to work in this assignment along with you. Assume that there is an equal distribution of male and female employees in the group and all have similar work experience and job position that you have".

Scenario Snippet for Inducing Perceived Self to Team Homogeneity

Deep-level homogeneity has been induced by making the participants aware that all their co-workers share very similar attitudes and beliefs on the deep-level variables (e.g., group-identity, organizational identity, inclusion beliefs, and creative self-efficacy).

"After working for a few months, you have found that your group members have the following characteristics

1. ***They are very similar to you*** *in the way they feel for the group and its members in it.*
   (They held similar sets of beliefs and thoughts about the group and its members).
2. ***They are very similar to you*** *in the way they ....."*

Scenario Snippet for Inducing Perceived Self to Team Heterogeneity

The verbiage was similar to Homogeneous group's scenario except for the phrase "*similar to you*" was changed to "*different from you.*"

Scenario for Mixed Condition

The characteristics of the group members on each of the deep level variables were described as

*"**Some of the members are very similar to you** in the way ....." and "**Some of the members are very different** from you in the way ....."*

The participants were randomly assigned to one of the three experimental conditions and were asked to respond on their perceived *group creative output* and perceived *team climate for creativity* after reading the respective vignettes. In the Homogenous and Heterogeneous group booklets, the quality of perceived creativity climate (positive and negative) was also manipulated using 2 different scenarios.

Scenario Snippet for Inducing Positive Climate of Creativity

"While working, you have observed that most of the group members understand the assignment's objectives and goals. In every meeting, work problems are discussed with an open mind. Any new idea or an innovative solution provided by a group member is readily accepted by other group members....."

Scenario Snippet for Inducing Negative Climate of Creativity

"While working, you have observed that most of the group members have very little understanding on the assignment's objectives and goals. In every meeting, work problems are rarely discussed with an open mind. Quite often a potential new idea or an innovative solution provided by a group member is rejected by other group members".

Homogenous group and Heterogeneous group participants were asked to respond on their perceived group creative output and perceived team climate after reading each of the above scenarios presented.

Measure

Team creativity-output: Four items on team's creative output based on its novelty and usefulness parameters were adopted from the scale developed by Hanke (2006). The items were originally adapted from Ford and Gioia's (2000) creative output scale. The items were measured on a 7-point Likert scale (1= Strongly Disagree; 7= Strongly Agree) and sample items include "The group's solution is excitingly new", "The group's solution is likely to cause the desired result". The cronbach alpha of the scale in the present study is .72

Team climate of creativity: Seven items have been adapted from Team Climate Inventory scale (Anderson & West, 1996) to suit the context and purpose of the study. The items represent team vision, task-orientation, support for innovation and participative safety and were measured on a 7-point Likert scale

(1= Strongly Disagree; 7= Strongly Agree). Sample items include "Every member is very clear about the group's objectives", "Group members provide useful ideas and practical help", "The team is open and can quickly adapt to changes" and "Members have a 'we are together' attitude". The cronbach alpha of the scale in the present study is .88.

Control variables: It is assumed that surface level diversity of other workgroup members (differences in gender, age, experience, and job position) can influence one's perceptions with respect to group identity, organization identity, inclusion/exclusion beliefs and competency. Also, a person's own surface level diversity beliefs based on other individual's characteristics or group may play a vital role in forming his/her deep level values and beliefs.

To ensure that the subjects in each group were not influenced by differences of their hypothesized group member's age, gender, experience and job position, we have instructed every participant in each group through vignettes that "*Assume that there is an equal distribution of male and female employees in the group and all have similar work experience and job position that you have*".

To control the confounding effects of diversity beliefs, we measured the cultural diversity tolerance of each subject using a 6-item scale used by Van Dick, van Knippenberg, Hägele, Guillaume and Brodbeck (2008). The scale has been extensively used for measuring gender and cultural diversity tolerance.

Results

Preliminary Analysis

A one-way ANOVA was conducted on the diversity tolerance of the participants among three groups (homogeneous, heterogeneous and mixed). No significant mean differences in the diversity tolerance were observed between the three conditions; $F(2,87)= 1.7$, ns. This indicates that potential confounding effects of surface level diversity (gender/ethnicity) were controlled for the study.

Independent Variable Manipulation Check

Team homogeneity and heterogeneity perception: At the end of each questionnaire booklet, each respondent belonging to a homogeneous and a heterogeneous group was presented with 8 items (4 items representing deep level similarity and 4 items representing deep-level dissimilarity based on organizational identity, group-identity, inclusion/exclusion beliefs and creative self-efficacy). The items were measured on a 5-point scale (1= Strongly Disagree; 5 = Strongly Agree). Sample items of the scale are "We shared similar feelings for our group"; "We have different views and opinions about the organization". For each respondent, the four items under each category were averaged to get the overall measure of team homogeneity and heterogeneity perception.

A paired-samples *t*-test was conducted on the homogeneity and heterogeneity measures across homogeneous group respondents to compare their perceptions of team-level homogeneity and heterogeneity. The results revealed a significant difference in the scores for deep-level homogeneity (M = 4.14, SD = .66) and deep level heterogeneity (M = 2.08, SD = .93); $t(29) = 8.9$, $p = .00$. Participants in the homogeneous group rated deep-level similarity characteristics higher than the deep-level dissimilarity characteristics.

Similarly, a paired- samples *t*-test was conducted on the homogeneity and heterogeneity measures across heterogeneous group respondents to compare their perceptions of team-level homogeneity and heterogeneity. The results revealed a significant difference in the scores for deep-level homogeneity (M = 2.4, SD = 1.26) and deep-level heterogeneity (M = 4.05, SD = .91); $t(29) = -4.3$, $p = .00$. Participants in the heterogeneous group rated deep-level dissimilarity characteristics higher than the deep-level similarity characteristics.

The above results indicate that diversity manipulation through vignettes worked in both homogeneous and heterogeneous conditions.

Quality of creativity climate: Two separate vignettes were presented before each participant in a homogeneous and a heterogeneous group to manipulate their perception of team climate of creativity (positive and negative). After each vignette presentation, their perceived climate measures were taken. The measures consisted of 7 items which were adapted from Team Climate Inventory scale (Anderson & West, 1996) to suit the context and purpose of the study. For each respondent, the items of creativity climate were averaged to get the overall measure of positive and negative climate perception. A higher rating in the scale indicates a positive climate perception and a lower rating indicates a negative climate perception.

A paired-samples *t*-test was conducted on the *positive and negative climate perceptions* of homogeneous group respondents. The results revealed a significant difference in the scores for positive climate (M = 6.12, SD= .85) and negative climate (M = 2.77, SD = 1.32); $t(29) = 9.2$, $p = .00$.

A paired- samples t-test was conducted on the *positive and negative climate perceptions* of heterogeneous group respondents to compare their perceptions of positive and negative climate. The results revealed a significant difference in the scores for positive climate (M = 5.9, SD = 1.02) and negative climate (M = 2.9, SD = 1.5); $t(29) = 8.3$, $p = .00$.

The above results indicate that participants in both groups had rated the positive climate scenario significantly higher than the negative climate condition which proves that the quality of climate manipulation through vignette design had worked in the respective groups.

Hypothesis Testing

To test Hypothesis 1, a one-way analysis of variance (ANOVA) was conducted on the perceived team creative output scores of 3 groups (homogeneous, heterogeneous, and mixed). Refer Table 2.1 for the mean and standard deviations of creative outputs in each group. The test yielded significant

variation in creative outputs among these conditions, $F(2,87) = 5.52$, $p < .05$. A post hoc Tukey test showed that a homogenous group and a heterogeneous group's creative output differed significantly at $p < .05$; mixed group and heterogeneous group differed significantly at $p < .05$, and there were no significant differences existed between a mixed and a homogeneous group. Therefore, to further test that the mean of the mixed group is higher than that of the heterogeneous group, one-tailed (<) Dunnett's test was conducted which yielded significant mean difference (-ve) between the heterogeneous and the mixed group at $p < .05$. There was no significant team creativity difference existed between the mixed and homogeneous groups.

Therefore, lower creative output scores of deep-level heterogeneous groups as compared to the scores of homogeneous groups validated that perceived deep-level heterogeneity in a team impedes team's creative output while perceived deep-level homogeneity in a workgroup facilitates team's creative output. Therefore, Hypothesis 1 was supported.

To test Hypothesis 2, a one-way analysis of variance (ANOVA) was conducted on the perceived creativity climate scores of 3 groups (homogeneous, heterogeneous and mixed). The test yielded significant variation among these conditions, $F(2, 87) = 26.10$, $p < .05$. A post hoc Tukey test showed that a homogenous group and a heterogeneous group's perceived creativity climate differed significantly at $p < .01$; mixed group and heterogeneous group differed significantly at $p < .01$, and there were no significant differences existed between the mixed and the homogeneous group. Therefore, to further test that the mean of the mixed group is higher than that of the heterogeneous group, one-tailed (<) Dunnett's test was conducted which yielded significant mean difference (-ve) between the heterogeneous and the mixed group's climate scores at $p < .05$. There was no significant team creativity difference existed between the mixed and the homogeneous groups.

Therefore, lower creative climate scores of deep-level heterogeneous groups as compared to the scores of homogeneous groups validated that

perceived creativity climate in a deep-level homogeneous workgroup was higher than that of deep level heterogeneous workgroup. Hypothesis 2 was thus supported.

While the manipulated variable *diversity* is dichotomous (dichotomy with 50.0% homogeneity and 50.0% heterogeneity), the outcome variable 'creative output' and the mediator 'creativity climate' are continuous in nature. Therefore, to test Hypothesis 3, a mediation macro (MedText; Kenny, 2011) was executed. The macro successfully handles the test for mediation for dichotomous causal variables ensuring Baron and Kenny's (1986) mediation guidelines. From the output of the macro, it was observed that -

1. The effect of diversity on creative output (path c in Figure 2.2) is equal to -1.85 (p < .001), 95% CI [-2.4, -1.2] and a large effect size (Cohen's d =-1.6) .
2. The effect of diversity on perceived creativity climate (path a in Figure 2.2) is equal to -.80 (p = .01), 95% CI [-1.4 -.20] and a medium effect size (Cohen's d = -.68).
3. The effect of perceived creativity climate on creative output controlling for diversity (path b in Figure 2.2) is equal to .65 (p < .001), 95% CI [.45, .85] and a large effect size (partial eta square = .65).
4. The effect of diversity on creative output controlling for perceived climate (path c' in Figure 2.2) is equal to -1.33 (p < .001), 95% CI [-1.8, -.85] and a large effect size (Cohen's d = -1.5).

The indirect effect of diversity on creative output (path a × b) is equal to -.52, with a small effect size (d × r = -0.45). The bootstrap estimated indirect effect is -.517 (p = .006) with a standard error of .196 (Preacher & Hayes, 2008). The 95 percent bias-corrected bootstrap confidence interval (5000 trials) is from -.96 to -.17. The mediator is said to be "distal" (Hoyle & Kenny, 1999) in that standardized path b is greater than standardized path a (Refer Figure 2.3). Thus, perceived climate is "closer" to creative output than to diversity.

Therefore, it can be concluded that perceived creativity climate partially mediates the effects of team diversity on team creativity output. Therefore, Hypothesis 3 was supported.

To test hypothesis 4, a 2 × 2 (diversity: homogeneous vs. heterogeneous; perceived climate of creativity: positive vs. negative) repeated measure design was performed with the later factor taken as a repeated measure. The aim was to determine if there is an interaction between diversity conditions (homogeneity and heterogeneity) and conditions of perceived quality of the climate (positive climate and negative climate) on participants' scores of team creative output. The results indicated that there was a significant interaction effect observed between diversity condition and perceived quality of the climate, Wilks Lambda = .92, F(1, 58) = 5.06, p = .02, partial eta squared = .08. Interaction effect diagram has been presented in Figure 2.4. Simple-effect analysis revealed that there was no significant difference between the creativity outputs of a homogeneous team and a heterogeneous team under the positive climate condition [F (1, 58) = .83, ns]. However, the creativity outputs of two groups (Homogeneous: M = 3.4, SE = .23; Heterogeneous: M = 2.7, SE = .23) differed significantly under the negative climate condition [F(1,58) = 4.83 , p < .05].

Discussion

The 'self-team' homogeneity/heterogeneity perspective is bounded by an individual's own view and understanding of his/her own position with respect to others within the team. Therefore, from a social categorization perspective (Brewer & Brown, 1998), it can be deduced that individuals who perceive themselves to be similar to other members form an "in-group", while an "out-group" is formed from the perception of dissimilarity with other members. In this study, 'self to team' deep-level homogeneity indicated perceived similar values, beliefs and attitudes with other members related to the group, organization and competence. An individual in a deep-level homogeneous team perceived strong task-related as well as social-exchanges among members and thus the individual expected a high creative output. Therefore, a deep-level homogeneous team's

perceived creative output was higher than that of a deep-level heterogeneous team. This finding found a strong support from the previous research which revealed that perceived self-to-team dissimilarity is expected to decrease an individual's task and social exchanges (Harrison, Price, & Bell, 1998), and consequently hamper cooperation between members and impede the overall team performance (Harrison et al., 2002). Therefore, Hypothesis 1 was supported which posited that the creative output of a deep-level homogeneous group is higher than a deep-level heterogeneous group.

The researcher assumed that the creativity climate may act as one of the contextual factors that can shape an individual's perception of diversity effects on creative output. The study findings revealed that the perceived creativity climate of a homogeneous team was higher than that of a heterogeneous team. The findings indicate that in a group where all the members have lower identity threat, as in case of a deep-level homogeneous group, when given a task that requires creative effort, perceives a high climate of creativity. Therefore, Hypothesis 2 which assumed that the perceived creativity climate of a deep-level homogeneous group is higher than a deep-level heterogeneous team was supported.

An interesting point to note that there was no difference found in the perceived creative output and creativity climate of a mixed group with a homogeneous group. Therefore, it is assumed that in mixed groups people are highly susceptible to seek out similar others on salient dimensions when possible. This espouses the concept of *faultlines* in a group.

Support of Hypothesis 3 indicates that perceived team creativity climate which is the groups' "shared mental concept of how far team's values and norms emphasize creativity and innovation", mediates the effects of group's deep-level diversity on its creative output. The positive effects of deep-level homogeneity (low diversity) can create a high perception of creativity climate which can result in high team creative output than deep level heterogeneous team (high diversity). However, in the present study a partial mediation of team's creativity climate

indicate that the organizational factors like leadership (Cummings & O'Connell, 1978), culture, and power structure (Burkhardt & Brass, 1990) can act as contextual influences other than perceived climate of creativity, to affect team's creative outcome(s). Based on the argument that the perception of climate quality (positive and negative) can also be influenced by the stable features of an organization (Hackman, 1992), in the present study the researcher aimed to analyze the effects of climate quality in the deep-diversity and creativity link.

In the experimental study conducted by Schachter, Ellertson, McBride and Gregory (1951), a negligible performance difference was observed between homogeneous and heterogeneous group under a positive induction. In the present study, no significant difference between the creativity outputs of a homogeneous team and a heterogeneous team under a positive climate condition was observed (Refer Figure 2.4). However, unlike Schachter's study, under negative climate condition, deep-level homogeneous group performed better than heterogeneous group. The reason for such finding lies in the typical Indian work characteristic which is explained below.

The affinity-driven work mindset (Afridi, Dhillon, Li, & Sharma, 2017) might had led most Indians to develop an interdependent-self to yield to in-group's goals, relate to others emotionally and follow social norms. Therefore, in uncertain situations (e.g., negative climate of creativity), adherence to in-group members is a preferred choice where the interdependent-self seeks co-workers' support and kinship. Thus, similarity in a group enhances trust among co-workers (Lacewell, 2015). Moreover, co-worker trust has been found to mediate the attitude-similarity effects on attraction (Singh et al., 2015). Due to the perceived co-worker trust, an individual member in a homogeneous team attributed "the negativity towards creativity" to structural factors instead to team characteristics. On the other hand, a heterogeneous group member, due to lack of member trust, attributed the "negativity" to the actions of "different minded" team members. On the other hand, a positive and supportive work condition nurtures a competency motive that can drive entrepreneurial activities among Indians (Sinha, 2014). Indian workers' preference changes depending on the

nature of situations and expectations of important others (Sinha, 2014). In a positive creativity climate, where "differentiation along with inclusion" is maintained, people appreciate and value merit, self-development and achievements. Therefore, the perceived performance of a heterogeneous team in a positive creativity condition is at par with a homogeneous team. Thus, Hypothesis 4 which stated that the quality of perceived climate (positive and negative) moderates the relation between diversity and team creative output was supported.

After having found the answers related to the differences in creativity between deep-level homogeneous and heterogeneous group, and how climate of creativity influences the deep-diversity and creativity relationship, further research questions are dealt in Chapter 3. Apart from addressing a few limitations of Study 1, Chapter 3 incorporates Study 2 to answer the remaining research questions by investigating deep-diversity and creativity relationship at a much deeper level.

Table 2.1: Means and Standard Deviations of the Study Variables

Experimental Conditions: Homogeneous, Heterogeneous and Mixed groups (N=90)

Groups	Homogeneous (n=30)	Heterogeneous (n =30)	Mixed (n=30)
Dependent Variable			
Team Creative Output	5.19 (1.10)	4.39 (1.21)	5.18 (.86)
Moderator variable			
Creativity Climate	5.99 (.79)	4.13 (1.4)	5.47 (.70)
Manipulation Variables			
Positive Climate	5.5 (.83)	5.7 (.83)	-
Negative Climate	3.47 (1.21)	2.7 (1.32)	-
Control Variable			
Diversity Tolerance	3.36 (.44)	3.57 (.48)	3.4 (.39)

Table 2.2: Unstandardized Path Estimates of Mediation Analysis

(**Independent Variable:** Diversity (Homogeneity; Heterogeneity); **Mediator**: Perceived Creativity Climate; **Dependent Variable:** Team Creativity Output)

Step	Path	Estimate	95% CI	Beta	*p*
1	c	-1.85	-2.45 to -1.26	-.63	< .001
2	a	-.80	-1.40 to -.20	-.33	.010
3	b	.65	.45 to .85	.54	<.001
4	c'	-1.33	-1.81 to -.85	-.45	<.001

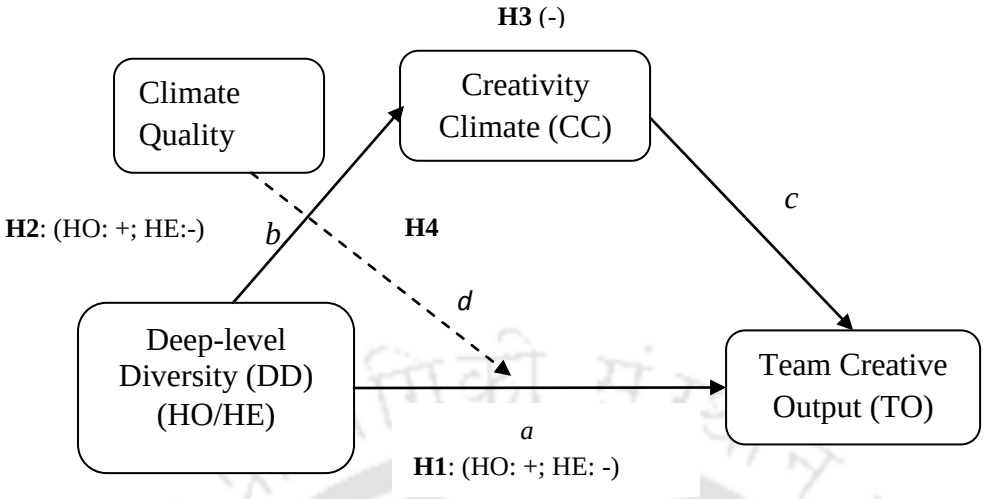

Figure 2.1: Conceptual framework depicting relationships among variables

HO: Homogeneous Group; HE: Heterogeneous Group; CC: Team Climate of Creativity; TO: Team Creativity Output.

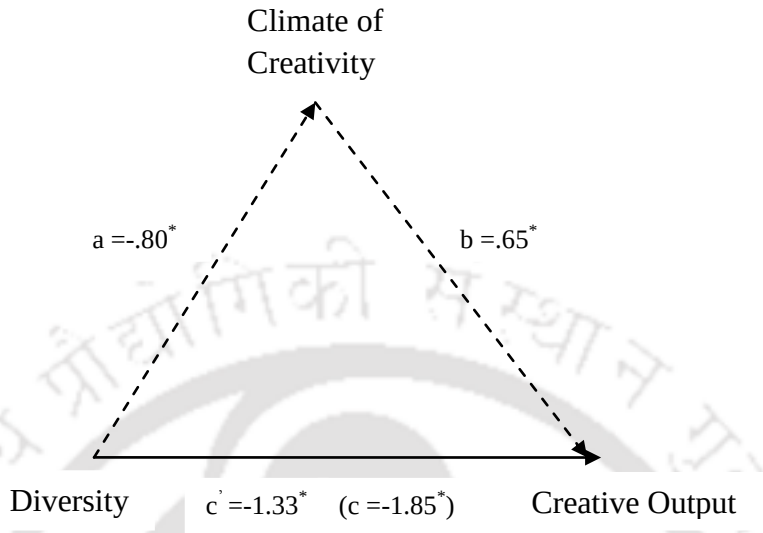

Figure 2.2: Mediation diagram with unstandardized coefficients

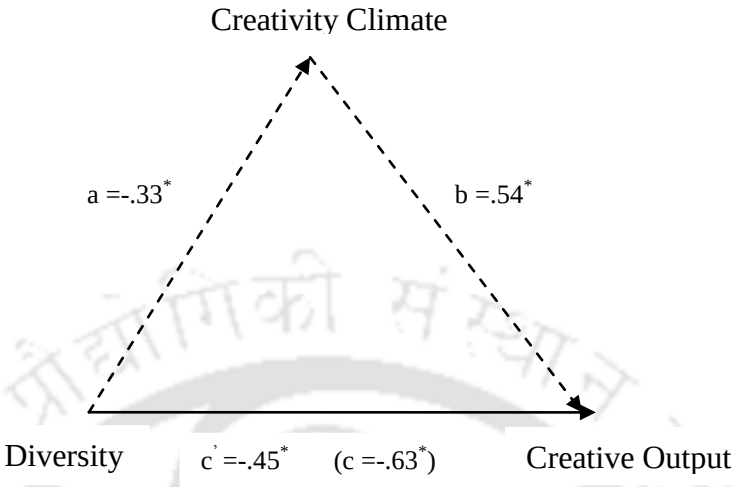

Figure 2.3: Mediation diagram with standardized coefficients

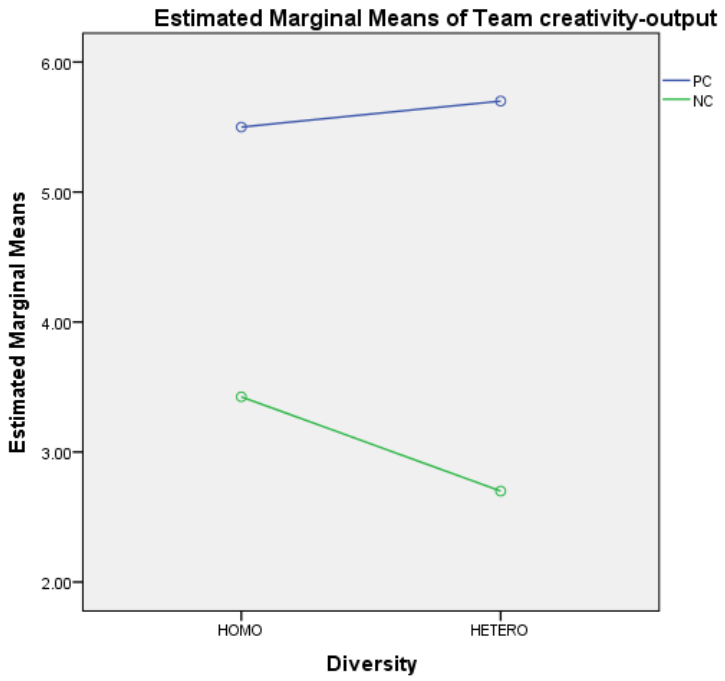

Figure 2.4: Moderation effects of creative climate quality on diversity and team creativity output

PC = Positive Creativity Climate; NC = Negative Creativity Climate.

Chapter 3

In Chapter 2, Study 1 was reported which aimed to answer mainly the following research questions, namely, a) How is deep-level diversity related to team creativity? and b) How creativity climate influences the effects of deep-level diversity on team level creativity? However, Study 1 aimed to analyze the cumulative effect of *perceived* deep-level diversity from a 'member-to-team' perspective. Some of the limitations of the Study 1 included a lack of investigation on the actual deep diversity effects of identity and belief attributes on creativity climate and creative outcome. Moreover, analysis of deep diversity effects in real teams considering group and organizational contextual variables as moderators and mediators of the underlying process were missing. Therefore, Study 2 was carried out to address these gaps and answer the remaining research questions raised in Chapter 1.

Study 2

Researchers have addressed the "Diversity-Creativity paradox" by focusing either on the ill-effects of surface-level diversity or the information benefits reaped through cognitive diversity. Simultaneous examination of both types of diversities from a social identity perspective is rare but can provide useful insights to understand the behaviour of diverse groups' creative performances. As depicted in the literature review presented in Chapter 1, diversity may trigger team members' identity concerns related to their need for belongingness, respect and competence. The varying degrees of individual identity concerns act differently on each team member's mentally constructed beliefs and identities which may result in a deep-level heterogeneity or homogeneity. However, as deep diversity dimensions play a significant role in explaining the performance of a team, the analysis of team members' deep-level diversity on team creativity draws special attention. Moreover, teams aiming to innovate are required to develop and explore new divergent ideas where a convergence mechanism can bind these divergent thoughts and translate them into real outputs (Bledow, Frese, Anderson, Erez, & Farr, 2009; Pearce & Ensley,

2004). In Chapter 2, the researcher has hypothesized "climate of creativity" as the intervening factor responsible for mediating the effects of deep diversity on teams' creative output. It is surprising that till date, there is no concrete evidence regarding which of the creativity climate dimensions are important for creativity to take place (Mumford & Hunter, 2005). Moreover, examination of the effects of the team or organizational level mediators or moderators influencing climate and its subsequent effect on creativity is scarce in the diversity-creativity literature (Anderson et al., 2004).

A Brief Literature Review and Hypotheses Formulation

Relationship Between Surface and Deep-level diversity

Surface-level attributes such as race and ethnicity, due to their salience, are likely to trigger similarity-attraction and categorization process (Tajfel, 1982) and thus may have negative effects on the team performance. There has been less attention paid to how surface and deep-level diversity dimensions interact to affect the group and individual behaviour (Phillips & Loyd, 2006). Phillips and Loyd (2006) posited that surface-level diverse teams can be beneficial when they have deep-level similarity. In line with this finding, one might propose that surface-level diversity may influence deep-level diversity (Hoever, van Knippenberg, van Ginkel, & Barkema, 2012). As most diversity studies have considered either surface-level (e.g., Pelled, 1996) or deep-level diversity (e.g., Barrick, Stewart, Neubert, & Mount, 1998; Neuman & Wright, 1999), there is a need to simultaneously examine the effects of both diversities that characterize workgroups (Jackson, 1992; Kozlowski & Bell, 2003).

In the present study, *task variety* has been considered as an influencing factor of deep-level diversity and specifically in the surface and deep diversity relationship. Task variety refers to those tasks in which the probability of occurring unexpected events are higher. Research suggests that task variety in complex tasks (e.g., creative tasks) is higher than in routine tasks (Wegge, Roth, Neubach, Schmidt, & Kanfer,

2008). It has been reported that the homogenous work groups perform better than diverse groups on tasks which have less complexity involved (Higgs, Plewnia, & Ploch, 2005). Higgs et al. (2005) suggested that tasks with a low complex nature tend to rely more on people co-ordination. This trend is evident in homogenous teams where better interpersonal communication has been observed due to low task level conflict. It can be assumed that surface-level diversity of other group members can easily trigger identity concerns of a member as these attributes are readily detectable and can be quickly compared with firmly held stereotypes and prejudices. Moreover, this negative-affect of surface level diversity may create perceived deep-level dissimilarities with others. However, the researcher posits that under high task variety situation, the need and urgency to successfully complete the task can make dissimilar people (surface-level) form in-groups. In this case, task variety interacts with surface diversity to suppress deep diversity in a team.

Based on the above argument on the surface and deep level dimensions of diversity and understanding a probable linkage between them, the following hypotheses have been formulated.

Hypothesis 1A: *Surface-level team diversity is positively related to deep-level diversity.*

Hypothesis 1B: *Surface-level team diversity interacts with task variety in such a way that under high task variety situation the positive influence of surface diversity on deep diversity gets diminished.*

Identity and Beliefs As Constituents of Deep Diversity

In line with the diversity taxonomy defined by Harrison and Klein (2007), deep diversity in teams has been conceptualized as the differences (*separation*) in idiosyncratic or deep-level characteristics (e.g., identities and beliefs) between members. Study 1 could not address the actual deep diversity effects of identity and belief attributes on creativity climate and team creativity. Both the concepts are

intertwined with each other but it is essential to analyze them separately when diversity has been conceptualized as deep-level differences.

The analogy "*Give a man a fish and he may live for a day; teach him how to fish and he can live for a lifetime",* may set an example of how identity formation takes place. The man in the analogy, through his experiences of fishing may install beliefs that he could not only develop capabilities to fish but also to hunt, farm or even build a business out of fishing. Supporting such *beliefs* may give rise to his *identity* as a fisherman (Murphey, 1995). People sometimes identify with their beliefs so deeply that these become part of their sense of self and therefore sacred (Armstrong, 2005). They cling to their identities even when the beliefs are false. Sometimes personal identity may manifest as a reaction towards need deprivation, in which case, gaining power over others or opposing the value of controlling others may emerge (Vlachopoulos et al., 2011). It has been observed that people tend to form groups with those members where his or her need to maintain a positive identity, belongingness and status-quo is not violated (Chattopadhyay, George, & Lawrence, 2004). Therefore, it is likely that an individual cannot identify with a member or a group from where he or she perceives a threat to his or her identity. This, in turn, may engender conflict and undermine trust and willingness to co-operate which can ultimately impair group performance (Tsui & Gutek, 1999).

Indian psychology has always emphasized on “knowing self” than the rationality-based knowledge that is prevalent in Western psychology (Cornelissen, et al., 2014). From the Indian psychology perspective, Organizational character has multiple identities and an employee has to identify the central aspiration of the organization that is central to the collective sense of self (Pendse & Ojha, 2017). In an Indian study (Ravishankar & Pan, 2008), it was found that organizational knowledge-management initiatives could lead to better services to customers if a sense of community among members were built which could then have a positive impact on organizational identification. Therefore, group identification which is the members’ derived meaning of group membership may heighten (because of low communal

feeling) or alleviate (because of high communal feeling) the identity concerns of group members (Guillaume et al., 2014). Research and reports on inclusion in the Indian working context are few (e.g., Kanungo, 2013; Prime & Salib, 2014) with the dominant focus being that of inclusion in education. In India, notion of belongingness and uniqueness are not counted as distinct elements of inclusion. In the Indian context of work, where multiple identities fight with each other, belongingness and uniqueness as inclusion criteria can create an impact on creativity in organizations (Nair & Vohra, 2015)

Therefore in this study, the researcher has aimed to analyze the independent diversity effects of identity variables (group identity, organizational identity and creative role identity) and belief variables (inclusion beliefs and creative self-efficacy beliefs) on team's perceived climate of creativity and team creativity.

Team Climate of Creativity

Scott and Bruce (1994) commented that "*an individual's perception about innovation climate emerges out of the interaction of group members*" (p. 586). Though this aspect has not been extensively studied, it can't be overlooked (Oldham & Cummings, 1996). A meta-analysis by Ma (2009) supports that "open" team environment encourages creativity in teams. Recently, Zhu, Gardner and Chen (2018) posited that intra-team climate is related positively to individual creativity even after controlling for intrinsic and extrinsic motivation.

It is obvious that individuals in a team can draw different meanings of the immediate work environment and can develop a favourable or an unfavourable attitude towards their co-workers. According to West and Farr (1990), team climate acts as an important antecedent to team creativity and innovation. A positive team climate of creativity emerges when team members have a common goal and orientation towards good quality output; can share new ideas without being criticized or ostracized and provide support for innovation. The literature review in Chapter 1 (Section: *The Role of Creativity Climate in Team Creativity*) has already

provided support for the mediation capabilities of team climate in the team-exchange and team performance relationship.

Team Creativity

Creativity can be defined in terms of specific characteristics, behaviours, and, to large extent cognitive processes such as conceptual combination and idea generation (Mumford, 2003; Runco, 1997; Sternberg, 1999). Therefore, from this point of view, *team creativity* in this study has been defined as the shared perception of team members about the team's overall characteristics, behaviour or approach toward suggesting new ideas to improve performance or radical ways of achieving goals or solving problems.

In the present study, the researcher posits that the groups' perception of climate of creativity acts as a regulator for generating ideas as well as a facilitator for shaping a group's ideas into a concrete form. From the interactionist perspective, the researcher expects that perceived team creativity climate, which is a shared mental concept among group members about how far team's values and norms emphasize creativity and innovation, mediates the effects of team's identity and beliefs diversity on overall team's creativity and creativity output. Though there has been a support in Study 1 that team climate mediates deep diversity effects on creativity output, in the present study the researcher assumes that both identity and beliefs diversity effects will independently influence team's creativity perception through the perceptions of team's creativity climate.

Hypothesis 2A: *Team climate of creativity mediates the effects of identity diversity on team's creativity.*

Hypothesis 2B: *Team climate of creativity mediates the effects of beliefs diversity on team's creativity.*

Creativity Output

An alternative approach to define creativity is to consider the "product" approach which is set to include any observable outcome or response (Hanke, 2006). The underlying assumption is that creative people or group will produce creative outputs and products (Amabile, 1982; Hocevar & Bachelor, 1989). According to Hanke (2006), an individual's creative output guarantees his or her creativity but the reverse may not always be true. In the present study, the researcher has extrapolated the above concept to the team level where it is posited that team creativity output may guarantee team creativity but the reverse may not be true. Therefore, to understand diversity effects on team creativity from this perspective, the researcher assumes that both identity and beliefs diversity effects will independently influence team *creativity output* through team climate.

Hypothesis 2C: *Team climate of creativity mediates the effects of identity diversity on team's creative output.*

Hypothesis 2D: *Team climate of creativity mediates the effects of beliefs diversity on team's creative output.*

Diversity, Team learning and Team Climate

The presence or absence of the conditions for team learning needs to be considered to explain a diverse teams' improved or impaired performance (Van der Vegt & Bunderson, 2005). Van der Vegt & Bunderson (2005) argued that the collective group identification is positively related to group learning which eventually manifests into group effectiveness. Therefore, in the process of team-members' task-related exchanges, a positive (or negative) learning culture can make the team members intrinsically motivated (or demotivated) (Sundgren, Dimenas, Gustafsson, & Selart, 2005). Subsequently, group members feel very much attached (or detached) from the (un)systematic and ongoing (un)use of knowledge and information made

available to them by the team (Botcheva, RollerWhite, & Huffman, 2002). Though the presence of diverse perspectives within a team enhances team performance through information sharing, the very effect may be reduced or even reversed when informational diversity interacts with diversity dimensions such as gender, personality differences, or attitudes and values (Homan, van Knippenberg, Van Kleef, & De Dreu, 2007). Intergroup conflict provoked by diversity can result in a "closing of the mind" to learn from or share knowledge to diverse others. The other cognitive perspective to the effect of information-sharing on team performance may be attributed to the in-compatibility and in-congruencies of the task information shared, with the recipient's own beliefs and idiosyncrasies in the way(s) of doing that particular thing(s) (Cummings & Teng, 2003). In short, the learning-oriented response of an individual is contingent on the individual's personal identity with his or her perceived domain of expertise (Scott, 1997). The degree of member identification with the team rather than with a particular subgroup can determine the positive effects of diversity (Edmondson, Dillon, & Roloff, 2007).

The researcher posits that team members' aligned (or different) identities and beliefs shape team members' psychological attachment (or detachment) which positively (or negatively) influences team-based learning. This, in turn, helps to develop a shared mental model toward the acceptance (or rejection) of ideas; the degree of dialogue and inquiry permissible (or restricted) and the growth and empowerment opportunities (or adversities) received by the team as a whole. Therefore, the negative effects of deep diversity on team's creativity climate are supposed to be mediated through team learning experiences.

Hypothesis 3A: *The negative effects of deep diversity on team's creativity climate are mediated through team learning climate.*

Team process development is crucial for knowledge workers as they are often engaged in tasks that are new, complex and technology dependent (Janz, Colquitt, & Noe, 1997). These teams need a constant flow of information sharing, need based help

and support and adequate tolerance toward mistakes due to the complex nature of the task. Therefore, team process behaviours such as knowledge sharing and helping each other are two most critical behaviours in collaborative efforts (Tjosvold & Tjosvold, 1995). To make such team efforts effective, it demands high task motivation (Hackman & Oldham, 1980). Autonomy and task interdependence are the two most important factors for team work motivation (Sundstrom et al., 1990). However, a "Catch-22" situation emerges when a team is high both on autonomy and interdependence (Sundstrom et al., 1990). It has been observed that at team level, the benefits of autonomy depend on the level of interdependence. High interdependent teams based on task dependency invest less co-ordination effort to learn or produce results (Guzzo & Shea, 1992) than teams with low task interdependency.

In a positive interdependent goal context, the differentiation created by diversity in a group results in the simultaneous exhibition of group members' cooperative (to achieve group goals) and competitive behaviours (to achieve personal goals) (Ayestaran, 1999). It has been argued that from a longitudinal perspective, the teams develop effective learning mechanisms to use both co-operative and conflict management strategies to integrate co-operation and competition within a team (Aritzeta & Balluerka, 2006; Russ-Eft, Preskill, & Sleezer, 1997). Therefore in a deep diverse team working for a creative product or service development, competitive behaviours may be correlated to a high sense of team autonomy (to achieve personal goals) which when interacts with high task dependency (to achieve group goals) can abate the negative effects of diversity on team learning. High task interdependency may help to develop a positive shared pattern of understanding and norms of behaviour towards creative learning behaviour, thereby allowing the opportunity for a positive learning climate to evolve.

Hypothesis 3B: *Task interdependency moderates the relationship between deep diversity and team learning such that in a high task interdependency situation, the negative effects of diversity on team learning are reduced while in a low task interdependency situation, the negative effects are enhanced.*

In the present study it was hypothesized that deep diversity is negatively related to team creativity climate. However, the magnitude of the negative effects of diversity on team climate via team learning may depend on the level of task dependency. Specifically, under a high task dependency condition, the negative mediating effect of team learning on perceived creativity climate may weaken. On the other hand, under a low task dependency condition, the negative mediating effect of team learning on perceived creativity climate may strengthen. Thus, the present study proposes the following hypothesis:

Hypothesis 3C: *Task dependency moderates the mediating effect of team learning in the deep diversity and team climate relationship, such that the mediating effect is weaker when task dependency is higher and the mediating effect is stronger when task dependency is lower.*

All the hypotheses with regard to different constructs are being presented in Figure 3.1.

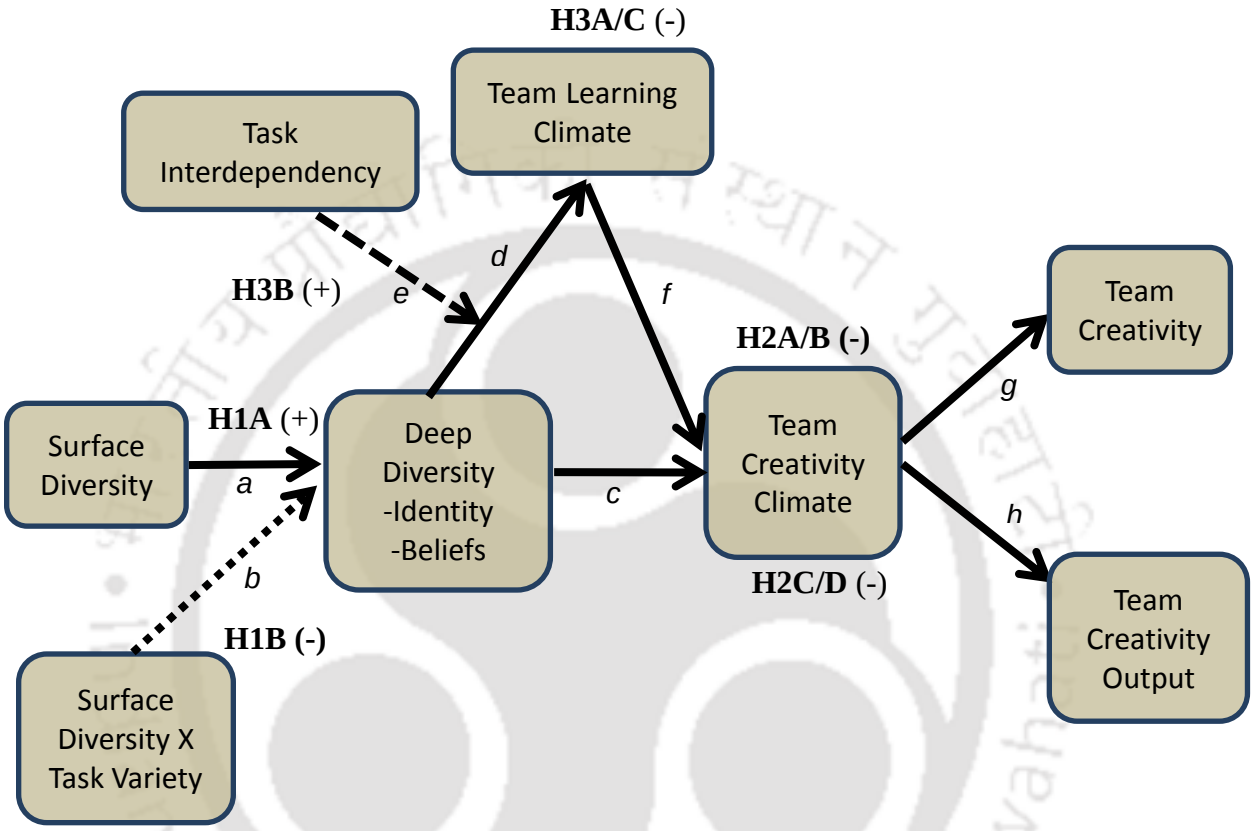

Figure 3.1: Proposed relationships among variables and hypotheses

(– – ► represents moderating effect; ·····► represents interaction effect)

H2 –A/B test the path c-g; H2-C/D test the path c-h. H3-A/C test the path d-f

Method

Sample

Data for the present study were collected from two different samples. The first sample (sample 1) data comprised of junior and middle-level employees (N = 303) working in teams across 24 organizations (located in metropolitan cities of India). The second sample (sample 2) comprises of their team managers' perceptions on their respective team's (N = 73) overall creativity and creativity output. Out of these 24 organizations, 21 were from private organizations (10 in IT, 2 in R&D, 5 in Media and Advertising, 2 in Pharmaceuticals, 1 in Manufacturing and 1 in Entrepreneurial education) and 3 were from public organizations (1 in IT, 1 in R&D and 1 in Oil Refining). The average age of the employees in sample 1 was 29.2 years (SD = 6.2 years), and their average work-experience was 5.27 years (SD = 4.9 years). The average age of the team managers (sample 2) was 36.28 years (SD = 7.18 years) and the average work experience was 11.97 years (SD = 6.27 years). In sample 1, 70.6% were male employees and 29.4% were female employees. In sample 2, 80.8% were male team managers and 19.2 % were female team managers. Distribution of sample 1 and sample 2 is presented in Table 3.1.

Missing Value Analysis

The percentage of missing values (for quantitative variables) in sample 1 was less than 1%. The missing values varied from 0% to 1.09% across all the scale items. Over the total sample, the missing values were distributed at random and they were distributed completely at random at the scale level. The researcher had used multiple imputation method (Rubin, 1978) to replace the missing values for each scale items. Each missing value was replaced by its calculated pooled mean. For the demographic data, except for the salary information, the missing values reported were less than 2%. More than 15% missing values were reported in salary data and the variable was dropped from further analysis. In sample 2, the percentage of

missing values (for quantitative variables) was less than 1%. Multiple imputation technique was applied to replace the missing values. Less than 1% demographic information was missing in sample 2.

Common-Method Bias Test

Harman's single-factor test was conducted on sample 1 to assess whether common-method variance was posing any threat to the data (Podsakoff & Organ, 1986). An un-rotated principal components analysis of all the study variables in the sample revealed 17 factors with eigenvalue greater than 1, explaining 70% of the total variance. The first largest factor accounted for only 29 % of variance indicating no common pattern of variance in the sample. Moreover, overall team creativity and creativity output (dependent variables) of each team were finally measured by averaging the respective responses of team managers (sample 2) and team members (sample 1). These final scores of overall team creativity and creativity output were used in further analysis. By using two different respondents' sources (team members and their team manager) for measuring the dependent variables, the researcher had aimed to reduce the common method bias effect and social desirability effect to the extent possible (Podsakoff, MacKenzie, & Podsakoff, 2012).

Procedure

Responses were collected through two different sets of questionnaires. Set 1 was distributed randomly to teams consisting of junior and middle-level employees across organizations. The set consisted of measurement items of independent, contextual and dependent variables. Set 2 was distributed to the respective team managers who were directly managing the teams. This set consisted of measurement items of the dependent variables only.

To collect organizational data, HR heads were contacted through emails seeking permission for the survey. The researcher has also personally visited few HR offices with the sample questionnaires to seek permission for data collection and gave them assurance of maintaining data confidentiality. In most of the cases, the head HR selected the teams (across departments) and routed the request to the team manager. The researcher contacted the mangers of the respective teams and distributed the team-member questionnaire (Set 1) to the team members. Set 2 (manager questionnaire) was distributed to the manager of the respective team. Each team member response was coded (Org_id / TeamId / MemberId) in such a way that the member's response is uniquely identified. Responses from the team managers were coded (Org_id /TeamId /ManagerId) to identify a manager's response with the team.

A total of 321 filled questionnaires (Set 1) were received. However, after a thorough scrutiny, it was decided to use 303 questionnaires as the remaining questionnaires were either incomplete or the team did not fit the cut-off criteria for selection (discussed below). Therefore, 94.39 % of the questionnaires were used for analysis. In the case of Set 2 questionnaires, 100% responses were received. Only those managers' responses were considered whose team had passed the team selection criteria.

Considering the recommendations of Maloney, Johnson and Zellmer-Bruhn (2010) on the reporting of within-group member responses for team analysis, the researcher presents the following details of teams which were considered for analysis.

In the present study only those teams were contacted where there were more than two team members. The cut-off criteria for team selection were

1) at least 3 team members within a team had responded; and

2) at least 60% within-group response rate had been achieved. The within-group response for sample 1 varied from 60% - 100%. The actual team size varied from 3 -12 members.

There was an average of 4.13 respondents per team. Full responses (where all the team members responded) were received from 47.9 % of the total teams.

Measures

The scrutiny of all the items across all the measures regarding their meaning and context revealed that they are not culture-sensitive.

Deep-level diversity constructs:

1. *Group Identity*: A 12-item Group-Identification scale developed by Cameron (2004) was adopted. This scale is most appropriate to measure evaluative and cognitive aspects of group membership as facets of social identification (Cameron, 2004). The various dimensions of the scales are *Centrality* (the amount of time a team member thinks about being a group member), *Affect* (the positive feelings associated with group membership), and *In-group Ties* (bonding with other members). In the present study, the responses were measured on a 7-point scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

Factor Analysis of the items was carried out using the principal component with varimax rotation method. The researcher has adapted a cut-off rule of .40-.30-.20 for selection of "good" factor loadings on primary factors on the basis of the recommendations by Howard (2016). Only those items were considered as satisfactory loaded items if a) they load onto their primary factor above .40; b) load onto alternative factors above .30; and c) demonstrate a difference of .20 between primary and alternative factor. By adopting this rule, the high cross-loaded items were eliminated. The process yielded 4 factors as

Factor 1 consisted of 4 items which indicate a group member's positive feelings about the group he or she belongs. The factor was termed as *Affect*.

Factor 2 has 3 items which indicates the importance a member attached to group membership and the attraction the member felt for the group. The factor was termed as *Attraction.*

Factor 3 comprised of 2 items measuring the bond and ties a member had with other team members. It was labeled as *Bond*.

Factor 4 had 2 items which focused on the cognitive prominence a member experienced for his or her group. It was labeled as *Prominence.*

Table 3.2 captures the factor loadings of the items of the measure. Refer Table 3.14 for inter-correlation measures of the dimensions with each other and with the other measures in the study. The coefficient alpha values of these 4 dimensions were .80 (*Affect*), .60 (*Attraction*), .76 (*Bond*), .67 (*Prominence*).

2. *Organizational Identity*: A 6-item scale developed by Mael and Ashforth (1992) was used to measure organizational identity. According to Mael and Ashforth (1992), this scale measures "perceived oneness with the organization and the experience of organization's success or failure as one's own". In the present study, respondents were asked to indicate on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree), the extent to which they agree or disagree with the statements.

Factor Analysis of the items was carried out using the principal component with varimax rotation method. The .40-.30-.20 rule (discussed earlier) for selection of "good" factor loadings on primary factors were applied. The process yielded 1 factor and was named *Organizational Identity.*

Table 3.3 captures the factor loadings of the items. Refer Table 3.14 for inter-correlation measure of the construct with the other measures in the study. The coefficient alpha value of *Organizational Identity* was .84.

3. *Creative Role Identity*: A 3-item scale developed by Farmer, Tierney and Kung-McIntyre's (2003) on creative role identity was adopted. The scale basically measures the self-image or self-concept of an individual with respect to creative work. The identity is derived from creativity expectations of others from him or her and self-evaluation of own creative actions. In the present study, respondents were asked to indicate on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree), the extent to which they agree or disagree with the statements.

Factor Analysis of the items was carried out using the principal component with varimax rotation method. The .40-.30-.20 rule (discussed earlier) for selection of "good" factor loadings on primary factors were applied. The process yielded 1 factor and was named *Creative Role Identity.*

Table 3.4 captures the factor loadings of the items of the measure. Refer Table 3.14 for inter-correlation measure of the construct with the other measures in the study. The coefficient alpha value of *Creative Role Identity* was .68.

4. *Inclusion Beliefs*: This is measured with Mor Barak's (2005) scale on inclusion-exclusion beliefs. It reflects the degree to which the individual considers himself or herself as part of critical organizational processes such as access to information, involvement and participation in decision-making processes (Mor Barak, 2005). In the present study, respondents were asked to indicate on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree), the extent to which they agree or disagree with the statements.

Factor Analysis of the items was carried out using the principal component with varimax rotation method. The .40-.30-.20 rule (discussed earlier) for selection of

"good" factor loadings on primary factors were applied. The process yielded 3 factors as described below.

Factor 1 comprised of 5 items catering to one's belief about his or her involvement with higher management and employee social gatherings. It is named as *Management and Social Inclusion*.

Factor 2 comprised of 5 items catering to one's belief about his or her participation in group and organizational decision making processes. It is named as *Participation in Group and Organizational Decision making*

Factor 3 comprised of 3 items emphasizing one's belief about his or her access to formal and informal information in the group or organization. It is termed as *Information-Exchange.*

Table 3.5 presents the factor loadings of the items. Refer Table 3.14 for inter-correlation measures of the dimensions with each other and with the other measures in the study. The coefficient alpha values of these 3 dimensions were .82 (*Management and Social Inclusion*), .71 (*Participation in Group and Organizational Decision making*), and .60 (*Information-Exchange*). However, confirmatory factor analysis revealed a low factor loading (< .3) of *Information-Exchange* dimension on the latent factor (Inclusion Beliefs) which made the researcher drop this dimension from further analysis.

5. *Creative Self-efficacy:* A 3-item scale, developed by Tierney and Farmer (2002), was used to measure creative self-efficacy. Creative self-efficacy has been defined as the belief one has in his or her capabilities and skills while performing a creative task (Tierney & Farmer, 2002). In the present study, respondents were asked to indicate on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree), the extent to which they agree or disagree with the statements.

Factor Analysis of the items was carried out using the principal component with varimax rotation method. The .40-.30-.20 rule (discussed earlier) for selection of "good" factor loadings on primary factors were applied. The process yielded 1 factor and was named *Creative Self-efficacy.*

Table 3.6 presents the factor loadings of the items. Refer Table 3.14 for inter-correlation measure of the construct with the other measures in the study. The coefficient alpha value of *Creative Self-efficacy* was .86

6. *Team Climate of Creativity:* The 14-item short version of the original Team Climate Inventory (Anderson & West, 1994) was used to measure team climate of creativity. This version was developed by Kivimaki and Elovainio (1999) and has shown acceptable psychometric quality where the alpha coefficients ranged between .79 and .86 (Kivimaki & Elovainio, 1999). The 4 dimensions in the scale were a) *Vision* (team members are committed to clear and realistic group goals or objectives); b) *Participative Safety* (team members perceive participative and non-threatening team environment); c) *Task orientation* (commitment towards high performance and preparedness for questions and appraisal of weakness); and d) *Support for creativity.* In the present study, respondents were asked to indicate on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree), the extent to which they agree or disagree with the statements.

Factor Analysis of the items was carried out using the principal component with varimax rotation method. The .40-.30-.20 rule (discussed earlier) for selection of "good" factor loadings on primary factors were applied. The process yielded 3 factors.

Factor 1 comprised of 7 items catering to team environment which nurtures acceptance of creative ideas and installs communal feeling among team members. This factor was named as *Support for Creativity and Communal Feeling.*

Factor 2 comprised of 4 items catering to team member's commitment to group goals and objectives. This factor was identified as *Vision*.

Factor 3 comprised of 3 items catering to commitment toward high performance and preparedness for questions and appraisal of weakness. This factor was identified as *Task Orientation.*

Table 3.7 presents the factor loadings of the items. Refer Table 3.14 for inter-correlation measures of the dimensions with each other and with other measures in the study. The coefficient alpha values of the 3 dimensions were .92 (*Support for Creativity and Communal Feeling*), .86 (*Vision*), .84 (*Task Orientation*).

Dependent Measures:

7. *Team Creativity*: Zhou and George (2001) had developed a 13-item scale for team managers to measure employees' creativity at the workplace. In this study, the researcher had adapted 10 items of the scale and using the referent-shift technique (Chan, 1998), respondents were asked to evaluate team level creativity. Three items were consciously not considered from the thirteen items as these items were adopted from Scott and Bruce (1994) innovative work-behviour scale and are more relevant for measuring innovation-oriented behavior. In the present study, respondents were asked to indicate on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree), the extent to which they agree or disagree with the statements in the context of team creativity.

Factor Analysis of the items was carried out using the principal component with varimax rotation method. The .40-.30-.20 rule (discussed earlier) for selection of "good" factor loadings on primary factors were applied. The process yielded 1 factor and was named *Team Creativity.*

Table 3.8 presents the factor loadings of the items. Refer Table 3.14 for inter-correlation measure of the construct with the other measures in the study. The coefficient alpha value of *Team Creativity* was .95

8. *Creativity Output*: The items for this scale were adopted from Hanke (2006). The original items were adopted from Ford and Gioia (2000). The items were developed to specifically tap into both *novelty* and *usefulness* dimensions. According to Hanke (2006), the scale worked remarkably well and validated the fact that creativity output is a two-factor construct. In the present study, respondents were asked to indicate on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree), the extent to which they agree or disagree with the statements.

Factor Analysis of the items was carried out using the principal component with varimax rotation method. The .40-.30-.20 rule (discussed earlier) for selection of "good" factor loadings on primary factors were applied. The process yielded 2 factors as follows.

Factor 1 comprises of 5 items indicating the team's output to be different and not easily substitutable. The factor was identified as *Novelty.*

Factor 2 comprises of 4 items indicating the worth, usefulness and effectiveness of a team's output. The factor was identified as *Usefulness.*

Table 3.9 presents the factor loadings of the items. Refer Table 3.14 for inter-correlation measures of the dimensions with each other and with other measures in the study. The coefficient alpha values of the 2 dimensions were .82 (*Novelty*) and .82 (*Usefulness*).

Other Contextual Constructs:

9. *Team Learning Climate:* Team learning climate refers to the shared perception of team members that the team practices experimentation, takes risk for creative initiatives, is tolerant towards mistakes and nurtures a collaborative environment. A five-item scale from Marsick and Watkins (2003) was used to measure team learning climate. In the present study, respondents were asked to indicate on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree), the extent to which they agree or disagree with the statements.

Factor Analysis of the items was carried out using the principal component with varimax rotation method. The .40-.30-.20 rule (discussed earlier) for selection of "good" factor loadings on primary factors were applied. Factor analysis yielded 1 factor and was named *Team Learning Climate*.

Table 3.10 presents the factor loadings of the items. Refer Table 3.14 for inter-correlation measures of the dimensions with each other and with other measures in the study. The coefficient alpha value of *Team Learning Climate* was .80.

10. *Task Interdependency:* It is the extent to which two or more members in a team or units in an organization depend on each other for information, depend on each other in the performance of their own respective tasks. In the current study, the researcher has adapted a 4-item scale developed by Liyan and Tjosvold (2005) to measure task dependency. In the present study, respondents were asked to indicate on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree), the extent to which they agree or disagree with the statements.

The .40-.30-.20 rule (discussed earlier) for selection of "good" factor loadings on primary factors were applied. Factor analysis of the items yielded one factor and was named *Task Dependency*.

Table 3.11 presents the factor loadings of the items. Refer Table 3.14 for inter-correlation measures of the dimensions with each other and with other measures in the study. The coefficient alpha value of *Team Learning Climate* was .80.

11. *Task Variety:* A 3-item scale developed by Song (2008) to measure task variety was adapted. Task variety is associated with the task complexity in terms of number and frequency of exceptional, unexpected or novel events that can occur in a task. Higher the task variety, employees face difficulties in predicting problems in advance (Chae, Seo, & Lee, 2015). In such situations, employees spend considerable time with each other to gather and develop novel solutions (Chae et al., 2015). In the present study, respondents were asked to indicate on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree), the extent to which they agree or disagree with the statements.

The .40-.30-.20 rule (discussed earlier) for selection of "good" factor loadings on primary factors were applied. Factor analysis of the items yielded one factor and was named *Task Variety*.

Table 3.12 presents the factor loadings of the items. Refer Table 3.13 for inter-correlation measures of the construct with other measures in the study. The coefficient alpha value of *Task Variety* was .71.

Results

In the present study, both surface and deep diversity were analyzed at the team level.

Surface diversity was measured from both objective and subjective ways. To measure the actual surface diversity (objective measure) of a team based on categorical attributes such as gender and mother tongue, diversity indices (Blau indices) were calculated using the formula $1- \Sigma p^2_i$; where p_i represents the proportion of the i^{th} category (e.g., male (i =1) and female (i = 2) when gender diversity index

needs to be calculated) in a team. In the case of non-categorical attributes (e.g., age and group tenure) standard deviation of each attribute at the team-level was calculated for measuring actual surface diversity. In order to measure team based subjective diversity on specific surface-level attributes (e.g., age, gender, cultural background, educational background, mother tongue, and functional roles), surface diversity items were adapted from the scale developed by van Dick, van Knippenberg, Hägele, Guillaume and Brodbeck (2008). In this study, a single item, measured on a 5-point scale (1 = Very Similar; 5 = Very Different) for each surface attribute (e.g., age, gender, education etc.), uniquely captures a member's perception on the overall team level difference on that particular attribute. Sample items include, "*How different are the members of your team with respect to their age?*", and *"How different are the members of your team with respect to their gender (male vs. female)?".* In the present study, the average of the team member responses on a particular surface level attribute was used to measure subjective team diversity on that attribute.

Among all the deep-level variables under study, group identity emerged as the salient predictor of *team creativity* (Refer Table 3.15). Both group identity and inclusion beliefs were the important deep-level characteristics for predicting a team's *creativity output* (Refer Table 3.15).

To calculate *deep-level diversity* of a team, the standard deviations of each deep-level dimension (e.g., group identity, organizational identity, inclusion beliefs, creative self-efficacy, and creative role identity) based on each team's responses on that deep dimension was calculated. The value indicated the *separation* of team members of a particular team on that specific dimension. The inter-correlations of different deep diversities along with other team level constructs are given in the Table 3.16.

Hypothesis Testing

Testing of Hypothesis 1A

To test Hypothesis 1A (*Surface-level team diversity is positively related to deep-level diversity*), all the subjective diversity attributes were simultaneously regressed on each deep-level diversity variable. It was observed that out of all subjective diversity variables, a) cultural/regional diversity in a team negatively influenced group identity diversity (β = -.25, p < .05); b) educational background diversity positively influenced creative self-efficacy diversity (β = .35, p <. 05); and c) functional role diversity negatively influenced creative self-efficacy diversity (β = -.32, p <. 05). No significant causal relationships between objective surface diversity and deep diversity variables were found. It was observed that group tenure was negatively correlated to perceived gender diversity in a team (r = -.33, p < .001). This indicates that as time passes by, perceived gender homogeneity in a team can be observed. No significant correlations between group tenure and deep diversities were found.

Therefore, on the basis of the mixed support findings, the researcher rejects hypothesis 1A.

Testing of Hypothesis 1B

To test Hypothesis 1B (*Surface-level team diversity interacts with task variety to influence deep-level diversity)*, task variety was categorized into high variety tasks (values greater than mean + 1 SD), low variety tasks (values lower than mean + 1 SD) and average variety tasks (values between high and low variety tasks).

To test the interaction effects between *subjective* surface diversity and task variety in explaining deep level diversity, multiple 3(Task Variety: low, average, and high) X 1(subjective surface diversity attribute) factorial ANOVA tests were carried out taking task variety and each diversity attribute as the independent factor, and

deep-level diversity variable as the dependent factor. Table 3.17 summarizes the significant interaction effects observed between *subjective* surface diversity and task variety in influencing deep-level diversity.

To test the interaction effects between *objective* surface diversity and task variety in explaining deep-level diversity, multiple 3(Task Variety: low, average, and high) × 1(objective surface diversity attribute) factorial ANOVA tests were carried out taking task variety and each diversity attribute as the independent factor and deep-level diversity variable as the dependent factor. Table 3.18 summarizes the significant interaction effects observed between subjective surface diversity and task variety on deep-level diversity.

It was observed that under a high task variety situation, objective or subjective surface-level diversity (task/relational) negatively influenced task-related deep diversity (e.g., creative role identity and creative self-efficacy). Refer Figure 3.3, Figure 3.4, Figure 3.8 and Figure 3.9 for interaction effects. On the other hand, under high task variety situation, objective and subjective surface-level diversity (task/relational) positively influenced relation-oriented deep diversity (e.g., group identity and organizational identity). Refer Figure 3.2, Figure 3.5, Figure 3.6 and Figure 3.7 for interaction effects.

Therefore, Hypothesis 1B was partially supported based on the above findings.

Mediation Analyses were tested through PROCESS macro V.2.16 (Hayes, 2013). Traditional rules for mediation testing following Baron and Kenny's (1986) guidelines revealed some weaknesses (Zhao, Lynch, & Chen, 2010). The causal relationship between independent and dependent variable is no longer a precondition for mediation analysis (Hayes, 2009; Rucker, Preacher, Tormala, & Petty, 2011) and also the traditional method does not specify the strength of the mediated effect. Therefore, in this present study, the researcher had used bootstrap confidence interval technique to test the significance of the indirect effect (Preacher and Hayes,

2004) using PROCESS macro V. 2.16 (Hayes, 2013). Here, the resultant confidence interval, if does not contain value of zero, demonstrates that there is a difference in the change of coefficients for the test of mediation.

According to Hayes (2013), standardized effects are dependent on the variability in the sample and are not comparable across different studies regardless of whether same measurement scales are used. Hayes (2013) recommended reporting of mediation effects in the unstandardized form which enables direct mapping of the results to the measurement scales and can be compared across studies conducted using the same measurement system. Therefore, in the present study the researcher has reported the *unstandardized* regression coefficients in testing the mediation effects.

Testing of Hypothesis 2A

The means, standard deviations, and correlations related to the variables in hypothesis 2A (*Team climate of creativity mediates the effects of identity diversity on team's creativity*) are presented in Table 3.16. The reliability coefficients of the constructs were found to be in acceptable range (Refer Table 3.14). Confirmatory Factor Analysis (CFA) was conducted on Group Identity (GI), Organizational Identity (OI), Creative Role Identity (CRI), Team Creativity Climate (TCL) and Team Creativity (TCR) before testing hypothesis 2A concerning with these variables. CFA indicated that the five-factor (i.e., Group Identity (GID), Organizational Identity (OI), Creative Role Identity (CRI), Team Creativity Climate (TCL) and Team Creativity (TCR)) model had an acceptable fit (χ^2 = 1730.12, d.f. = 873; RMSEA =.05; NNFI =.81; CFI =.90). All the factor loadings in the five-factor model were found to be significant at .001 level. The strength of the factor loadings of all the items on the first factor and successive loadings on second factor varied from moderate to high (GID: .38 to .90; OI: .47 to .81; CRI: .45 to .79; TCL: .66 to .88 and TCR: .66 to .87). The measurement model has been presented in Figure 3.10. The Average Variance Extracted (AVE) for all the constructs

ranged from .46-.66. AVE > MSV (Maximum Shared Variance) indicates that the constructs had an acceptable discriminant validity.

Aggregation to Team Level

Team Creativity Climate (TCL) scores of individual employees were aggregated at group level (Bliese, 2000) to reflect the shared mental model of the group (F = 4.90, p < .001; average r_{wg} = .77; ICC(1) = .48; ICC(2) = 0.80). Team Creativity (TCL) scores of individual employees (sample 1) were aggregated at group level to reflect the shared perception of the group creativity (F = 2.57, p < .001; average r_{wg} = .64; ICC(1) = .27; ICC(2) = 0.61; Bliese, 2000). Moreover, to reduce the self-reported bias, overall team creativity of an individual team was finally calculated by averaging the scores given by team manager (sample 2) and aggregated group score (sample 1) on the perceptions of team creativity.

Mediation Test

To test mediation, PROCESS macro (Model 4) was executed.

The indirect diversity effect of Group-Identity (GI_D) on team creativity through Team Climate was found to be significant (b_{ab}= -.24, 95% BCa CI [-.53, -.07]). The significance of the effect was validated by Sobel's-test (z) = -2.1, p < .05. The path-coefficients of the mediation are presented in Table 3.19.

The indirect diversity effect of Organizational Identity (OI_D) on team creativity through Team Climate was found to be significant (b_{ab}= -.13, 95% BCa CI [-.36, -.03]). The significance of the effect strength was validated by Sobel-test (z) = -1.9, p < .05. The path-coefficients of the mediation are presented in Table 3.19.

The indirect diversity effect of Creative-Role-Identity (CRI_D) on team creativity through Team Climate was found to be significant (b_{ab}= -.20, 95% BCa CI [-

.48, -.04]). The significance of the effect strength was validated by Sobel-test (z) = -2.3, $p < .05$. The path-coefficients of the mediation are presented in Table 3.19.

Dimensional Level Analysis

Significant indirect effects of group-identity dimension *Affect* on team creativity were observed through all Team Climate dimensions. However, the strongest effect of *Affect* on team creativity was observed through *Task Orientation* dimension (b_{ab}= -.31, 95% BCa CI [-.61, -.15]).

The indirect effect of organizational identity diversity on team creativity through *Support for Creativity and Communal Feeling* dimension was found to be significant (b_{ab}= -.14, 95% BCa CI [-.37, -.04]).

The indirect effect of creative role identity diversity on team creativity through *Support for Creativity and Communal Feeling* dimension (b_{ab}= -.20, 95% BCa CI [-.49, -.05]) and *Task Orientation* (b_{ab}= -.23, 95% BCa CI [-.52, -.08]) were found to be significant.

The above findings supported Hypothesis 2A which stated that team climate of creativity mediates the diversity effects of team members' identities on team creativity.

Testing of Hypothesis 2B

The means, standard deviations, and correlations related to the variables in Hypothesis 2B (*Team climate of creativity mediates the effects of beliefs diversity on team's creativity*) are presented in Table 3.16. All of the reliability coefficients were found to be in acceptable range (Refer Table 3.14). The results of CFA indicated that the four-factor (i.e., Inclusion Beliefs (INB), Creative Self-efficacy (CSE), Team Climate of Creativity (TCL), Team Creativity (TCR)) model had an acceptable fit (χ^2 = 1325.97, d.f.

= 605; RMSEA =.05; NNFI =.84; CFI =.91). All the factor loadings in the four-factor model were found to be significant at .001 level. The strength of the factor loadings of all the items on the first factor and successive loadings on second factor varied from moderate to high (CSE: .79 to .86; INB: .40 to .79; TCL: .62 to .90 and TCR: .66 to .87). The loading of the 1st order factor *Information Exchange* on INB was low (<.3) and thus removed from the measurement model and further analysis. The measurement model has been presented in Figure 3.11. The Average Variance Extracted (AVE) for all the constructs ranged from .38-.68. AVE > MSV (Maximum Shared Variance) indicates that the constructs had acceptable discriminant validity.

Mediation Test

To test mediation, PROCESS macro (Model 4) was executed.

The indirect effect of Inclusion beliefs diversity (IB_D) on team creativity through Team Climate was found to be significant (b_{ab}= -.32, 95% BCa CI [-.71, -.08]). The significance of the effect was validated by Sobel's-test (z) = -2.3, p < .05. The path-coefficients of the mediation are presented in Table 3.20.

The indirect effect of Creative Self-efficacy beliefs diversity (CSE_D) on team creativity through Team Climate was found to be significant (b_{ab}= -.39, 95% BCa CI [-.66, -.19]). The significance of the effect strength was validated by Sobel-test (z) = -3.1, p < .05. The path-coefficients of the mediation are presented in Table 3.20.

Dimensional level Analysis

Significant indirect effects of Inclusion-beliefs diversity (*Participation in Group and Organizational Decision Making*) on team creativity through Team Climate dimensions (*Task-Orientation*, *Support for Creativity and Communal Feeling*) were observed. However, the strongest effect of *Participation in Group and Organizational*

Decision making on team creativity was observed through *Task Orientation* (b_{ab}= -.29, 95% BCa CI [-.55, -.12]).

Significant indirect effects of Creative Self-efficacy diversity on team creativity through all Team Climate dimensions were observed. However, the strongest effect of diversity in creative self-efficacy on team creativity was observed through *Task Orientation* (b_{ab} = -.42, 95% BCa CI [-.77, -.20]).

The above findings support Hypothesis 2B which stated that team climate of creativity mediates the diversity effects of team members' beliefs on team creativity.

Testing of Hypothesis 2C

The means, standard deviations, and correlations related to the variables in Hypothesis 2C (*Team climate of creativity mediates the effects of identity diversity on team's creative output*) are presented in Table 3.16. All of the reliability coefficients were found to be in acceptable range (Refer Table 3.14). The results of Confirmatory Factor Analysis (CFA) indicated that the five-factor (i.e., Group Identity (GID), Organizational Identity (OI), Creative Role Identity (CRI), Team Creativity Climate (TCL) and Team Creativity Output (TCO)) model had an acceptable fit (χ^2 = 1515.49, d.f. = 788; RMSEA =.05; NNFI =.80; CFI =.89). All the factor loadings in the five-factor model were found to be significant at .001 level. The strength of the factor loadings of all the items on the first factor and successive loadings on second factor varied from moderate to high (GID: .38 to .90; OI: .47 to .81; CRI: .45 to .79; TCC: .66 to .88 and TCO: .52 to .90). The Average Variance Extracted (AVE) for all the constructs ranged from .40-.65. The measurement model has been presented in Figure 3.12. AVE > MSV (Maximum Shared Variance) indicates that the constructs had acceptable discriminant validity.

Aggregation to Team Level

The test for team level aggregation of Team Creativity Climate (TCL) scores of individual employees was provided in Hypothesis 2A. Team Creativity Output (CO) scores of individual employees (sample 1) were aggregated at group level to reflect the shared perception of the team creativity output (F = 2.8, p < .001; average r_{wg} = .66; ICC(1) = .30; ICC(2) = 0.64; Bliese, 2000). Moreover, to reduce the self-reported bias, team creativity output of a team was finally calculated by averaging the scores given by team manager (sample 2) and aggregated group score (sample 1) on the perception on team creativity output.

Mediation Analysis

The indirect diversity effect of Group-Identity (GI_D) on team creativity output through Team Climate was found to be significant (b_{ab}= -.30, 95% BCa CI [-.57, -.08]). The significance of the effect was validated by Sobel's-test (z) = -2.34, p < .05. The path-coefficients of the mediation are presented in Table 3.21.

The indirect diversity effect of Organizational Identity on team creativity output through Team Climate was found to be significant (b_{ab}= -.14, 95% BCa CI [-.33, -.02]). The significance of the effect strength was validated by Sobel's-test (z) = -1.9, p < .05. The path-coefficients of the mediation are presented in Table 3.21.

The indirect diversity effect of Creative-Role-Identity on team creativity output through Team Climate was found to be significant (b_{ab}= -.23, 95% BCa CI [-.44, -.05]). The significance of the effect strength was validated by Sobel's-test (z) = -2.5, p < .05. The path-coefficients of the mediation are presented in Table 3.21.

Dimensional Level Analysis

Significant indirect effects of group-identity dimension *Affect* on team creativity output were observed through all Team Climate dimensions. However, the strongest effect of *affect* on output dimension *usefulness* was observed through *Task Orientation* (b_{ab}= -.36, 95% BCa CI [-.62, -.16]).

The indirect diversity effect of organizational identity on team's output criteria *novelty* (b_{ab}= -.16, 95% BCa CI [-.38, -.05] through *Support for Creativity and Communal Feeling* dimension was found to be significant.

The indirect diversity effect of creative role identity on team's output criteria novelty (b_{ab}= -.27, 95% BCa CI [-.53, -.09]) through *Support for Creativity and Communal Feeling* dimension were found to be significant. The indirect diversity effect of creative role identity on team output *novelty* through *Task Orientation* (b_{ab}= -.24, 95% BCa CI [-.48, -.07]) was also found to be significant.

The above findings supported Hypothesis 2C which stated that team climate of creativity mediates the diversity effects of team members' identities on team creativity output.

Testing of Hypothesis 2D

The means, standard deviations, and correlations related to the variables in Hypothesis 2D (*Team climate of creativity mediates the effects of beliefs diversity on team's creative output*) are presented in Table 3.16. All of the reliability coefficients were found to be in acceptable range (Refer Table 3.14). The results of CFA indicated that the four-factor (i.e., Inclusion Beliefs (INB), Creative Self-efficacy (CSE), Team Climate of Creativity (TCC), Team Creativity Output (TCO)) model had an acceptable fit (χ^2 = 1108.27, d.f. = 535; RMSEA =.05; NNFI =.84; CFI =.91). All the factor loadings in the four-factor model were found to be significant at .001 level. The strength of the factor

loadings of all the items on the first factor and successive loadings on second factor varied from moderate to high (CSE: .79 to .86; INB: .40 to .79; Team Climate: .62 to .90 and Team Creativity Output: .52 to .87). The measurement model has been presented in Figure 3.13. The Average Variance Extracted (AVE) for all the constructs ranged from .38-.68. AVE > MSV (Maximum Shared Variance) indicates that the constructs had acceptable discriminant validity.

Mediation Test

To test mediation, PROCESS macro (Model 4) was executed.

The indirect diversity effect of Inclusion beliefs (IB_D) on team creativity output through Team Climate was found to be significant (b_{ab}= -.37, 95% BCa CI [-.73, -.09]). The significance of the effect was validated by Sobel's-test (z) = -2.6, p < .05. The path-coefficients of the mediation are presented in Table 3.22.

The indirect diversity effect of Creative Self-efficacy beliefs (CSE_D) on team creativity output through Team Climate was found to be significant (b_{ab}= -.39, 95% BCa CI [-.68, -.20]). The significance of the effect strength was validated by Sobel-test (z) = -.39, p < .05. The path-coefficients of the mediation are presented in Table 3.22.

Dimensional level Analysis

Significant indirect diversity effects of Inclusion-beliefs (*Participation in Group and Organizational Decision Making*) on team creativity output through all Team Climate dimensions (*Vision, Task-Orientation*, *Support for Creativity and Communal Feeling*) were observed. However, the strongest diversity effect of *Participation in Group and Organizational Decision making* on creativity output (*Usefulness*) was observed through *Support for Creativity and Communal Feeling* (b_{ab}= -.35, 95% BCa CI [-.60, -.17]).

Significant indirect effects of Creative-Self-efficacy diversity on team creativity output through all Team Climate dimensions were observed. However, the strongest effect of diversity in creative self-efficacy on team creativity output (*Usefulness)* was observed through *Task Orientation* (b_{ab} = -.33, 95% BCa CI [-.66, -.14]).

The above findings supported Hypothesis 2D which stated that team climate of creativity mediates the diversity effects of team members' beliefs on team creativity output.

Testing of Hypothesis 3A

The means, standard deviations, and correlations related to the variables in Hypothesis 3A (*The negative effects of deep diversity on team's creativity climate are mediated through team's learning climate*) are presented in Table 3.16. All of the reliability coefficients were found to be in acceptable range (Refer Table 3.14). The results of Confirmatory Factor Analysis (CFA) with the *identity* variables, *team learning* and *team climate* indicated that the five-factor (i.e., Group Identity (GID), Organizational Identity (OI), Creative Role Identity (CRI), Team Creativity Climate (TCL), and Team Learning Climate(TL)) model had an acceptable fit (χ^2 = 1312.31, d.f. = 638; RMSEA =.05; NNFI =.80; CFI =.89). All the factor loadings in the five-factor model were found to be significant at .001 level. The strength of the factor loadings of all the items on the first factor and successive loadings on second factor varied from moderate to high (GID: .36 to .90; OI: .47 to .81; CRI: .44 to .79; TCL: .66 to .89 and TL: .66 to .76) The Average Variance Extracted (AVE) for all the constructs ranged from .40-.65. The measurement model has been presented in Figure 3.14. AVE > MSV (Maximum Shared Variance) indicates that the constructs had acceptable discriminant validity.

The results of Confirmatory Factor Analysis (CFA) with the *beliefs* variables, *team learning* and *team climate* indicated that the four-factor (i.e., Inclusion Beliefs (INB), Creative Self-efficacy (CSE), Team Creativity Climate (TCL), Team Learning

Climate (TL)) model had an acceptable fit (χ^2 = 1038.50, d.f. = 413; RMSEA =.07; NNFI =.82; CFI =.88). All the factor loadings in the five-factor model were found to be significant at .001 level. The strength of the factor loadings of all the items on the first factor and successive loadings on second factor varied from moderate to high (INB: .46 to .80; CSE: .80 to .86; CRI: .44 to .79; TCC: .66 to .91 and TL: .68 to .76). The Average Variance Extracted (AVE) for all the constructs ranged from .40-.65. The measurement model has been presented in Figure 3.15. AVE > MSV (Maximum Shared Variance) indicates that the constructs had acceptable discriminant validity.

Aggregation to Team Level

Team learning scores were aggregated at group level to reflect the shared perception of the team learning (F = 2.8, p < .001; average r_{wg} = .80; ICC(1) = .31; ICC(2) = 0.65; Bliese, 2000).

Mediation Test

To test mediation, PROCESS macro (Model 4) was executed. The indirect diversity effect of each identity diversity variable and belief diversity variable were tested using the macro.

Among the identity diversity variables, the indirect diversity effect of Group identity (GI_D) on team climate through Team learning was only found to be significant (b_{ab}= -.39, 95% BCa CI [-.89, -.02]. The significance of the effect was validated by Sobel's-test (z) = -2.04, p < .05. The path-coefficients of the mediation are presented in Table 3.23.

In case of belief diversity, the indirect diversity effect of creative self-efficacy (CSE_D) (b_{ab}= -.47, 95% BCa CI [-.76, -.23]) and inclusion beliefs (IB_D) on team climate through Team learning was found to be significant (b_{ab}= -.41, 95% BCa CI [-.83, -.04]. The significance of the indirect effect of CSE_D was validated by Sobel's-test (z) = -

3.58, $p < .05$. The significance of the indirect effect was validated by Sobel's-test (z) = -.41, $p < .05$.The path-coefficients of the mediation are presented in Table 3.23.

The above findings supported Hypothesis 3A which stated that team learning climate mediates the deep diversity effects on team creativity climate.

Testing of Hypothesis 3B

To test Hypothesis 3B (*Task interdependency moderates the relationship between deep diversity and team learning*), the researcher had applied hierarchical regression analysis.

Hypothesis 3B dealt with the moderating role of *task dependency* (TD) in the relationship between deep diversity and team learning (TL). The mean-centering of task dependency and deep diversity variables were done to avoid multi-collinearity effect with their product terms in the moderation regression (Aiken, West, & Reno, 1991). Step 4 (Refer Table 3.24), indicates that the 'GI_D × TD' interaction term was positively related to team learning ($\beta = .29$, $p < .05$). To further validate the results, PROCESS macro (Model 1) was executed and the results indicated a significant effect of the interaction term on team learning after controlling for age, gender and language diversity. Figure 3.16 illustrates the moderating effect of task dependency in the relationship between group identity diversity (GI_D) and team learning (TL). The direction of the interaction effects of task dependency suggested that the negative relationship between GI_D and TL can be suppressed to some extent by an interdependent task for which a positive relation between GI_D and TL was seen.

Step 4 (Refer Table 3.25), indicates that the 'IB_D × TD' interaction term was positively related to team learning ($\beta = .26$, $p < .05$). To further validate the results, PROCESS macro (Model 1) was executed and the results indicated a significant effect of the interaction term on team learning after controlling for age, gender and language diversity. Figure 3.17 illustrates the moderating effect of task dependency

in the relationship between inclusion beliefs diversity (IB_D) and team learning (TL). The direction of the interaction effects of task dependency suggested that the negative relationship between IB_D and TL can be abated by an interdependent task for which a positive relation between IB_D and TL was seen.

Step 4 (Refer Table 3.26), indicates that the 'CSE_D × TD' interaction term was positively related to team learning (β = .23, p < .05). To further validate the results, PROCESS macro (Model 1) was executed and the results indicated a significant effect of the interaction term on team learning after controlling for age, gender and language diversity. Figure 3.18 illustrates the moderating effect of task dependency in the relationship between inclusion beliefs diversity (CSE_D) and team learning (TL). The direction of the interaction effects of task dependency suggested that the negative relationship between CSE_D and TL can be reversed under a high interdependent task situation where a positive relationship between CSE_D and TL can be expected.

The above findings supported Hypothesis 3b which stated that team learning climate moderates the relationship between deep diversity and team learning climate.

Testing of Hypothesis 3C

Hypothesis 3C suggested that task dependency moderates the mediating effect of TL in deep diversity and team climate relationship. To test this hypothesis, we applied Edwards and Lambert's (2007) general path analytic framework to test first stage moderation. The results of the PROCESS macro (Model 14) estimated the conditional indirect effects. The results, summarized in Table 3.27, shows that the indirect relationship between GI_D and TC via TL was significant for low TD (Low: b = -1.19, p < .01; High: b = .11, n.s). The difference between the conditional indirect effects was significant (Δ b =1.3, p < .05) indicating that the mediating effect of TL is stronger when TD is lower. It indicated that TD negatively moderated the mediating

effect of TL on the GI_D-TC relationship, such that the mediating effect was stronger when TD was lower.

The results, summarized in Table 3.28, shows that the indirect relationship between IE_D and TC via TL was significant for low TD (Low: b = -1.1, p < .01; High: b = .20, n.s). The difference between the conditional indirect effects was significant (Δ b =1.2, p < .01) indicating that the mediating effect of TL is stronger when TD is lower. It indicated that TD negatively moderated the mediating effect of TL on the IE_D-TC relationship, such that the mediating effect was stronger when TD was lower.

The results, summarized in Table 3.29, shows that the indirect relationship between CSE_D and TC via TL was significant for low TD (Low: b = -.85, p < .01). The difference between the conditional indirect effects was significant (Δ b =1.05, p < .01) indicating that the mediating effect of TL is stronger when TD is lower. It indicated that TD negatively moderated the mediating effect of TL on the CSE_D-TC relationship, such that the mediating effect was stronger when TD was lower.

Thus, Hypothesis 3C which stated that task dependency moderates the mediating effect of team learning in the deep diversity and team climate relationship, such that the mediating effect is weaker when task dependency is higher and the mediating effect is stronger when task dependency is lower was partially supported.

Discussion

Diversity have been investigated widely in earlier studies with regard to the effects of demographic differences (surface-level mainly) on a team's cognitive and performance outcomes. However, diversity researchers suggest that the main effects of surface diversity should be analyzed by taking a team's task orientation or team-process variables (Mohammed & Angell, 2004; Williams & O'Reilly, 1998). This is further validated on the rejection of hypothesis 1A, where the researcher assumed that team's surface diversity is positively related to deep diversity. Mixed evidence

(positive and negative) of the direct effects of subjective surface diversity was found. Moreover, no significant effects of objective or actual surface diversity on deep diversity validated that surface diversity interacts with task and team process variables to deliver its intended effects. In the team sample, the average group tenure was 20.58 months where more than 50% of teams had tenure of less than 15 months. This indicates that the teams were relatively new and members might still be adjusting with their newly assigned roles and co-workers.

Tenured employees are influenced by organizational factors like structural characteristics and organizational leadership. But, a relatively newly formed team is more likely to be influenced by the characteristics of their team and team members as the proximal workgroup provides the immediate work and socio-cultural environment in which a new member has to learn (Anderson & Thomas, 1996). In line with the above statement, Hypothesis 1B posited that surface diversity interacts with task variety to influence deep diversity in such a way that under high task variety situation, negative effects of surface diversity on deep diversity get diminished. However, the results had revealed few interesting points. It was observed that under a high task variety situation, objective and subjective surface-level diversity (task or relational) negatively influenced *task-related* deep diversity (e.g., creative role identity, and creative self-efficacy). The interaction effects have been presented in Figure 3.3, Figure 3.4, Figure 3.8 and Figure 3.9. On the other hand, under a high task variety situation, surface level diversity (task or relational) positively influenced *relation-oriented* deep diversity (e.g., group identity, and organizational identity). Refer Figure 3.2, Figure 3.5, Figure 3.6 and Figure 3.7 for the interaction effects.

According to Sinha (2014), Indians have high sensitivity toward threats and opportunities and organize their thoughts as well as behaviour to serve individual or collective interests and goals. Sinha (2014) further commented, "*In adverse situations, they lay low and wait hoping that the bad will soon pass, or adopt defensive, selfish, quick fix and desperate measures to survive*" (pp. v). As the study sample comprised of mostly knowledge-driven industries, employees' monitory or non-monitory incentives are

highly tied to their successful performance outcome(s). Therefore, 'task-related' potential benefits from others are sensed quickly in situations where high unpredictable events define the task at hand. Drawing on the above logic, team members balanced the cognitive dissonance (generated by surface diversity) by adjusting their *task-related* deep diversities with other members. A negative relation between surface diversity and task-related deep diversity indicated that as surface diversity increased in a team, task-based deep diversity decreased. On the contrary, under high task variety, lack of cognitive dissonance in members allowed surface diversity to positively influence *relationship* based deep diversity variables like group identity and organizational identity. In such cases, as surface diversity increased in a team, relationship based deep diversity increased.

The differences in the group *Affect* among team members may foster negative emotions among members (Janssens & Steyaert, 2001) which can create a negative mental model against the paternalistic attitude (over control/monitoring/weakness appraisals) of the team. This was evident in the negative relationship observed between group affect diversity and *Task Orientation* climate dimension. Moreover, member differences in super-ordinate identity like *organizational identity* can create a shared mental model of less supportive and helpful co-workers who are perceived less likely to take personal interests or risks in attaining team goals (van Knippenberg & Hogg, 2003). The negative relationship observed between organizational identity diversity and *Support for Creativity and Communal Feeling dimension* supported the above research finding. The significant indirect effects of identity diversity on team creativity supported that the differences in identities among team members (group and organizational) negatively influence team creativity through the team's climate perception. In other words, team climate perception mediated the negative effects of identity diversity on team creativity (Hypothesis 2A).

From the result of hypothesis 2B it was apparent that differences in team members' inclusion beliefs (inclusion in *Group and Organizational Decision Making*

Processes) can create a sense of insecurity among members about being accepted in the team. This, in turn, fostered a negative perception of the way the work is being executed in the team. Moreover, excluded members' perception that their ideas were not valued and supported by other members created a non-supportive team climate (negative *Support for Creativity and Communal Feeling*). When there were creative self-efficacy differences among team members, the weaker members perceived that they were being unnecessarily monitored, controlled and their weaknesses were pointed out by other members. The negative relationship observed between inclusion beliefs diversity and team's *Support for Creativity and Communal Feeling*, and between creative self-efficacy diversity and *Task Orientation* perception, created a negative mental model about the overall team climate.

According to the Identity Instrumentality Hypothesis (Mesmer-Magnus, Asencio, Seely, & DeChurch, 2018), organizational identity directly predicts some aspects of team functioning that are instrumental in fulfilling members' identity both within the organization and the team. Employees often brand their own, group and organizational success by producing high-quality products, services or ideas (Mesmer-Magnus et al., 2018). In a similar vein, perception of co-operative behavior in a team is instrumental in achieving quality of products/services produced by the team which thereby fulfills the need for member's value and identity maintenance. The significant indirect relationships found between identity diversity variables (organizational identity and group identity) and the team's creative output through team climate provided a strong support for the above fact. It was observed in the current study that *group affect and organizational identity* differences between members had given rise to negative emotions and induced the perception of inappropriate ways of creative task handling (*Task orientation*) by the team.

Drawing on the logic of Identity Instrumentality Hypothesis, shared perception of execution of task evolved from differences in group identity (*Affect*) and organizational identity had prompted the members to undergo a process of testing the team's output against the relevant criteria for its usefulness or

appropriateness. It was observed that differences in creative role identities among members violated or threaten their perceptions of team's uniqueness which manifested in their perceptions of non-uniqueness (*Novelty* characteristic) of the product/service produced. Therefore, Hypothesis 2C was supported which stated that deep identity diversity effects on creative output are mediated through team climate.

It was observed that inclusion beliefs diversity (differences in participation beliefs in the group and organizational decision making) influenced the perception of *Usefulness* of team outcome through *Support for Creativity and Communal Feeling* climate dimension. On the other hand, the effect of the differences in creative self-efficacies among members on creative output (*Usefulness)* was mediated through perceived *task-Orientation* climate dimension. Thus, unlike differences in identities among members, inclusion beliefs diversity can trigger one's sense-of-unfairness regarding his or her non-involvement in the group and organizational decision making. The negative relationship observed between *Participation Beliefs in Group and Organizational Decision Making* and *Support for Creativity and Communal Feeling* supported the above argument. The negative relationship between *creative self-efficacy* diversity and *task orientation* indicated that team members were apprehensive of the team skills to complete the task. This may negatively influence their perceptions of usefulness of the team outcome. These findings find indirect support in the theorization of creativity by Simonton (1999), who posited that novelty of a product/idea is related to the degree of its variation (uniqueness) while usefulness is conceived as the appropriate selection of the product/idea. It is interesting to note that identity differences of team members may pose a threat to the perceived uniqueness (individual and team) which manifests in the negative perception of novelty dimension of the team outcome. Similarly, beliefs differences may give rise to the perception of an inappropriate way of task execution or misfit of one's creative skills in the team which, in turn, manifested in the in the negative perception of usefulness dimension of the team outcome. Therefore, the above findings supported Hypothesis 2D which stated that the effects of beliefs diversity on creative output are mediated through team climate.

Sharing of tacit knowledge (important for creative works) with other team members is facilitated through intrinsic motivation such as friendship (Osterloh & Frey, 2000) and trust (Mooradian et al., 2006). Collaborative learning may get hampered due to the differences in team members' group identities, creative self-efficacy beliefs and inclusion beliefs. The affect (group identity) which measures the quality of interpersonal relationships with peers, is manifested through trust, norms, obligations, and identification (Nahapiet & Ghoshal, 1998). Differences in group affect among members can abate the development of friendship and trust which negatively affects knowledge acquisition and sharing among team members. Based on the *theory of planned behaviour* (Ajzen, 1991) and perceived behavioural control (control over own behaviour to perform a task), the researcher in the present study posits that the differences in creative self-efficacy beliefs among members can make some team members employ control over intentions to share knowledge by attributing other members' low status or reluctance to acquire knowledge from them. On the other hand, low creative self-efficacy members on observing low or no sharing of knowledge from important members, perceived a weak learning environment. In such cases, strong descriptive norms emphasizing mandatory training and knowledge sharing sessions by senior and experts are suggested. According to Yang and Farn (2010), acquiring know-how and experiences from co-workers without any resistance is highly influenced by the perception of the individual's social inclusion beliefs. Thus, in a team, where there are differences in inclusion beliefs, a negative perception of team learning can thrive. These negative effects of deep diversity on team learning climate evolved to form a shared perception of negative team creativity climate (Hypothesis 3A).

Langfred (2005) posited that there is an interactive relationship exists between team autonomy and task interdependency in predicting team performance. It is such that team autonomy and performance shares a positive relationship when task interdependency is high and negative relationship when task interdependency is low. Team-level deep diversities can adversely affect team's perception of autonomy

over team related work and activities. The negative relation was further facilitated in the condition of low task dependency but a positive relation was observed between diversity and learning in case of high task dependency (Refer Figure 2.17, figure 2.18 and figure 2.19). This indicates that in a deep diversity condition, making the team task dependent on each member's contribution (increasing individual member's sense of autonomy) can increase the members' sense of team autonomy which can result in high team learning. Moreover, task interdependence triggers team members need for interaction in order to complete the task (Comeau & Griffith, 2005). However, in a low task interdependency situation, the negative effects of deep diversity on team learning got enhanced and influenced team climate in a negative way. Therefore, it can be concluded that task interdependency moderates the relationship between deep diversity and team learning such that in a high task interdependency situation, the negative effects of diversity on team learning are reduced while in a low task interdependency situation, the negative effects are enhanced (Hypothesis 3B).

The results in the present study only proved that in a low task dependency condition, negative team learning perception enhances deep diversity effects. No significant deep diversity effects through team learning on team creativity climate were found under high task dependency situation. It is possible that there can be other moderators which when interact with deep diversity (first stage moderation) or team learning (second stage moderation) can reverse the negative diversity effects on team climate.

Table 3.1: Distribution of Sample 1 (N=303) and Sample 2 (N=73) (Ownership wise)

Ownership		Team Members (N_1)	Team Leaders (N_2)
Private	Organization 1	28	7
	Organization 2	5	1
	Organization 3	21	5
	Organization 5	20	4
	Organization 6	5	1
	Organization 8	25	8
	Organization 10	25	5
	Organization 11	13	4
	Organization 12	8	2
	Organization 13	4	1
	Organization 14	10	3
	Organization 15	7	2
	Organization 16	9	2
	Organization 17	5	1
	Organization 18	5	1
	Organization 19	10	2
	Organization 20	10	2
	Organization 21	7	2
	Organization 22	12	3
	Organization 23	16	3
	Organization 24	3	1
	(21 Organizations)	**248**	**60**
Public	Organization 4	26	6
	Organization 7	7	1
	Organization 9	22	6
	(3 Organizations)	**55**	**13**
Total	**24 Organizations**	**303**	**73**

Table 3.2: Factor Loadings Obtained for Group Identity Measure (N=303)

Item No.	Item	Factors* 1	2	3	4
2	Being a member of my team has little to do with how I feel about myself in general (R)	.08	.04	.04	**.86**
3	Being a member of my team is an important part of my self-image	.37	**.52**	-.29	.25
4	The fact I am a team member rarely enters my mind (R)	.21	.10	.02	**.83**
5	In general I'm glad to be a team member	**.78**	.19	.03	.07
6	I often regret being a member of my team (R)	**.75**	-.09	.23	.22
7	Generally I feel good about myself when I think about being a member of my team	**.70**	.37	.01	.07
8	I don't feel good about being a member of my team (R)	**.78**	-.13	.26	.09
9	I have a lot in common with other team members	-.05	**.81**	.20	.03
10	I feel strong ties to other team members	.08	**.73**	.29	.03
11	I find it difficult to form a bond with other team members (R)	.09	.12	**.83**	.04
12	I don't feel a strong sense of being connected to other team members (R)	.20	.16	**.81**	.03
Eigen Values		2.74	1.93	1.77	1.59
% Variance		22.91	16.10	14.75	13.27
Cumulative % variance		23.52	39.86	55.36	69.83

* **Factor 1** = Affect, **Factor 2** = Attraction, **Factor 3** = Bond, **Factor 4** = Prominence

Table 3.3: Factor Loadings Obtained for Organizational Identity Measure (N=303)

Item No.	Item	Factor 1
1	Being a member of my team has little to do with how I feel about myself in general (R)	**.84**
2	Being a member of my team is an important part of my self-image	**.74**
3	The fact I am a team member rarely enters my mind (R)	**.77**
4	In general I'm glad to be a team member	**.80**
5	I often regret being a member of my team (R)	**.82**
6	Generally I feel good about myself when I think about being a member of my team	**.58**
Eigen Value		3.50
% Variance		58.38
Cumulative % variance		58.38

Table 3.4: Factor Loadings Obtained for Creative Role Identity Measure (N=303)

Item No.	Item	Factor 1
1	I often think about being creative	**.83**
2	I do not have any clear concept of myself as a creative employee (R)	**.67**
3	To be a creative employee is an important part of my Identity	**.85**
Eigen Value		1.87
% Variance		62.34
Cumulative % variance		62.34

Table 3.5: Factor Loadings Obtained for Inclusion Beliefs Measure (N=303)

Item No.	Item	Factors* 1	2	3
1	I have influence in decisions taken by my team regarding our tasks.	.19	**.58**	-.02
2	My coworkers openly share work-related information with me.	.01	**.80**	.07
3	I am typically involved and invited to actively participate in work-related activities of work group	.01	**.80**	.04
4	I am able to influence decisions that affect my organization	.21	**.53**	-.30
5	I am usually among the last to know about important changes in the organization. (R)	.05	-.02	**.85**
7	My supervisor often asks for my opinion before making important decisions	.38	**.54**	.09
8	My supervisor does not share information with me (R)	-.13	.12	**.80**
10	I am often invited to contribute my opinion in meetings with management higher than my immediate supervisor.	**.77**	.12	-.05
11	I frequently receive communication from management higher than my immediate supervisor	**.83**	.09	-.05
12	I am often invited to participate in meetings with management higher than my immediate supervisor	**.86**	.002	-.10
13	I am often asked to contribute in planning social activities not directly related to my job function	**.68**	.14	-.18
14	I am always informed about informal social activities and company social events	**.50**	.29	-.04
15	I am rarely invited to join my co-workers when they go for lunch or drinks after work (R)	-.12	-.04	**.77**
Eigen Values		3.54	2.76	2.13
% Variance		23.62	18.46	14.24
Cumulative % variance		3.54	2.76	2.13

*** Factor 1** = Management and Social Inclusion, **Factor 2** = Participation in Group and Organizational Decision Making, **Factor 3** = Information Exchange

Table 3.6: Factor Loadings Obtained for Creative Self-efficacy Measure (N=303)

Item No.	Item	Factor 1
1	I have confidence in my ability to solve problems creatively	**.87**
2	I feel that I am good at generating novel ideas	**.89**
3	I have capability to further develop the ideas of others	**.89**
Eigen Value		2.36
% Variance		78.75
Cumulative % variance		78.75

Table 3.7: Factor Loadings Obtained for Team Climate Measure (N=303)

Item No.	Item	Factors* 1	2	3
1	To what extent do you think your team's objectives are clearly understood by other members of the team?	.25	**.66**	.29
2	How far are you in agreement with these objectives?	.15	**.82**	.25
3	To what extent do you think your team's objectives actually can be achieved?	.26	**.80**	.23
4	How worthwhile do you think these objectives are to the organization?	.28	**.76**	.11
5	Team members are prepared to question the basis of what the team is doing	.27	.26	**.77**
6	My team critically appraise potential weaknesses in what it is doing in order to achieve the best possible outcome	.15	.34	**.80**
7	Members of my team build on each other's ideas in order to achieve the best possible outcome	.36	.21	**.72**
8	In my team, we take the time needed to develop new ideas	**.67**	.04	.42
9	People in this team cooperate in order to help develop and apply new ideas and plans	**.73**	.14	.44
10	People in this team are always searching for fresh, new ways of looking at problems	**.69**	.07	.42
11	The team members have a 'we are together' attitude	**.74**	.41	.14
12	People keep each other informed about work-related issues in the team	**.76**	.42	.13
13	People feel understood and accepted by each other	**.79**	.40	.17
14	There are real attempts to share information throughout the team	**.78**	.37	.15
Eigen Values		4.32	3.255	2.63
% Variance		30.86	23.25	18.81
Cumulative % variance		30.86	54.12	72.93

*__Factor 1__ =Support for Creativity and Communal Feeling, __Factor 2__ = Vision, __Factor 3__ = Task Orientation.

Table 3.8: Factor Loadings Obtained for Team Creativity (N = 303)

Item No.	Item	Factor 1
1	My team suggests new ways to achieve goals or objectives	**.84**
2	My team comes up with new and practical ideas to improve performance	**.86**
3	My team suggests new ways to increase quality	**.88**
4	My team is a good source of creative ideas	**.83**
5	My team is not afraid to take risks	**.70**
6	My team exhibits creativity on the job when given the opportunity	**.83**
7	My team often has new and innovative ideas	**.83**
8	My team comes up with creative solutions to problems	**.87**
9	My team often has a fresh approach to problems	**.84**
10	My team suggests new ways of performing work tasks	**.85**
Eigen Values		7.01
% Variance		70.19
Cumulative % variance		70.19

Table 3.9: Factor Loadings Obtained for Team Creativity Output Measure (N = 303)

Item No.	Item	Factors* 1	2
1	The team's work is worth doing		**.81**
2	The team's output is capable of being put into effect		**.89**
3	The team's output is likely to cause the desired result		**.84**
4	The team's output will have a monitory value		**.61**
6	The team's output is different from usual run of things	**.82**	
7	The team's output is excitingly different from what has been done previously	**.83**	
8	The team's output represents a radical departure from traditional practices	**.82**	
9	The team's output is one of a kind	**.79**	
Eigen Values		2.80	2.70
% Variance		35.01	33.8
Cumulative % variance		35.01	68.8

* **Factor 1** = Novelty, **Factor 2** = Usefulness

Table 3.10: Factor Loadings Obtained for Team Learning Climate Measure (N = 303)

Item No.	Item	Factor 1
1	In my team, errors are considered a source of learning	**.75**
2	In my team, there is freedom to experiment	**.83**
3	The 'lessons learned' in the team are made available to all team members	**.81**
4	In my team, individuals revise their thinking as a result of group discussion or information collected	**.77**
Eigen Values		2.54
% Variance		63.49
Cumulative % variance		63.49

Table 3.11: Factor Loadings Obtained for Task Interdependency Measure (N = 303)

Item No.	Item	Factor 1
1	My team members have to obtain information and advice from other members to complete their work	**.78**
2	My team members depend on each other for the completion of their work	**.86**
3	My team members have their own responsibilities and they rarely have to check or work with others (R)	**.51**
4	My team members have to work closely with each other to do their work properly	**.80**
Eigen Value		2.26
% Variance		56.60
Cumulative % variance		56.60

Table 3.12: Factor Loadings Obtained for Task Variety Measure (N = 303)

Item No.	Item	Factor 1
1	When a problem arises in my work, it takes a lot of experience and training to know what to do	**.77**
2	There is variety in the events that cause my work	**.78**
3	Tasks in my work require an extensive and demanding search for a solution	**.84**
Eigen Value		1.92
% Variance		64.30
Cumulative % variance		64.30

Table 3.13: Inter-Correlations Between Diversity (Surface and Deep-level) and Task Variety (n = 73)

Actual Subjective Diversity variables (Age, Gender, Language and Group Tenure**), Subjective Surface Diversity Variables (**Age, Gender, Culture/Region, Education, Language and Functional Role**) , Deep Diversity Variables (**Group Identity, Organizational Identity, Inclusion Beliefs, Creative Self-efficacy and Creative Role Identity**) and Task variety**

	Diversity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Actual Surface Diversity (Blau Indices)	1. Age	-															
	2. Gender	-.27*	-														
	3. Language	.10	.10	-													
	4. Group Tenure	.29**	-.33**	-.05	-												
Subjective Surface Diversity	5. Age	.25**	.35**	-.02	.08	-											
	6. Gender	-.29*	.32**	.08	-.34**	.30**	-										
	7.Culture/Region	.08	.14	.02	-.15	.34**	.43**	-									
	8. Educational	.06	.19	-.16	-.01	.28*	.22	.33**	-								
	9. Language	.11	.09	.42**	-.07	.32**	.21	.47**	.25*	-							
	10. Functional Role	.-.00	.20	-.25**	-.02	.27**	.36**	.30**	.56**	.10	-						
Deep Diversity	11. Group Identity	-.08	.05	.11	-.08	.00	-.10	-.25**	-.17	.06	-.05	-					
	12. Organizational Identity	.06	.02	.16	-.11	-.07	.01	-.11	-.06	.05	-.19	.22	-				
	13.Inclusion Beliefs	.04	-.13	.15	.11	-.17	-.05	-.11	-.21	.04	-.19	.20	.25*	-			
	14. Creative Self-efficacy	.006	-.13	-.02	.15	-.10	-.13	-31**	.06	-.04	-.22	.30**	.35**	.47**	-		
	15. Creative Role Identity	.17	.01	-.05	.05	.10	-.09	-.11	-.08	.06	.009	.35**	.28**	.29*	.39**		
	16. Task Variety	-.03	.03	-.16	.03	.10	.22	.25**	.17	.12	.48**	-.06	-.22	-.34**	-.43**	-.28*	

** = p <.01; * =p <.05

Table 3.14: Inter-Correlations, Means, Standard Deviations and Cronbach Alphas of the Study Variables (N= 303).

	Dimensions/Constructs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
GROUP IDENTITY#	1. AFF	**(.80)**																
	2. ATT	.31**	**(.60)**															
	3. Bond	.29**	.22**	**(.76)**														
	4. PM	.32**	.23**	.10	**(.67)**													
	5. Organizational Identity	.32**	.35**	.11*	.17**	**(.84)**												
INCLUSION BELIEFS	6. Mng &Social	.11**	.24**	.09	.22**	.27**	**(.82)**											
	7. Group and Org. decision making	.39**	.37**	.10	.27**	.47**	.39**	**(.71)**										
	8. Creative Role Identity	.26**	.24**	.19**	.26**	.29**	.28**	.30**	**(.68)**									
	9. Creative Self-efficacy	.42**	.27**	.19**	.22**	.41**	.30**	.38**	.49**	**(.86)**								
	10. Team Creativity	.53**	.38**	.25**	.29**	.41**	.35**	.50**	.37**	.39**	**(.95)**							
CREATIVE OUTPUT	11. Usefulness	.44**	.30**	.26**	.16**	.35**	.25**	.47**	.32**	.36**	.58**	**(.82)**						
	12. Novelty	.36**	.28**	.22**	.20**	.27**	.41**	.33**	.20**	.24**	.56**	.42**	**(.82)**					
	13. Team learning	.52**	.31**	.16**	.26**	.37**	.34**	.51**	.31**	.41**	.64**	.44**	.43**	**(.80)**				
	14. Task Dependency	.10	.20**	.01	.03	.03	.11	.20**	.13**	.14**	13**	.22**	.15**	.12**	**(.72)**			
TEAM CREATIVITY CLIAMTE	15.Vision	.50**	.31**	.20**	.19**	.34**	.33**	.44**	.25**	.43**	.53**	.55**	.38**	.54**	.22**	**(.86)**		
	16. Task Orientation	.44**	.39**	.20**	.24**	.40**	.38**	.51**	.29**	.36**	.65**	.53**	.49**	.56**	.19**	.56**	**(.84)**	
	17.Support for Creativity and Communal Feeling	.57**	.43**	.26**	.27**	.42**	.29**	.46**	.28**	.35**	.68**	.61**	.47**	.58**	.15**	.63**	.64**	**(.92)**
	Mean	5.8	4.9	5.4	5.2	5.5	4.6	5.2	5.6	5.8	5.5	5.6	4.8	5.5	4.9	5.5	5.2	5.4
	SD	1.11	1.17	1.34	1.35	1.19	1.33	1.09	1.12	1.08	1.16	1.16	1.33	1.09	1.31	1.10	1.21	1.20

** = p <.01; * =p <.05

Bold figures in parenthesis include cronbach alpha values.

#Group Identity – Group Affect **(AFF)**, Group Attraction **(ATT)**, Group Prominence **(PM)**

Table 3.15: Multiple Regression Analysis (n=73)

Independent Variables: Group Identity, Organizational Identity, Inclusion Beliefs, Creative Role Identity, Creative Self-Efficacy

Dependent Variables: Team Creativity; Team Creativity Output

Dependent variable: Team Creativity							
Step	R	Rsq	F	Sig. of F	β	Sig. of β	Predictor(s)
1	.47	.22	20.56 *df*(1,71)	.00	.52	.00	Group Identity
Dependent variable: Team Creativity Output							
Step	R	Rsq	F	Sig. of F	β	Sig. of β	Predictor(s)
1	.54	.29	29.58 *df*(1,71)	.00	.54	.00	Group Identity
2			20.71 *df*(2,70)	.61	.37	.00	Group Identity
					.33	.00	Inclusion Beliefs

Table 3.16: Inter-Correlations, Means and Standard Deviations (Team Level) of the Study Variables (n = 73)

Deep diversity variables (Group Identity, Organizational Identity, Creative Role Identity, Inclusion Beliefs, Creative Self-efficacy**),** Team Creativity, Creative Output, Task dependency, Task Variety, Team Learning and Team Creativity Climate **(N= 73).**

	Dimensions	1	2	3	4	5	6	7	8	9	10	11
Deep-level Diversity	1.GI_D	-										
	2.OI_D	.22	-									
	3.IB_D	.20	.25*	-								
	4.CRI_D	.35**	.28*	.29*	-							
	5.CSE_D	.30**	.35**	.47**	.39**	-						
	6.Team Creativity	-.22	.008	-.10	-.12	-.18	-					
	7. Creativity Output	-.16	-.13	-.11	-.15	-.33**	.72**	-				
	8. Task Dependency	-.05	.11	-04	-.22	-.25*	.21	.22	-			
	9.Task Variety	-.06	-.22	-.34**	-.28**	-.43**	.23*	.29*	.29*	-		
	10.Team Learning	-.24*	-.19	-.26**	-.13	-.46**	.50**	.55**	.20	.25*	-	
	11.Team Climate	-.32**	-.25*	-.38**	-.31**	-.54**	.46**	.58**	.25*	.32**	.71**	-
	Mean	.58	.82	.60	.91	.70	5.5	5.3	4.6	4.9	5.6	5.4
	SD	.33	.60	.32	.49	.44	.63	.60	.73	.84	.73	.76

** = p <.01; * =p <.05

GI_D = Group Identity Diversity; OI_D = Organizational Identity Diversity; IB_D= Inclusion Beliefs Diversity; CRI_D = Creative Role Identity Diversity; CSE_D = Creative Role Identity Diversity

Table 3.17: 3 (Task Variety: High, Average, Low) X 1 (Subjective Surface Diversity Dimension) Factorial ANOVA

Dependent factor	Source	Df	MS	F	Sig. F
Group Identity diversity	Task Variety	2	.012	.16	.84
	Age Diversity	31	.099	1.36	.20
	Task Variety X Age Diversity	11	.207	2.83	<.05
	Within Error	28			
Inclusion Beliefs diversity	Task Variety	2	.16	3.44	<.05
	Educational Diversity	30	.122	2.57	<.001
	Task Variety X Educational Diversity	14	.12	2.58	<.05
	Within Error	26			
Creative Role Identity diversity	Task Variety	2	.42	3.10	<.05
	Gender Diversity	32	.224	1.62	.10
	Task Variety X Gender Diversity	11	.49	3.59	<.05
	Within Error	27			
Creative Role Identity diversity	Task Variety	2	.25	1.49	.23
	Culture/Regional Diversity	27	.22	1.30	.23
	Task Variety X Culture/Regional Diversity	9	.57	3.40	<.05
	Within Error				

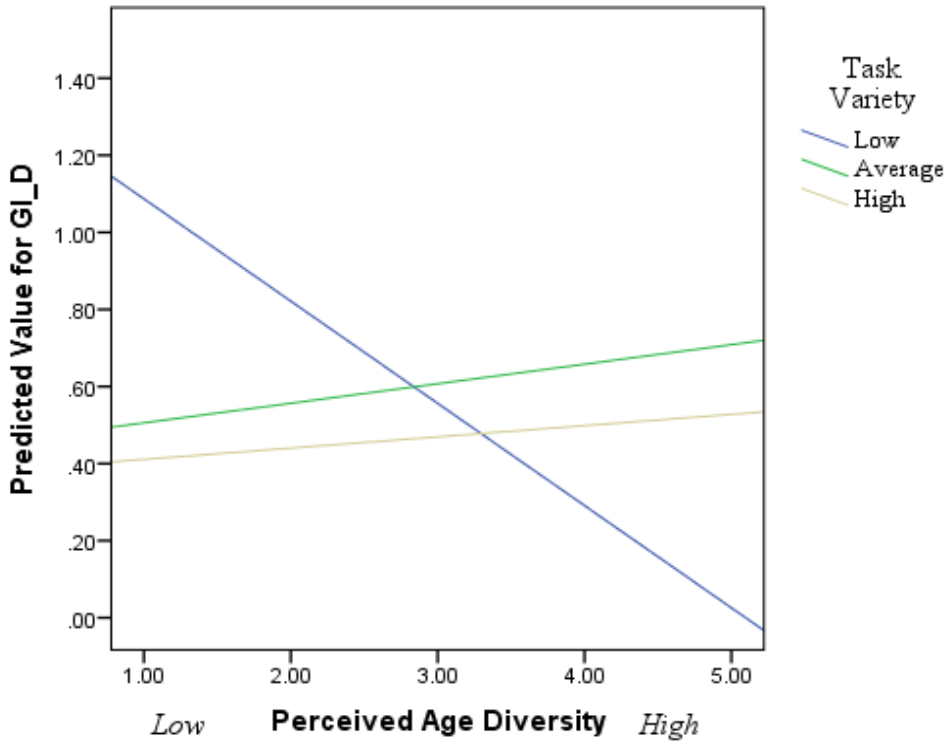

Figure 3.2: Effect of perceived Age diversity on Group Identity diversity at various levels of Task Variety

GI_D = Group Identity Diversity

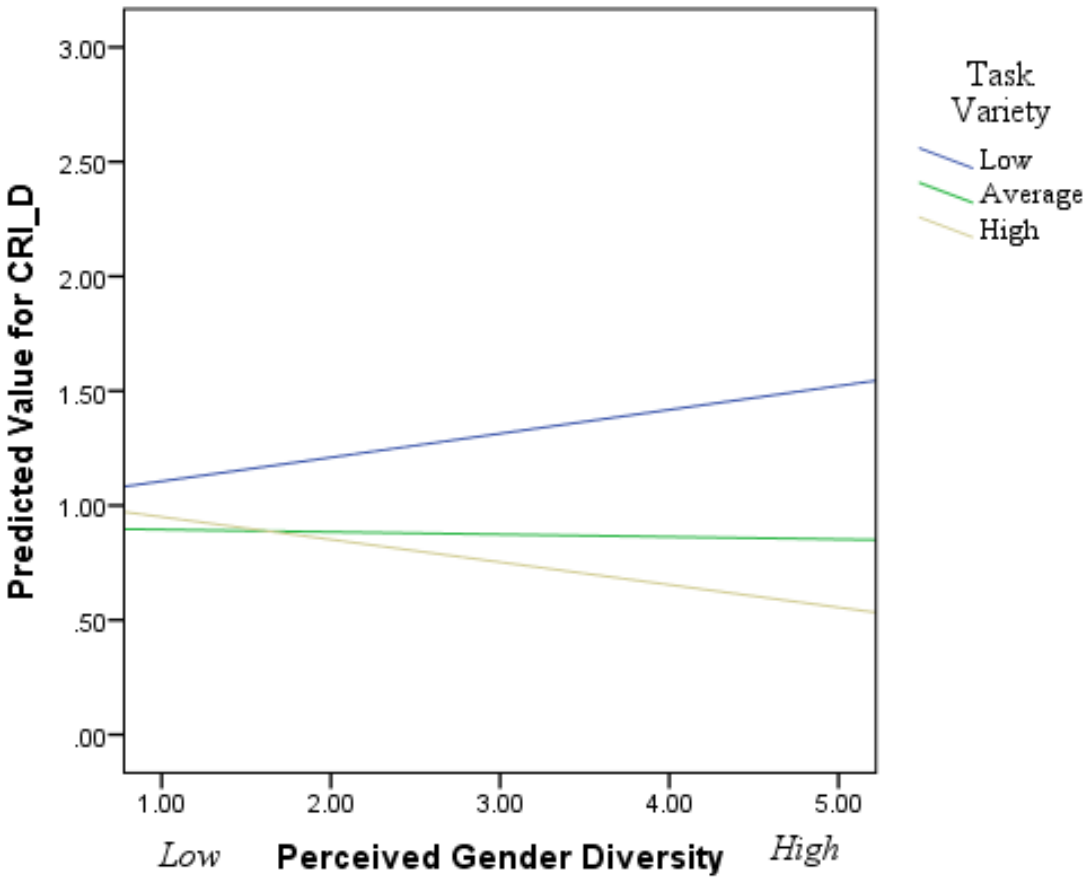

Figure 3.3: Effect of perceived Gender diversity on Creative Role Identity diversity at various levels of Task Variety

CRI_D = Creative Role Identity Diversity

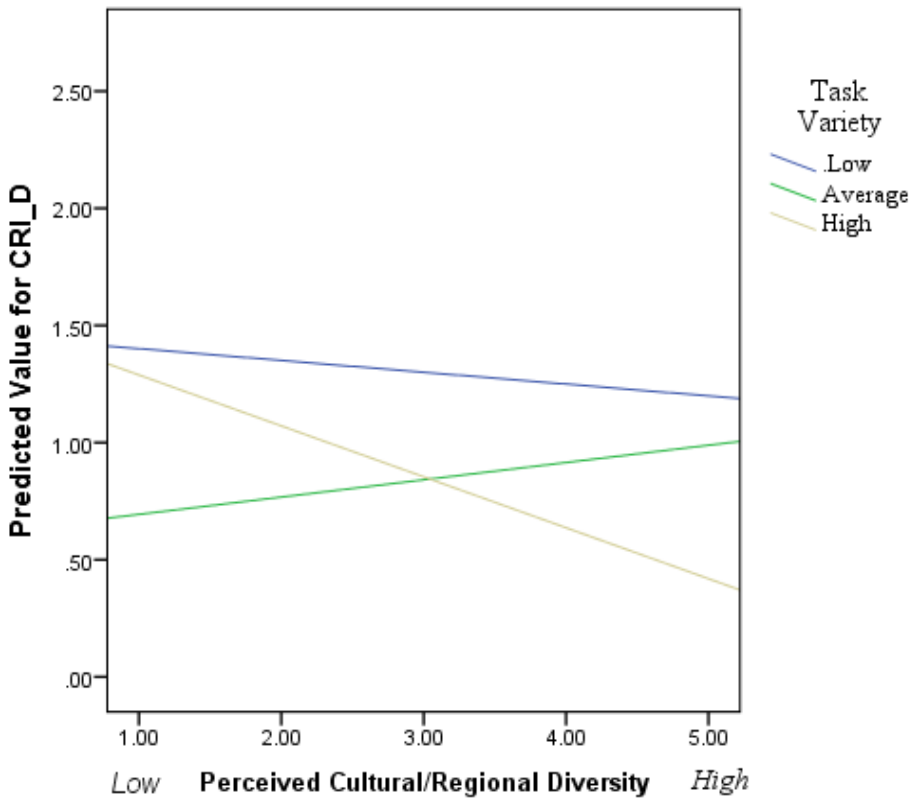

Figure 3.4: Effect of perceived Cultural/Regional diversity on Creative Role Identity diversity at various levels of Task Variety

CRI_D = Creative Role Identity Diversity

Table 3.18: 3 (Task Variety: High, Average, Low) X 1 (Actual Surface Diversity Dimension) Factorial ANOVA (n=73)

Dependent factor	Source	df	MS	F	Sig. F
Group Identity Diversity	Task Variety	2	.03	.30	.73
	Gender Diversity	6	.10	1.07	.39
	Task Variety X Gender Diversity	5	.12	2.58	<.05
	Within Error	59			
Group Identity Diversity	Task Variety	2	.15	29.07	<.05
	Tenure Diversity	66	.11	22.1	<.05
	Task Variety X Tenure Diversity	1	.06	12.48	<.05
	Within Error	3			
Organizational Identity Diversity	Task Variety	2	.07	1.09	.38
	Age Diversity	60	.39	5.5	<.05
	Task Variety X Age Diversity	3	.39	5.5	<.05
	Within Error	7			
Creative Self-efficacy diversity	Task Variety	2	.72	5.11	<.01
	Gender Diversity	6	.20	1.47	.20
	Task Variety X Gender Diversity	5	.36	2.55	<.05
	Within Error	59			
Creative Role Identity Diversity	Task Variety	2	.98	41.07	< 0.01
	Tenure Diversity	66	.22	9.35	<.05
	Task Variety X Tenure Diversity	1	.40	16.89	<.05
	Within Error	3			

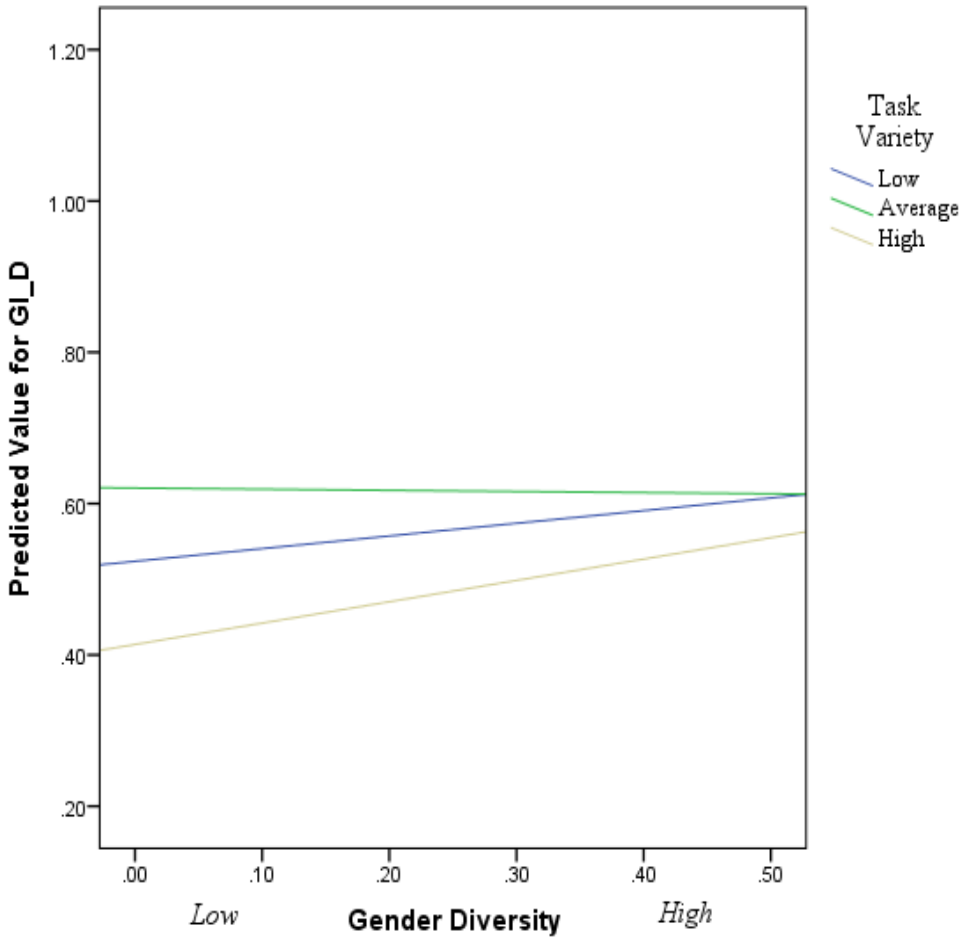

Figure 3.5: Effect of Gender diversity on Group Identity diversity at various levels of Task Variety

GI_D = Group Identity Diversity

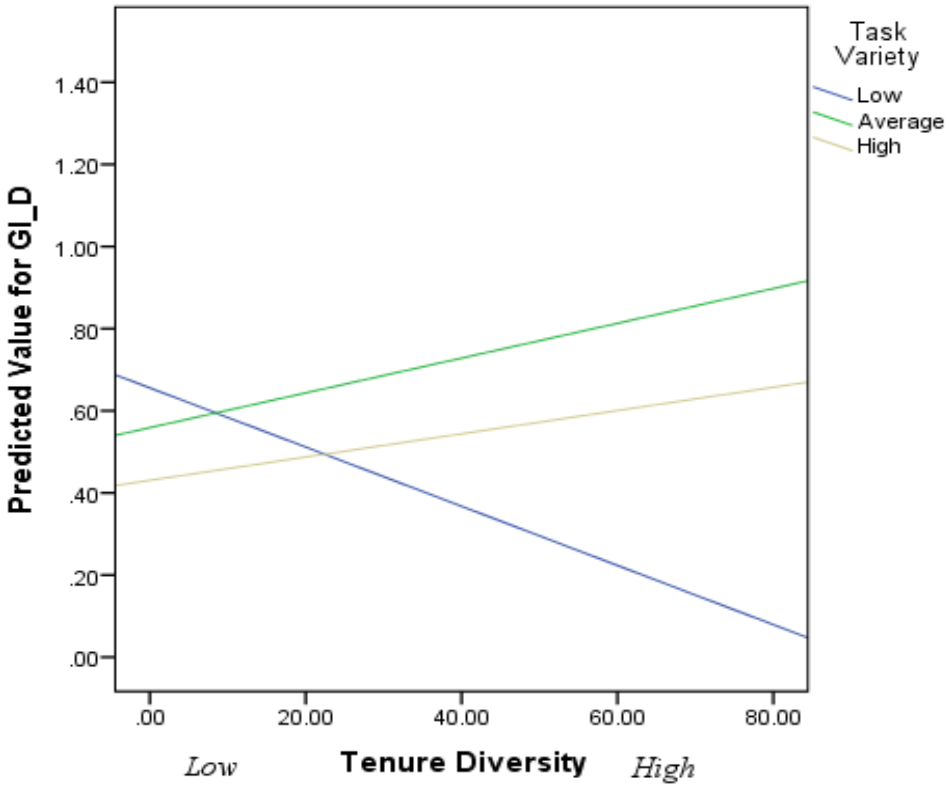

Figure 3.6: Effect of Tenure Diversity on Group Identity diversity at various levels of Task Variety

GI_D = Group Identity Diversity

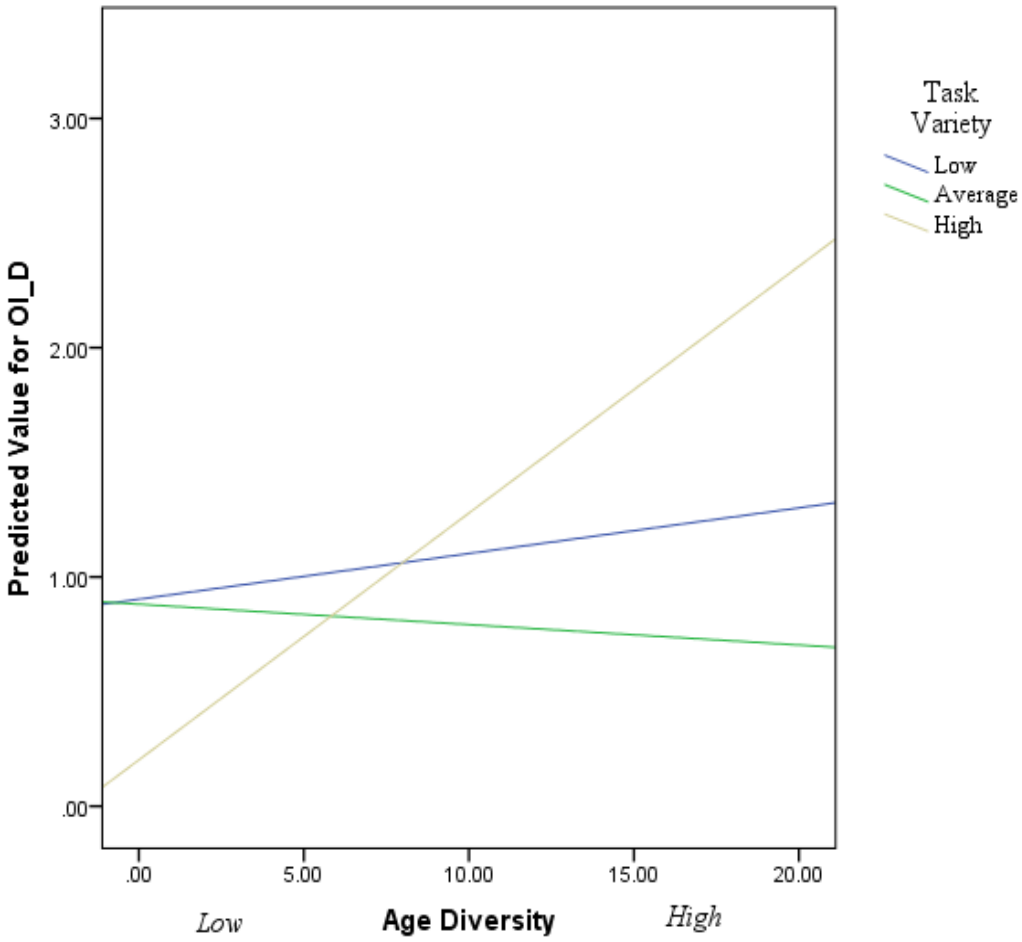

Figure 3.7: Effect of Age diversity on Organizational Identity diversity at various levels of Task Variety

OI_D = Organizational Identity Diversity

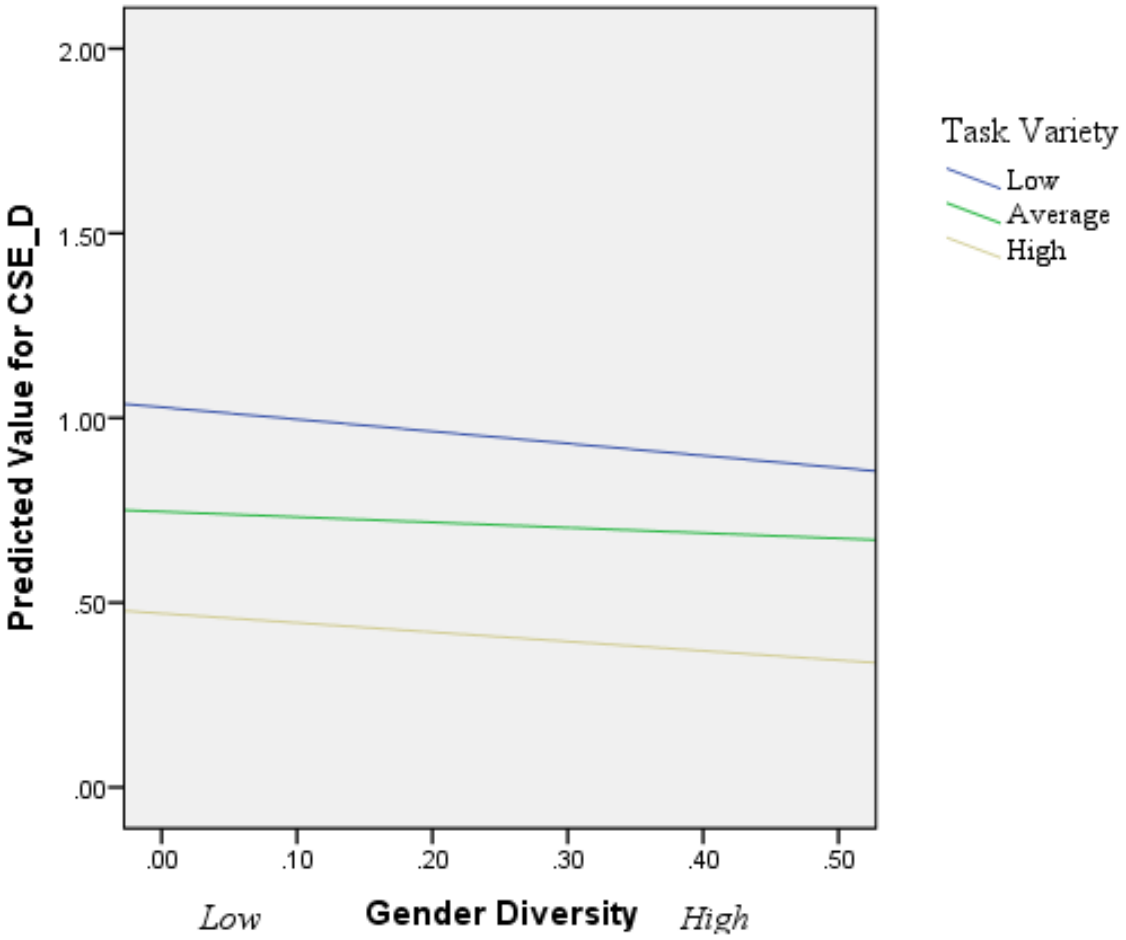

Figure 3.8: Effect of Gender diversity on Creative Self-Efficacy diversity at various levels of Task Variety

CSE_D = Creative Self-Efficacy Diversity

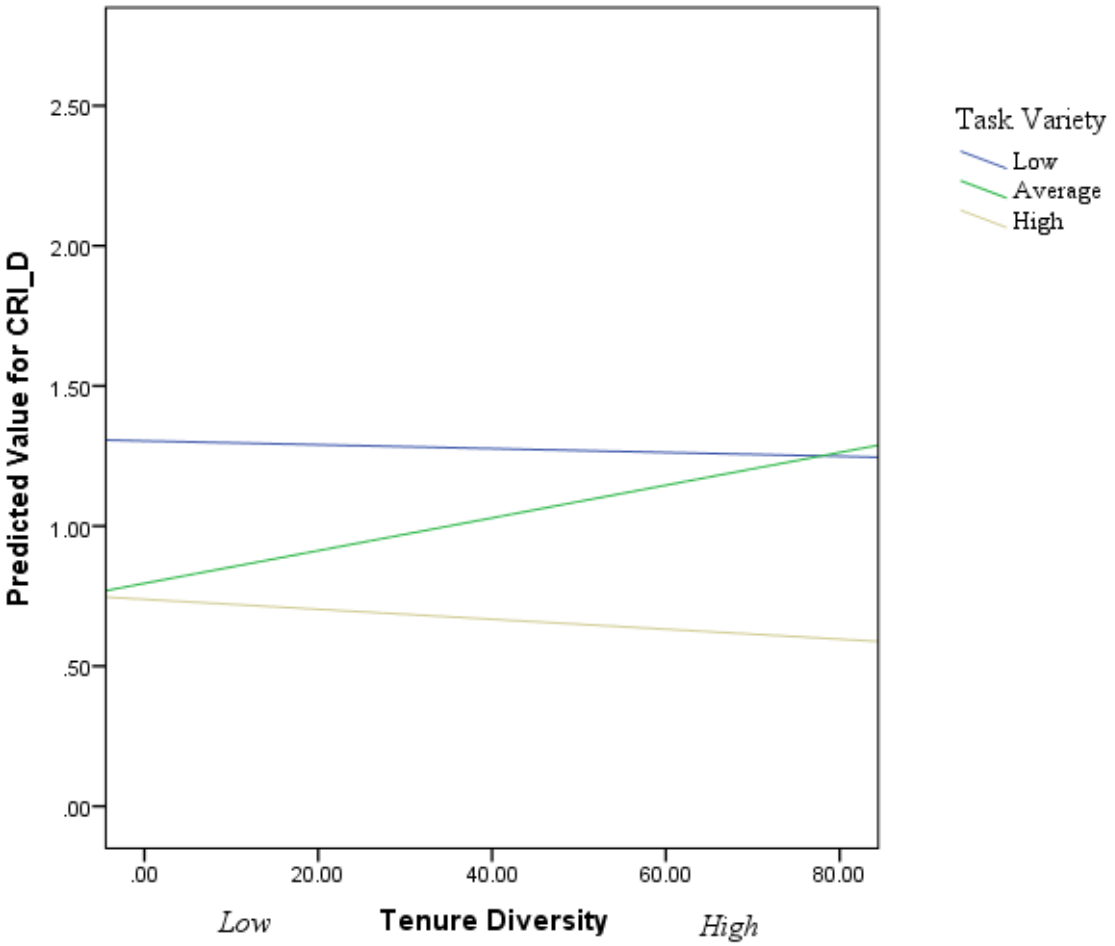

Figure 3.9: Effect of Tenure diversity on Creative Role Identity diversity at various levels of Task Variety

CRI_D = Creative Role Identity Diversity

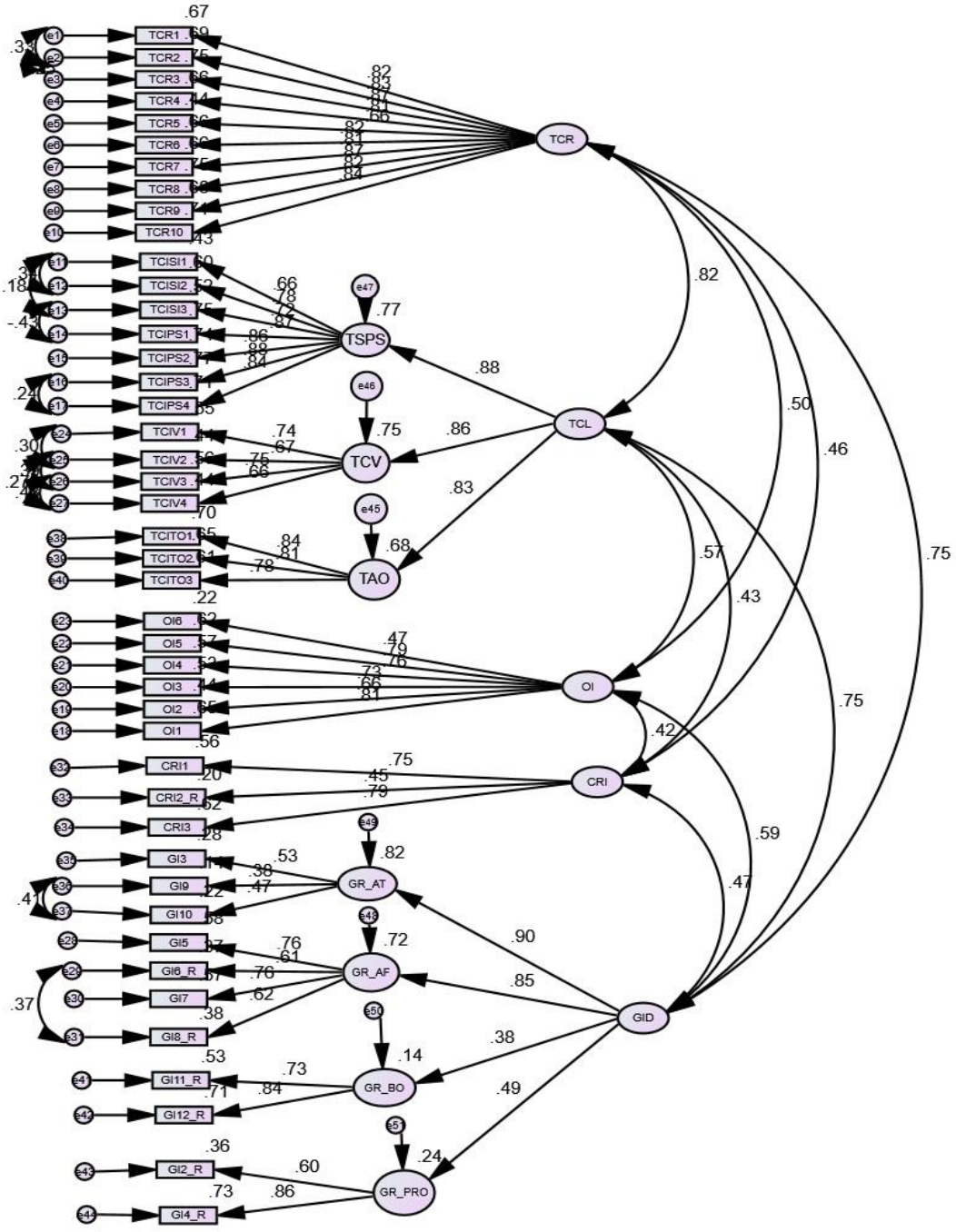

Figure 3.10: Second-order five-factor measurement model (TCR: Team Creativity; TCL: Team Creativity Climate; OI: Organizational Identity; CRI: Creative Role Identity; GID: Group Identity)

Table 3.19: Mediation Analysis: X (Independent Variables: Group Identity Diversity; Organizational Identity Diversity; Creative Role Identity Diversity)**, M (Mediator Variable:** Team Creativity Climate**) and Y (Dependent Variable:** Team Creativity**) (n=73)**

		Mediator(M) Team Climate				Dependent Variable(Y) Team Creativity		
		Coeff.	*SE*	*P*		Coeff.	*SE*	*P*
Control								
C_1 (Age-diversity)		-.003	.03	.91		-.02	.02	.41
C_2(Gender-diversity)		.33	.43	.44		-.29	.33	.38
C_3(Language-diversity)		-.32	.31	.30		.38	.23	.11
C_4(Tenure)		-.008	.006	.22		-.008	.005	.09
X (GI_D)	***a***	-.69	.26	<.05	**c'**	-.16	.21	.42
M(Team Climate)		_	_	_	***b***	.35	.09	<.001
		R^2= .15				R^2= .29		
		$F(5,67) = 2.49$, p<.05				$F(6,66) = 4.62$, p<.01		
Control								
C_1 (Age-diversity)		.01	.03	.70		-.02	.02	.41
C_2(Gender-diversity)		.26	.43	.54		-.31	.33	.34
C_3(Language-diversity)		-.31	.31	.31		.34	.23	.15
C_4(Tenure)		-.01	.006	.06		-.008	.005	.11
X (OI_D)	***a***	-.33	.14	<.05	**c'**	.09	.11	.40
M(Team Climate)		-	-	-	***b***	.39	.09	<.01
		R^2= .13				R^2= .29		
		$F(5,67) = 2.10$, p <.05				$F(6,66) = 4.6$, p <.001		
Control								
C_1 (Age-diversity)		.02	.03	.45		-.02	.02	.40
C_2(Gender-diversity)		.37	.43	.38		-.33	.33	.32
C_3(Language-diversity)		-.49	.30	.10		.38	.24	.11
C_4(Tenure)		-.01	.006	.12		-.008	.005	.09
X (CRI_D)	***a***	-.51	.17	<.001	**c'**	.07	.14	.58
M(Team Climate)		-	--	-	***b***	.39	.09	p <.001
		R^2= .17				R^2= .29		
		$F(5,67) = 2.8$, p <.05				$F(6,66) = 4.5$, p <.001		

GI_D = Group Identity Diversity; OI_D = Organizational Identity Diversity; CRI_D = Creative Role Identity Diversity

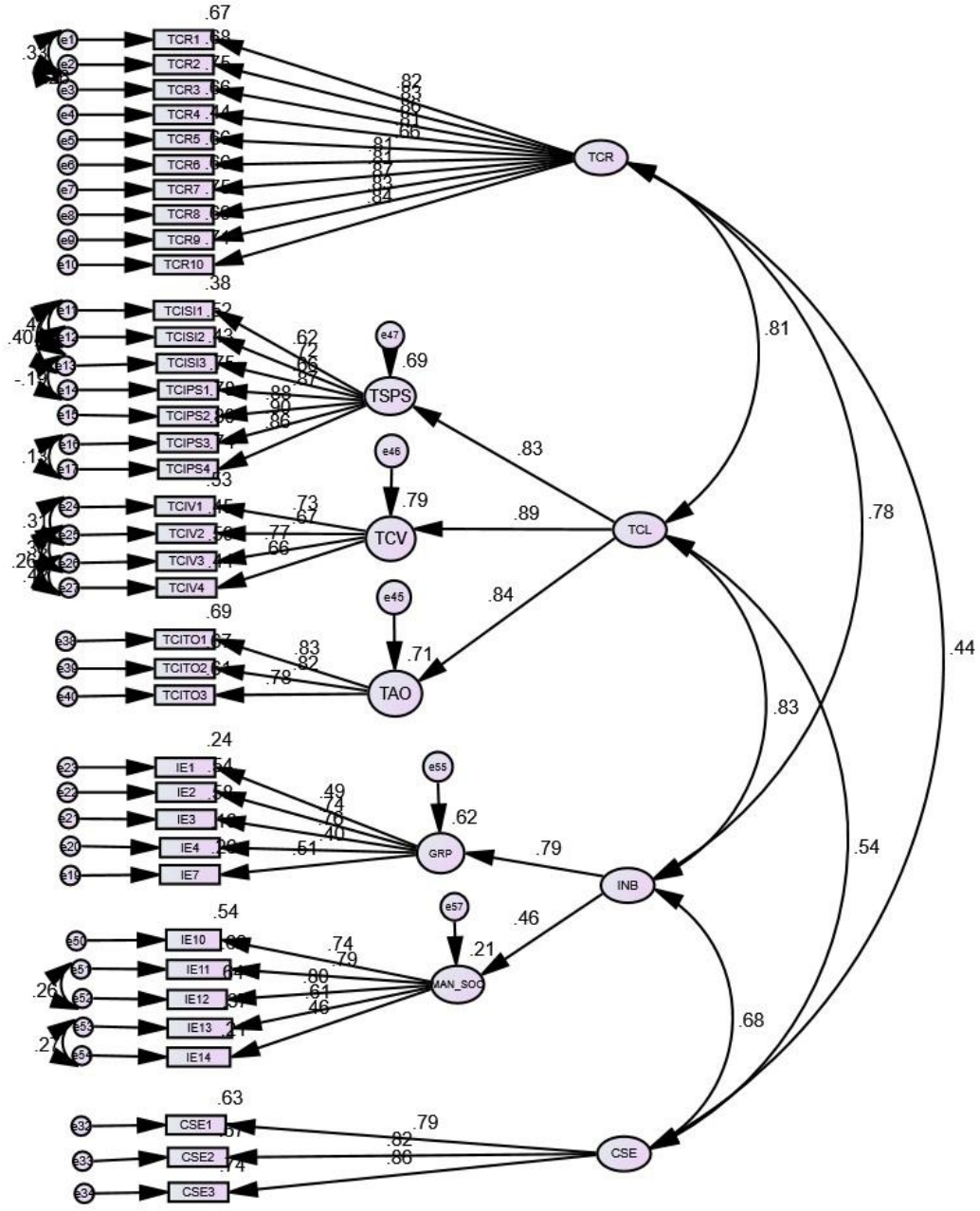

Figure 3.11: Second-order four-factor measurement model (TCR: Team Creativity; TCL: Team Creativity Climate; INB: Inclusion Beliefs; CSE: Creative Self-Efficacy)

Table 3.20: Mediation Analysis: X (Independent Variable: Inclusion Beliefs Diversity; Creative Self-Efficacy Diversity**), M (Mediator Variable:** Team Creativity Climate**) and Y (Dependent Variable:** Team Creativity**) (n=73)**

		Mediator(M) Team Climate				Dependent Variable(Y) Team Creativity		
		Coeff.	*SE*	*p*		Coeff.	*SE*	*P*
Control								
C_1 (Age-diversity)		.003	.03	.91		-.01	.02	.65
C_2(Gender-diversity)		.11	.43	.44		-.29	.28	.37
C_3(Language-diversity)		-.26	.31	.39		.34	.20	.30
C_4(Tenure)		-.008	.006	.17		-.009	.004	.08
X (IB_D)	***a***	-.81	.27	<.001	**c'**	.12	.19	.46
M(Team Climate)		-	-	-	***b***	.39	.08	<.001
		R^2 = .18				R^2 = .29		
		$F(5,67)$ = 2.9, p <.001				$F(6,66)$ = 4.54, p <.001		
Control								
C_1 (Age-diversity)		-.002	.03	.93		-.01	.02	.49
C_2(Gender-diversity)		.08	.38	.83		-.29	.33	.38
C_3(Language-diversity)		-.43	.27	.11		.38	.23	.10
C_4(Tenure)		-.006	.005	.26		-.009	.005	.07
X (CSE_D)	***a***	-.90	.17	<.01	**c'**	-.01	.15	.92
M(Team Climate)		-	-	-	***b***	.43	.09	<.001
		R^2 = .33				R^2 = .29		
		$F(5,67)$ = 6.69, p <.001				$F(6,66)$ = 4.68, p <.001		

IB_D = Inclusion Beliefs Diversity; CSE_D = Creative Self-Efficacy Diversity

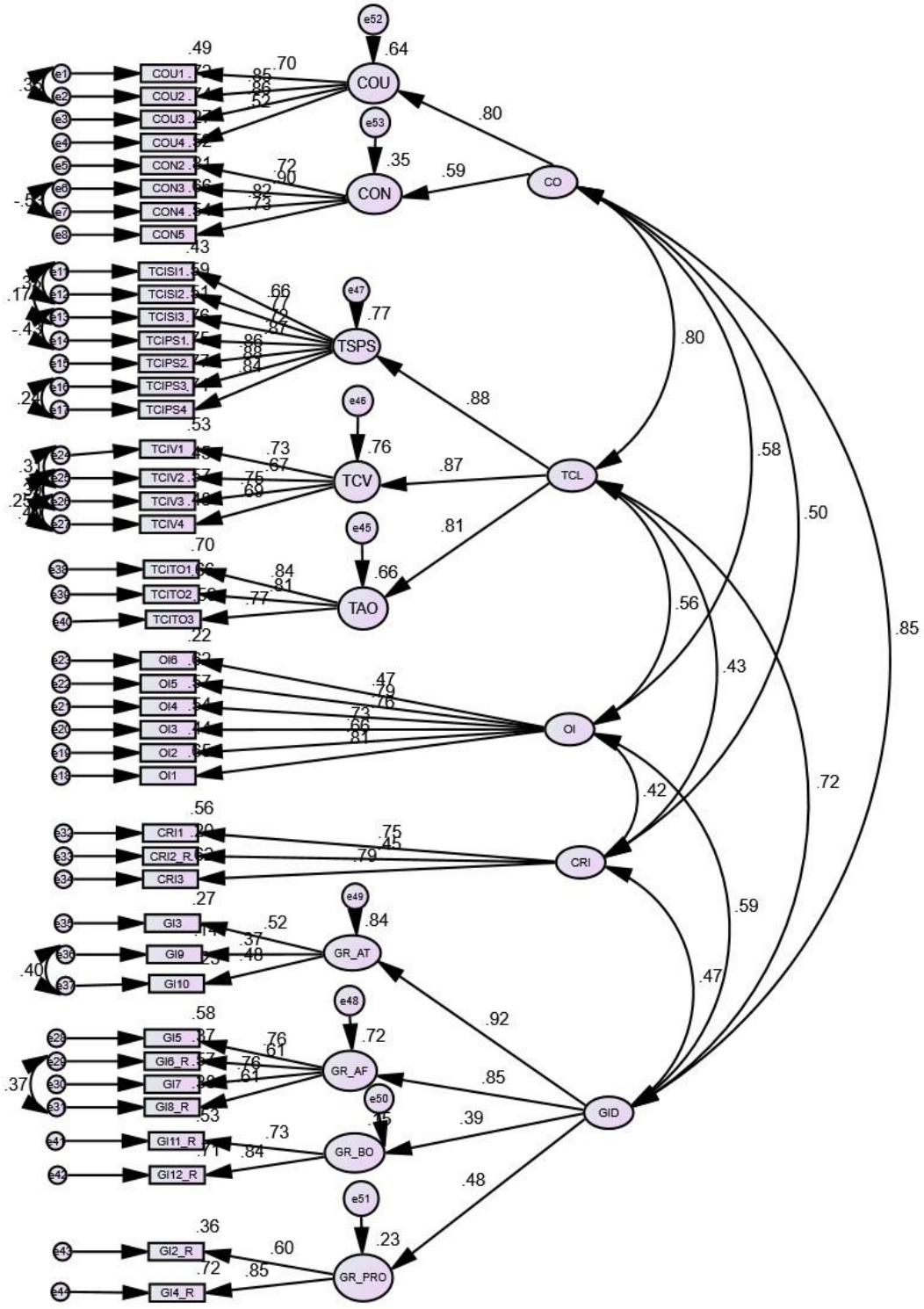

Figure 3.12: Second-order five-factor measurement model (CO: Team Creativity Output; TCL: Team Creativity Climate; OI: Organizational Identity; CRI: Creative Role Identity; GID: Group Identity)

Table 3.21: Mediation Analysis: X (Independent Variables: Group Identity; Organizational Identity; Creative Role Identity**), M (Mediator Variable:** Team Creativity Climate**) and Y (Dependent Variable:** Team Creativity Output**) (n=73)**

		Mediator(M) Team Climate				Dependent Variable(Y) Team Creativity Output		
		Coeff.	*SE*	*p*		Coeff.	*SE*	*P*
Control								
C_1 (Age-diversity)		-.003	.03	.91		-.02	.02	.41
C_2(Gender-diversity)		.33	.43	.44		-.29	.33	.38
C_3(Language-diversity)		-.32	.31	.30		.38	.23	.11
C_4(Tenure)		-.008	.006	.22		-.008	.005	.09
X (GI_D)	***a***	-.69	.26	<.05	**c'**	-.16	.21	.42
M(Team Climate)		_	_	_	***b***	.35	.09	<.001
		R^2= .15				R^2= .29		
		$F(5,67) = 2.49$, $p<.05$				$F(6,66) = 4.62$, $p<.01$		
Control								
C_1 (Age-diversity)		.01	.03	.70		-.02	.02	.41
C_2(Gender-diversity)		.26	.43	.54		-.31	.33	.34
C_3(Language-diversity)		-.31	.31	.31		.34	.23	.15
C_4(Tenure)		-.01	.006	.06		-.008	.005	.11
X (OI_D)	***a***	-.33	.14	<.05	**c'**	.09	.11	.40
M(Team Climate)		-	-	-	***b***	.39	.09	<.01
		R^2= .13				R^2= .29		
		$F(5,67) = 2.10$, $p<.05$				$F(6,66) = 4.6$, $p<.001$		
Control								
C_1 (Age-diversity)		.02	.03	.45		-.02	.02	.40
C_2(Gender-diversity)		.37	.43	.38		-.33	.33	.32
C_3(Language-diversity)		-.49	.30	.10		.38	.24	.11
C_4(Tenure)		-.01	.006	.12		-.008	.005	.09
X (CRI-D)	***a***	-.51	.17	<.001	**c'**	.07	.14	.58
M(Team Climate)		-	--	-	***b***	.39	.09	$p<.001$
		R^2= .17				R^2= .29		
		$F(5,67) = 2.8$, $p<.05$				$F(6,66) = 4.5$, $p<.001$		

GI_D = Group Identity Diversity; OI_D = Organizational Identity Diversity; CRI_D = Creative Role Identity Diversity

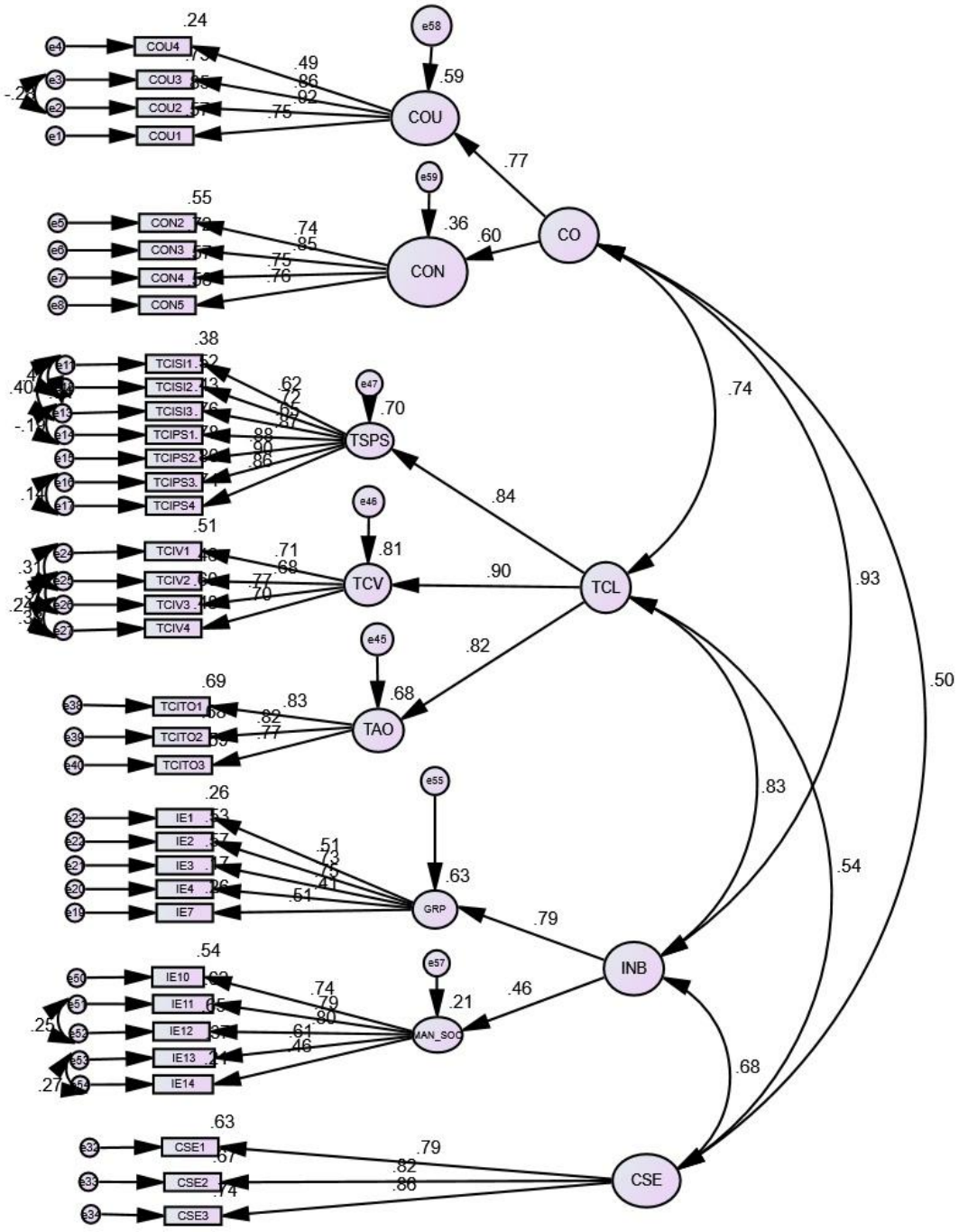

Figure 3.13: Second-order four-factor measurement Model (CO: Team Creativity Output; TCL: Team Creativity Climate; INB: Inclusion Beliefs; CSE: Creative Self-Efficacy)

Table 3.22: Mediation Analysis: X (Independent Variable: Inclusion Beliefs Diversity; Creative Self-Efficacy Diversity**), M (Mediator Variable:** Team Creativity Climate**) and Y (Dependent Variable:** Team Creativity Output**) (n=73)**

		Mediator(M) Team Climate				Dependent Variable(Y) Team Creativity Output		
		Coeff.	*SE*	*p*		Coeff.	*SE*	*P*
Control								
C_1 (Age-diversity)		.003	.03	.91		-.01	.02	.65
C_2(Gender-diversity)		.11	.43	.79		-.23	.28	.42
C_3(Language-diversity)		-.26	.31	.39		.19	.20	.34
C_4(Tenure)		-.008	.006	.17		-.009	.004	.03
X (IB_D)	***a***	-.81	.27	<.001	**c'**	.14	.19	.46
M(Team Climate)		-	-	-	***b***	.45	.08	<.001
		R^2 = .18				R^2 = .40		
		$F(5,67)$ = 2.9, p <.001				$F(6,66)$ = 7.5, p <.001		
Control								
C_1 (Age-diversity)		-.002	.03	.93		-.01	.02	.62
C_2(Gender-diversity)		.08	.38	.83		-.25	.28	.38
C_3(Language-diversity)		-.43	.27	.11		.21	.20	.30
C_4(Tenure)		-.006	.005	.26		-.009	.005	.07
X (CSE_D)	***a***	-.90	.17	<.01	**c'**	-.01	.15	.92
M(Team Climate)		-	-	-	***b***	.43	.09	<.001
		R^2 = .33				R^2 = .40		
		$F(5,67)$ = 6.69, p <.001				$F(6,66)$ = 7.39, p <.001		

IB_D = Inclusion Beliefs Diversity; CSE_D = Creative Self-efficacy Diversity

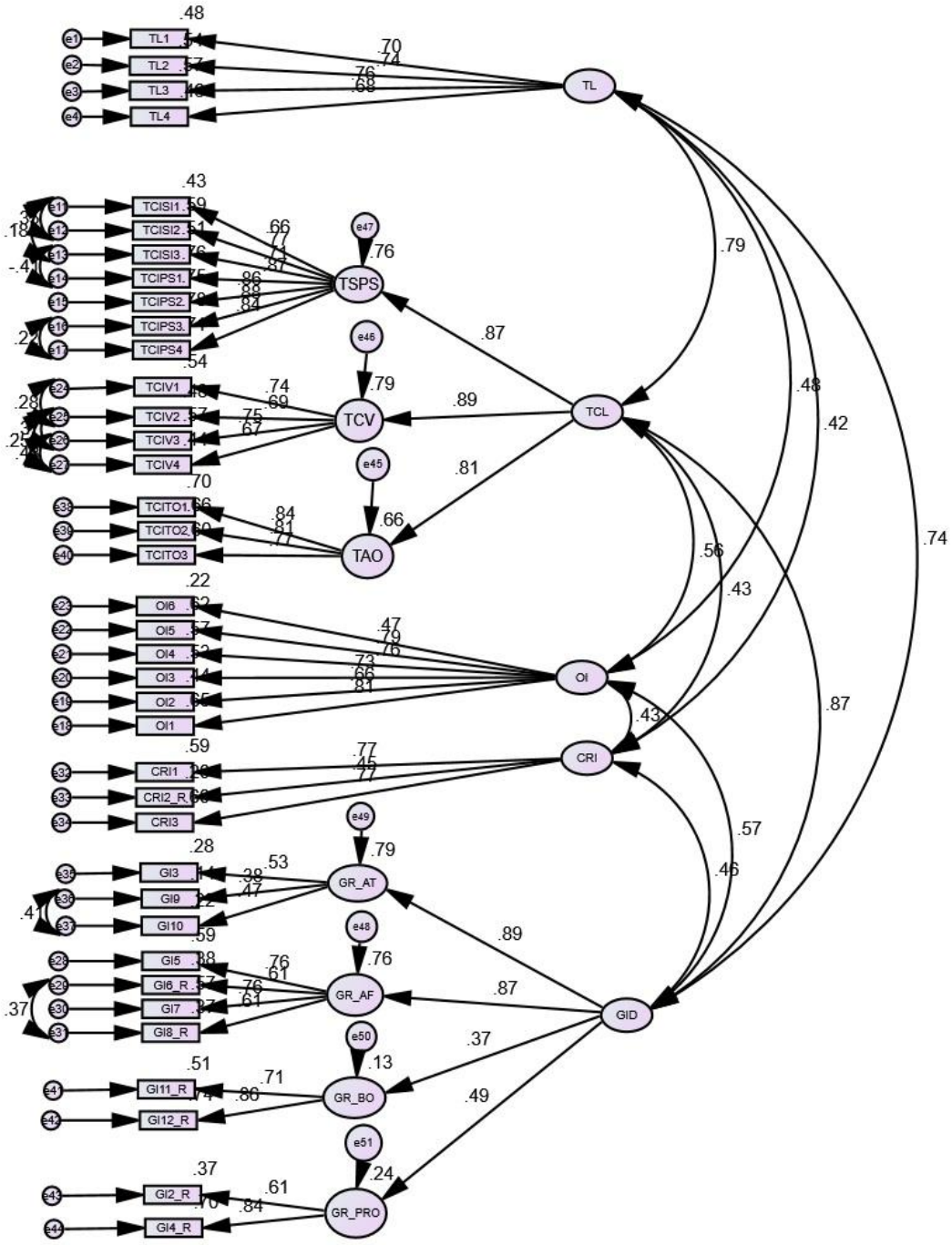

Figure 3.14: Second-order five-factor Measurement Model (TL: Team Learning Climate; TCL: Team Climate; OI: Organizational Identity; CRI: Creative Role Identity; GID: Group Identity)

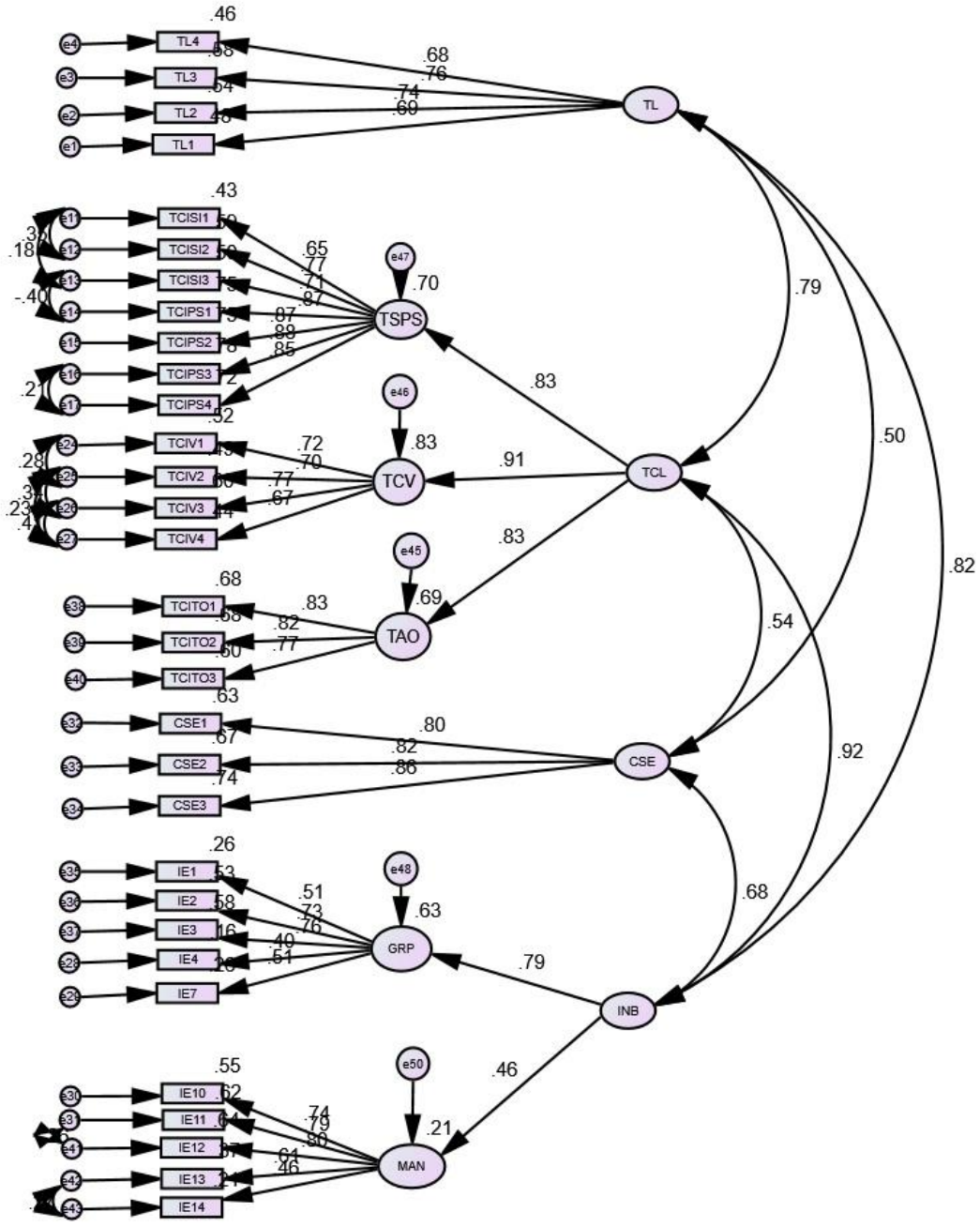

Figure 3.15: Second-order four-factor Measurement Model (TL: Team Learning Climate; TCL: Team Creativity Climate; INB: Inclusion Beliefs; CSE: Creative Self-Efficacy)

Table 3.23: Mediation Analysis: X (Independent Variables: Group Identity Diversity; Creative Self-Efficacy Diversity; Inclusion Beliefs Diversity**), M (Mediator Variable:** Team Learning Climate**) and Y (Dependent Variable:** Team Creativity Climate**) (n=73)**

		Mediator (M) Team Learning Climate				Dependent Variable (Y) Team Creativity		
		Coeff.	*SE*	*p*		Coeff.	*SE*	*P*
Control								
C_1 (Age-diversity)		-.001	.03	.97		-.02	.02	.41
C_2(Gender-diversity)		.22	.41	.59		-.29	.33	.38
C_3(Language-diversity)		.02	.30	.94		.38	.23	.11
X (GI_D)	***a***	-.55	.26	<.05	**c'**	-.34	19	.07
M(Team Climate)		_	_	_	***b***	.70	.08	<.001
		R^2= .06				R^2= .55		
		$F(4,68) = 1.19$, p =.31				$F(5,67) = 17.01$, p <.01		
Control								
C_1 (Age-diversity)		.001	.03	.97		-.01	.03	.63
C_2(Gender-diversity)		-.01	.38	.96		.20	.29	.49
C_3(Language-diversity)		-.07	.28	.80		-.37	.21	.08
X (CSE_D)	***a***	-.76	.17	<.001	**c'**	.-.45	.15	<.01
M(Team Climate)		-	-	-	***b***	.61	.09	<.01
		R^2= .21				R^2= .59		
		$F(4,68) = 4.70$, p <.001				$F(5,67) = 19.43$, p <.001		
Control								
C_1 (Age-diversity)		.004	.03	.90		-.009	.02	.68
C_2(Gender-diversity)		.06	.42	.88		.21	.30	.47
C_3(Language-diversity)		.06	.30	.84		-.27	.22	.21
X (IB_D)	***a***	-.61	.27	<.05	**c'**	.07	.14	.58
M (Team Climate)		-	--	-	***b***	.39	.09	p <.001
		R^2= .07				R^2= .56		
		$F(4,67) = 1.34$, p =.26				$F(5,67) = 17.47$, p <.001		

GI_D = Group Identity Diversity; CSE_D = Creative Self-Efficacy Diversity; IB_D = Inclusion Beliefs Diversity

Table 3.24: Summary of Hierarchical Regression Analysis: Task Interdependency (TD) as a Moderator in the Relationship Between Group Identity Diversity and Team Learning Climate (n=73)

	Team Learning Climate			
	Step 1	*Step 2*	*Step 3*	*Step 4*
Age Diversity	.019	-.004	-.004	-.02
Gender Diversity	.06	.06	.06	.08
Language Diversity	-.02	.009	-.00	-.02
Group-Identity Diversity (GI_D)		-.25*	-.24*	.-.22**
TD			.19	.12
GI_D × TD				.29**
R^2	.003	.066	.10	.19
ΔR^2		.063	.04	.09
F	.08	1.19	1.52	2.07*

Note: Standardized beta-coefficients are reported.

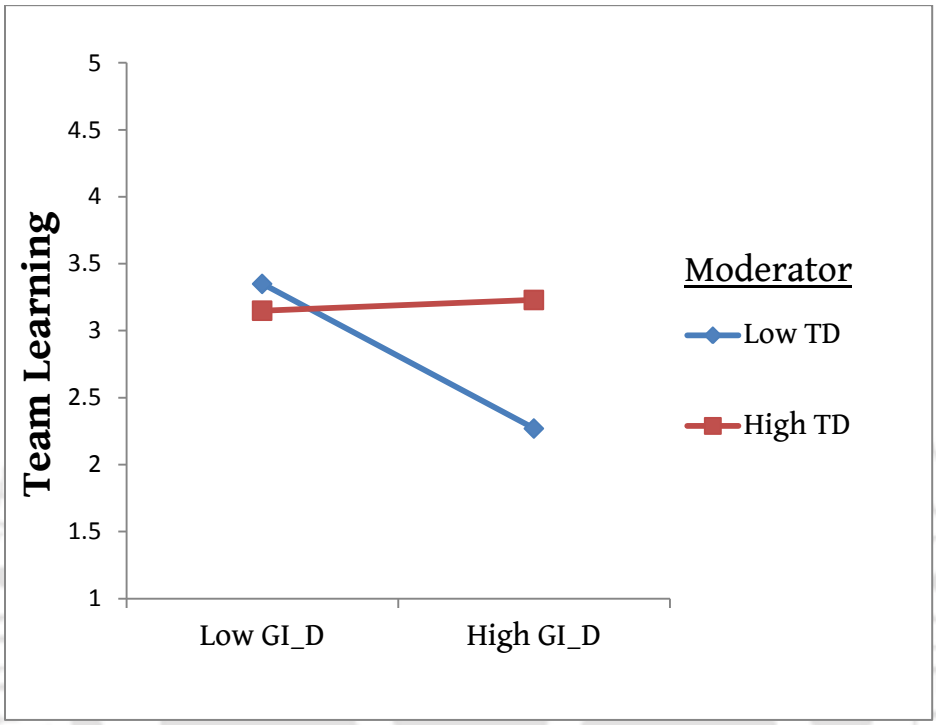

Figure 3.16: Effect of Group Identity Diversity on Team Learning Climate at different levels of Task Interdependency

GI_D = Group Identity Diversity; TD = Task Interdependency

Table 3.25: Summary of Hierarchical Regression Analysis: Task Interdependency (TD) as a Moderator in the Relationship Between Inclusion Beliefs Diversity and Team Learning Climate (n=73)

	Team Learning Climate			
	Step 1	*Step 2*	*Step 3*	*Step 4*
Age Diversity	.019	-.035	-.035	-.019
Gender Diversity	.06	.015	.014	.014
Language Diversity	-.02	.05	.03	.001
Inclusion Beliefs Diversity (IB_D)		-.38*	-.37*	-.29*
TD			.19	.21
IB_D × TD				.26*
R^2	.003	.14	.17	.24
ΔR^2		.13	.03	.07
F	.08	2.80*	2.89*	3.46**

Note: Standardized beta-coefficients are reported.

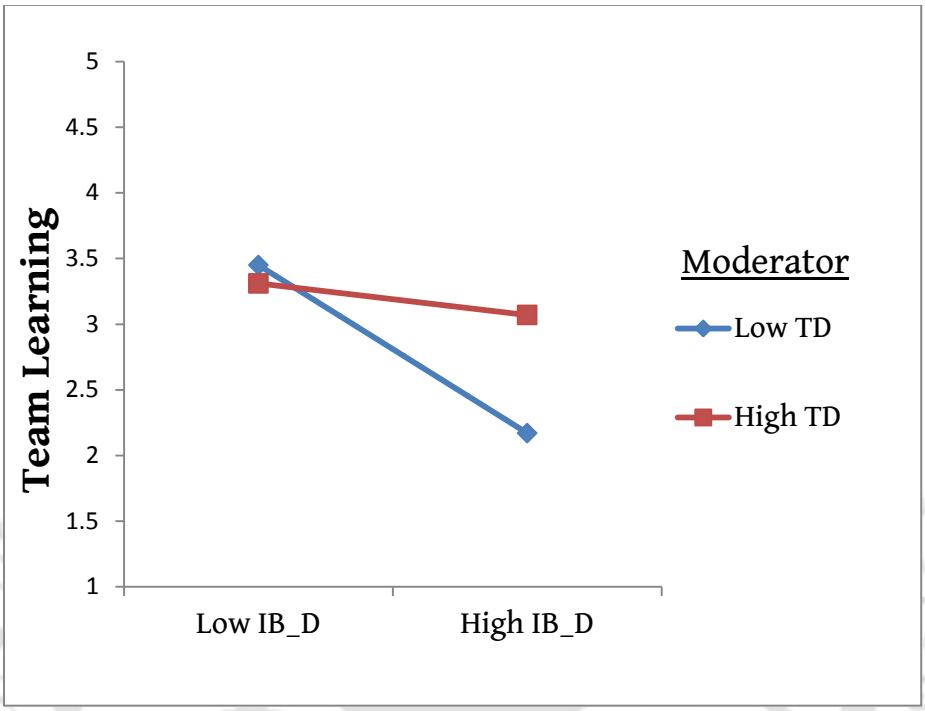

Figure 3.17: Effect of Inclusion Beliefs Diversity on Team Learning Climate at different levels of Task Interdependency

IB_D = Inclusion Beliefs Diversity; TD = Task Interdependency

Table 3.26: Summary of Hierarchical Regression Analysis: Task Interdependency (TD) as a Moderator in the Relationship Between Creative Self-Efficacy Diversity and Team Learning Climate

	Team Learning Climate			
	Step 1	*Step 2*	*Step 3*	*Step 4*
Age Diversity	.019	.004	.004	.01
Gender Diversity	.06	.-.005	-.002	.03
Language Diversity	-.02	.027	-.03	-.04
Creative Self-Efficacy Diversity (CSE_D)		-.46**	-.44**	-.32
TD			.09	.11
CSE_D × TD				.23*
R^2	.003	.21	.22	.26
ΔR^2		.20	.01	.06
F	.08	4.7**	1.66**	2.68**

Note: Standardized beta-coefficients are reported.

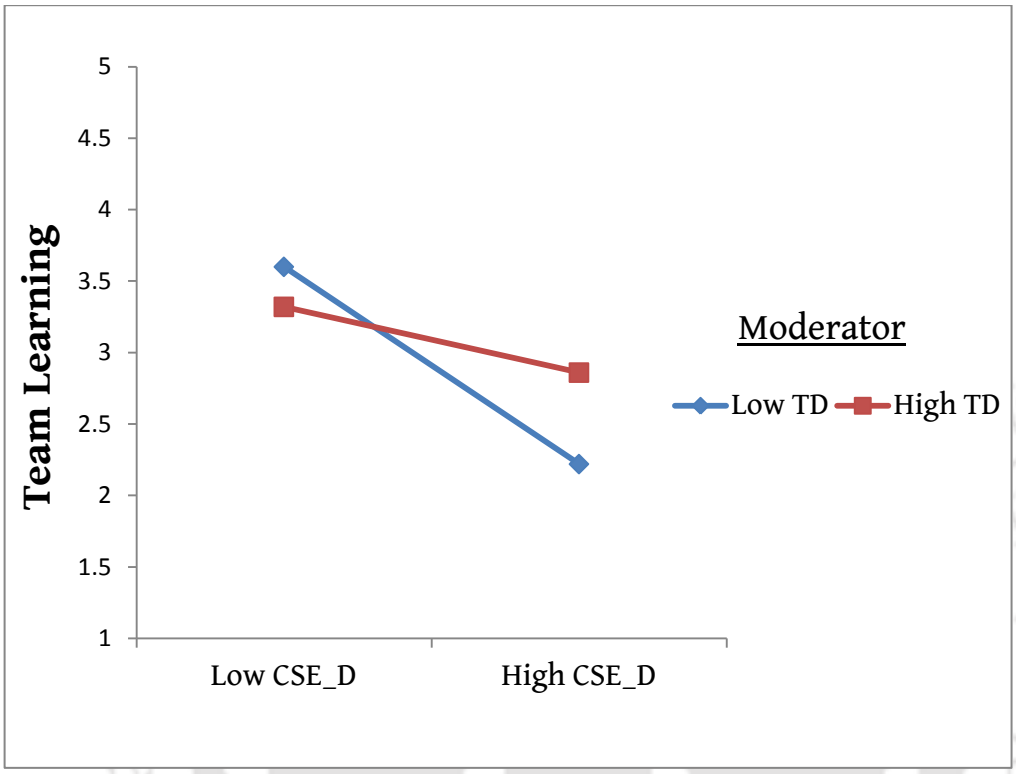

Figure 3.18: Effect of Creative Self-efficacy Diversity on Team Learning Climate at different levels of Task Interdependency

CSE_D = Creative Self-Efficacy Diversity; TD = Task Interdependency

Table 3.27: Moderated Path Analysis: X (Independent Variable: Group Identity Diversity**), M (Mediator Variable:** Team Learning**), Y (Dependent Variable: Team Creativity Climate)** and **Z (Moderator Variable:** Task Interdependency**) (n=73)**

	Path : GI_D (X) ⟶ TL (M) ⟶ TC (Y)			
	Stage		Effect	
	First	Second	Direct	Indirect
	P_{MX}	P_{YM}	P_{YX}	$P_{MX} \times P_{YM}$
Moderator variable (Z): TD				
Low TD (mean - 1 s.d.)	-1.19** [-2.8, -.15]	.70**	-.35	-.83** [-1.5, -.09]
High TD (mean + 1 s.d.)	.11 [-.62, .83]	.70**	-.35	.07 [-.46,.58]
Differences between High and Low	1.3* [.35,.21]	0	0	.90* [.21, 1.5]

GI_D = Group Identity Diversity; TL = Team Learning Climate; TC: Team Creativity Climate; TD = Task Interdependency

Note: Bootstrap confidence interval is reported in brackets [ ].

Table 3.28: Moderated Path Analysis: X (Independent Variable: Inclusion Beliefs Diversity**), M (Mediator Variable:** Team Learning**), Y (Dependent Variable:** Team Creativity Climate**)** and **Z (Moderator Variable:** Task Interdependency**) (n = 73)**

	Path: IB_D (X) ⟶ TL (M) ⟶ TC (Y)			
	Stage		Effect	
	First	Second	Direct	Indirect
	P_{MX}	P_{YM}	P_{YX}	$P_{MX} \times P_{YM}$
Moderator variable: TD				
Low TD (mean - 1 sd)	-1.1** [-1.9, -.45]	.70**	-.47*	-.77** [-1.4, -.20]
High TD (mean + 1 sd)	.20 [-.62, .83]	.70**	-.47*	.14 [-.37, .62]
Differences between High and Low	1.25** [.13,2.5]	0	0	.86** [.09, 1.7]

IB_D = Inclusion Beliefs Diversity; TL = Team Learning Climate; TC: Team Creativity Climate; TD = Task Interdependency

Note: Bootstrap confidence interval is reported in brackets [ ].

Table 3.29: Moderated Path Analysis: X (Independent Variable: Creative Self-Efficacy Diversity**), M (Mediator Variable:** Team Learning**), Y (Dependent Variable:** Team Creativity Climate**)** and **Z (Moderator Variable:** Task Interdependency**) (n = 73)**

	Path: CSE_D (X) ⟶ TL (M) ⟶ TC (Y)			
	Stage		Effect	
	First	Second	Direct	Indirect
	P_{MX}	P_{YM}	P_{YX}	$P_{MX} \times P_{YM}$
Moderator variable: TD				
Low TD (mean - 1 sd)	-.85** [-1.4, -.37]	.70**	-.45*	-.51** [-.92, -.21]
High TD (mean + 1 sd)	.20 [-.06, .95]	.70**	-.45*	.12 [-.04, .74]
Differences between High and Low	1.05** [.52,4.5]	0	0	.63** [.24, 2.8]

CSE_D = Creative Self-efficacy Diversity; TL = Team Learning Climate; TC: Team Creativity Climate; TD = Task Interdependency

Note: Bootstrap confidence interval is reported in brackets [ ].

Chapter 4

General Discussion

Chapter 2 and Chapter 3 have reported Study 1 and Study 2 respectively, which aimed to answer the research questions raised in Chapter 1. Table 4.1 gives a complete summary of all the hypotheses formulated in Study 1 and Study 2 along with the results of their testing. The present Chapter 4 will present an amalgamated general discussion of the findings of Study 1 and Study 2. Moreover, the relevance of such findings in the Indian business context with a critical analysis of Indians' psycho-social characteristics that play a role in their work values is also discussed.

India - A Creative Nation?

In the context of India's growth and innovation potential, Prof. A.P.J. Abdul Kalam noted - "*Scarcity of resources is not the cause of [India's] problem. Our problems originate in our approach towards them*" (Kalam, 2014).

It is interesting to find out that India although being a highly diversified country in terms of workforce demographics, ranks low on global talent and very low on diversity tolerance (Martin Prosperity Institute, 2015). The overall position of India on the creativity index is 99 among 139 countries surveyed (Martin Prosperity Institute, 2015). The excerpt of another creativity survey report says "*India is ranked 14th out of 24 economies overall, with a medium level of creative productivity. In terms of inputs, India lags behind in the knowledge-skill base, which reflects the need for further investments in physical infrastructure and human capital*" (The Economist Intelligence Unit, 2014, p. 27). However, a marginal progress has been observed recently in terms of innovation index where India has jumped to the 57th position from the 60th position out of 126 countries surveyed (WIPO, 2018). India ranked low (75th position) on overall creative output where it lags in the development of intangible assets, creation of creative goods and services, and online creativity.

All the countries having high creativity indices demonstrate a high diversity tolerance (e.g., Australia, USA, Canada). Though Scandinavian countries are relatively homogeneous within, demonstrate high diversity tolerance. It indicates in a way that they have mastered the art of collaborative work where building an inclusive work culture is the key determinant. On the other hand, India ranks low on diversity tolerance. The deep rooted values, beliefs and attitudes of Indians are enmeshed with their caste and religious identities - the two social identities enforced on an individual by birth. Caste system in India had invariably created a social stratification based on traditional occupations, language and social practices. Moreover, according to Chandavarkar (1994), labour migration to Indian industrial sectors was influenced under the framework of caste, kinship and personal connections. An indivisible social network based on caste and kinship was predominant in the work culture of urban working class (Afridi, Dhillon, Li, & Sharma, 2017). The affinity-driven work mindset might have led most Indians to develop an interdependent-self to yield to in-group's goals, relate to others emotionally and follow social norms.

The collectivistic behaviours of Indians demonstrate their shared needs and values, fraternal attitude toward each other and the desire to maintain reciprocal affectivity (Sinha, 1984). However, the Indian model of "*a man*" also put strong emphasis on individualism. According to Tripathi (1988), "*Individualism and collectivism (in India) act like figure and ground. Depending on the situations, one rises to form the figure while the other recedes into the background*" (pp. 324-325). Therefore, in uncertain situations (e.g., negative climate of creativity), adherence to in-group members is a preferred choice where the interdependent-self seeks similar attitude bearing co-workers' support and kinship. In the present research, Study 1 findings supported such idiosyncrasies of Indian "mindset" where it was observed that deep-level homogenous group perceived better team creative output under negative climate condition than deep-level heterogeneous group. However, under a positive climate, both homogeneous and heterogeneous group had perceived equally high creative outputs. The glimpses of Indian creative achievements can be observed off-late in the space exploration conducted by ISRO (Indian Space Research Organization). It was earlier reported by Jacob (1998) that the members in Sensor Systems Division and Sensor Electronics Division of ISRO perceived a

high creativity climate and individual motivation as compared to Marine and Water Resources Division. Therefore, a climate which fosters creativity and tends to preserve team members orientation irrespective of environmental conditions can nurture a creative team, department or an organization (Jacob, 1998).

Collaborative Team Work - A Myth?

According to a Times of India (2015) newspaper report, a global survey by a leading consulting firm revealed that only 17% of Indian executives demonstrated strong abilities to work in teams as compared to 28% Americans. The consultants concluded that Indian executives are keen to demonstrate individual achievements and accomplishments which often get priority over team needs. Pandey and Pattnaik (2016) have listed out few challenges faced by teams working in Indian IT firms. Out of all the challenges, few like "Certain team member does not want to work but wants the recognition", "some team members do not agree to a proposal or idea that is accepted by majority of the team members" and "Some members felt that they had contributed more than the other" find relevance in the current discussion.

Conflict between Deep Diversity and Team Creativity

Identities are formed in an individual out of his/her basic psychological need for autonomy, competence and relatedness. People tend to get attached to others where they can maintain their identities and beliefs. Any difference with others related to the deep attributes pose a threat to his/her identity. Team differences can manifest when one (in a small team or few members in a large team) experiences that a) his/her (their) contribution in the team is far more or less than others; b) some members do not want to work but need recognition; c) Some members do not finish the given task on time or finishes work before deadlines putting others in pressure; d) few members are only expected to produce creative or novel work; e) few members are only important and they get undue advantages or favours from the upper management; f) differential allocation of workload; and g) team is pursuing different objectives and goals. Moreover, surface diversity in team can also influence deep diversities. It was

revealed from the findings of study 2 that team members balanced the cognitive dissonance (generated by surface diversity) by adjusting their *task-related* deep diversities with other members. However, no significant correlations between tenure and diversity variables (surface and deep-level) in the study were found except perceived gender diversity in a team (r = -.33, p < .001). This indicates that as time passes by, perceived gender homogeneity in a gender diverse team can be observed.

In Study 2, the negative relation seen between surface diversity and task-related deep diversity (creative role identity and creative self-efficacy) indicated that under high task variety condition, as surface diversity increased in a team, *task* based deep diversity decreased. On the contrary, under high task variety, lack of cognitive dissonance in members allowed surface diversity to positively influence *relationship* based deep diversity variables like group identity and organizational identity. In such cases, as surface diversity increased in a team, relationship based deep diversity increased. These results are in similar line with Sinha (2014), who argued that Indians have high sensitivity toward threats and opportunities and can organize their thoughts as well as behaviour to serve individual or collective interests and goals. Therefore, 'task-related' potential benefits from others are sensed quickly in situations where high unpredictable events define the task at hand. Drawing on the above logic, team members balanced the cognitive dissonance (generated by surface diversity) by adjusting their *task-related* deep diversities with other members.

In Study 2, it was found that at the team level, deep diversity (except for group identity and inclusion beliefs) did not have direct effects on team creativity or creativity output. The researcher argues that divergence effects (team diversity effects) can only be directed to any outcome through some convergent process (here shared perception of team climate) which binds the actions of differences into a whole. All the deep-diversity effects on team creativity and output were found to be mediated by team creativity climate. Group affect came out as a salient group-identity dimension, the differences of which among team members can negatively influence the perception of task orientation. Study 2 has also revealed that in a team where group affect differences among members are

increased, a shared perception of excess control over one's work by others was perceived. This, in turn, impeded team creativity and creativity output. As indicated in Identity Instrumentality Hypothesis that organizational identity affects some aspects of team functioning, it was found that such differences had detrimental effects on team creativity through negative perception of team's creativity support and communal feeling. The differences created a shared mental model of less supportive and helpful co-workers who are unlikely to take personal interests or risks in attaining team goals.

It has been observed that a shared perception of co-operative behaviour in a team is instrumental to achieve quality of products/services produced by the team (Mesmer-Magnus et al., 2018). Through this instrumentality-output chain, team members fulfil their need for value and identity maintenance. The negative indirect relationships found between identity diversity variables (organizational identity, group identity and creative role identity) and team's creative output through team climate provided strong evidence that the positive instrumentality chain was broken due to identity differences. The differences in Identities - the fundamental blocks of one's' perceived uniqueness, when observed at team level, can create a shared perception of negative team climate, which in turn, can induce a negative perception about the team's output. It is interesting to observe that identity differences negatively influenced team members' perception on the uniqueness (novelty aspect) of the team's creative output. It has been posited by Simonton (1999) that novelty of a product/idea is related to the degree of its variation (uniqueness) while usefulness is conceived as the appropriate selection of the product/idea. This is interesting to note that identity differences of team members may pose a threat to the perceived team's uniqueness which manifests in their negative perception of novelty dimension of the team outcome. Similarly, differences in beliefs (inclusion beliefs and creative self-efficacy beliefs) in a team gave rise to a shared perception of team's incompetency or misfit in handling creative tasks, which in turn, manifested in the in the negative perception about the usefulness dimension of the team outcome.

According to Sundgren et al. (2005), learning culture of an organization positively affects organizational creativity climate. In a similar vein, study 2 has

also observed a positive relationship between team learning climate and team climate of creativity. It implies that the nurturing process of knowledge generation, acquisition, retention and sharing helps to create a strong climate of creativity. Though a handful of research indicates that diverse perspectives within a team enhances team performance through information sharing, it is equally possible that the positive effect may be reduced or even reversed when diversity dimensions such as gender, personality differences, or attitudes come into play (Homan, van Knippenberg, Van Kleef, & De Dreu, 2007). Intergroup conflict provoked by diversity may result in "closing of the mind" to gain knowledge or share information to diverse others. Moreover, such detrimental effects of knowledge sharing can occur when there is an in-compatability and incongruencies of the task information shared with the recipient's own beliefs and idiosyncrasies of the way(s) of doing that particular task (Cummings & Teng, 2003). Study 2 findings revealed that collaborative team learning got hampered due to the differences in team members' group identities, creative self-efficacy beliefs and inclusion beliefs. Differences in group affect among members can abate the development of friendship and trust which negatively affects knowledge acquisition and sharing. Based on the theory of planned behaviour (Ajzen, 1991) and perceived behavioural control (control over own behaviour to perform a task), it can be argued that the differences in creative self-efficacy beliefs among members, made some knowledgeable team members employ control over their intentions to share unique task knowledge. It is likely that because of their perceived differences with others, they might attribute other members' incapability or reluctance to acquire knowledge from them. On the other hand, team members having low creative self-efficacy, on observing little or no sharing of knowledge from important others perceived a weak learning environment. It was observed that when there were differences in inclusion beliefs, a negative perception of team learning can thrive. These negative effects of deep diversity on team learning climate evolved to form a shared perception of negative team creativity climate.

Team level deep diversities can adversely affect team's perception of autonomy over team related work and activities. Task interdependency moderated the relationship between deep diversity and team learning climate

such that a negative relation was observed in the condition of low task dependency and a positive relation was observed in case of high task dependency. Task interdependence triggers team members' need for interaction in order to complete the task (Comeau & Griffith, 2005). This indicates that in deep diversity condition, making the team task dependent on each member's contribution (increasing individual member's sense of autonomy to achieve group goals) can result in high team learning. However, in low task interdependency situation, instead of cooperative behaviours from team members, competitive behaviours may embark which can confer a high sense of autonomy to achieve independent goals. When such competitive behaviours interact with low task dependency, it facilitates the negative effects of diversity on team learning and consequently a negative shared perception of team creativity climate evolves.

The Road Toward Unity in Diversity

According to Sinha (2014), "[Indians] can behave collectively to serve individualistic interests and goals and individualistically to serve collectivistic interests and goals" (p. 42). Sinha and Tripathi (1994) also pointed that a mix of both collectivistic and individualistic elements can present in ones' behaviour. The benefits of a deep diverse team can be exploited by making the task highly interdependent so as to create a collectivistic intention where members can demonstrate individualistic behaviour but subsequently behave in a collectivistic way to serve the collectivistic purpose. It is true that Indians have high analytical capacity and posses a positive attitude toward science. These capabilities or attitudes can be channelized to create novel ideas, solutions, products or services. However, the key challenge lies in managing the conflicting ideologies of Indian value system which is predominantly collectivistic on the surface but has a strong internally competitive and low-team friendly attitude embedded (Inamdar, 2016). Surprisingly, a positive and supportive work condition nurtures competency motive among Indians that can drive entrepreneurial activities (Sinha, 2014). Indian workers preference changes depending on the nature of situations and expectations of important others. In a positive creativity climate, where "differentiation along with inclusion" is maintained, people appreciate and value merit, self-development and achievements. Therefore, the success *mantra* for

organizations in India is to create a balance between collectivistic values and individualistic competitive mindset. This very essence of an Indian's dualistic mindset and the way to tackle such mind has been succinctly presented in the book "Argumentative Indian" written by the well-known economist Amartya Sen. He asserted that India has a long tradition of skepticism and reasoning, with remarkable secular contributions in mathematics, astronomy, linguistics, medicine and political economy. Prof. Sen added that as in India *authority* is respected (and even feared), companies must find ways to exploit this innate characteristic and stimulate it with appropriate challenges.

Creative Orientation of Indian firms

It is surprising that India has rarely demonstrated any breakthrough innovations or critical technology transfer in the creativity space. It has positioned itself as a low labour cost service provider in the competitive business scenario. Most of the Indian firms, especially IT organizations act as low cost service providers to the developed countries and thus errors are expensive, dangerous and not tolerated in the workplace.

Creativity in Indian organizations tends to be largely incremental in nature (Iyer, LaPlaca, & Sharma, 2006), and closely fit the *Improve* profile in the creativity map developed by DeGraff and Lawrence (2002). The organizations under this profile need an internally focused systems and processes to develop creative solutions or products. According to DeGraff and Lawrence, modular design and development for creative works suits best for these organizations. To manage a diverse team, such organizations can break down a complex project or task into small interdependent tasks based on the skills required to design or develop that unit. The units are then to be allocated to appropriate members to execute. The homogeneity in domain specific skills among members can make the task-related dialogues short, simple, effortless and understandable. The nature of the task (task variety) can curtail the ill-effects of social diversity on task oriented deep diversity and the interdependency of the tasks can facilitate in developing a collaborative team learning environment suppressing the ill-effects of deep diversities based on identities and beliefs.

Table 4.1: Summary of the results of Hypotheses formulated in Study 1 and Study 2

Hypotheses	Path	Results
Study 1		
H1: Perceived deep level heterogeneity in a team impedes team's creative output while perceived deep level homogeneity in a team facilitates team's creative output.	*a* (Fig. 2.1)	Supported
H2: Perceived creativity climate of a deep level homogeneous team is higher than that of a deep-level heterogeneous team.	*b* (Fig. 2.1)	Supported
H3: Perceived creativity climate mediates the effect of team diversity on team's creative output.	*ab* (Fig. 2.1)	Supported
H4: The quality of perceived climate (positive and negative) moderates the relation between diversity and team creative output; In a positive climate condition both the deep-level homogeneous and heterogeneous groups have high creative output but in a negative climate condition, a heterogeneous team has much lower creative output than a homogeneous team.	*d* (Fig. 2.1)	Supported
Study 2		
H1A: Surface-level team diversity is positively related to deep-level diversity	*a* (Fig. 3.1)	Not supported
H1B: Surface-level team diversity interacts with task variety in such a way that under high task variety situation the positive influence of surface diversity on deep diversity gets diminished.	*b* (Fig. 3.1)	Partially supported
H2A: Team climate of creativity mediates the diversity effects of team members' identities on team creativity.	*cg* (Fig. 3.1)	Supported
H2B: Team climate of creativity mediates the diversity effects of team members' beliefs on team creativity.	*cg* (Fig. 3.1)	Supported
H2C: Team climate of creativity mediates the effects of identity diversity on team's creative output.	*ch* (Fig. 3.1)	Supported
H2D: Team climate of creativity mediates the effects of beliefs diversity on team's creative output.	*ch* (Fig. 3.1)	Supported
H3A: The negative effects of deep diversity on team's creativity climate are mediated through team learning climate.	*df* (Fig. 3.1)	Supported
H3B: Task interdependency moderates the relationship between deep diversity and team learning such that in a high task interdependency situation, the negative effects of diversity on team learning are reduced while in a low task interdependency situation, the negative effects are enhanced.	*e* (Fig. 3.1)	Supported
H3C: Task dependency moderates the mediating effect of team learning in the deep diversity and team climate relationship, such that the mediating effect is weaker when task dependency is higher and the mediating effect is stronger when task dependency is lower.	*e*-> *df* (Fig. 3.1)	Partially supported

Chapter 5

Conclusion, Contributions, Limitations and Directions for Future Research

"*Coming together is a beginning. Keeping together is progress. Working together is success*"- Henry Ford

Conclusion

Team formation, team collaboration and team performance are the few major concerns for modern business organizations when they encounter the challenges posed by creativity. In such scenarios, diversity management could be a key driver to steer the organizational performance. The present research has attempted to fill the diversity-creativity research gaps by understanding the underlying mechanisms in 1) the relation between surface-level diversity and deep-level diversity; 2) the effects of deep-level diversity on the team's creativity climate; and 3) the influence of creativity climate perception on team creativity. The present research tries to address the double-edged sword logic of diversity and creativity by arguing that it is the effect of a team's deep-level diversity on creativity climate that determines its creative performance. The researcher argues that a homogeneous group (surface-level) which is assumed to possess a high cohesion can demonstrate negative learning (due to deep-level heterogeneity, low task interdependency etc.). This negative learning, in turn, can result in a weak creativity climate perception leading to an unfavourable team outcome(s). On the other hand, high task interdependency can make a heterogeneous group (surface-level) perceive high learning climate (due to deep-level homogeneity and high task interdependency) which is likely to result in a strong creativity climate perception.

The present study has uniquely contributed to the area of team diversity by analysing deep diversity through the lens of Social Identity Theory. Team differences can surface when members (one in a small team or few members in a large team) experience that a) their contribution to the team is far more or less than others; b) some members do not want to work but need recognition; c) some members do not finish the given task on time or finishes work before

deadlines, thus putting others in pressure; d) a few members are only expected to produce creative or novel work; e) a few members are relevant, and they get undue advantages or favours from the upper management; f) differential allocation of workload; and g) team is pursuing different objectives and goals. Moreover, when these perceptions interact with the surface-level diversity dimensions of other team members, trigger threats to an individual's identity concerns for a) *belongingness and affiliation* (can evolve through his /her group identity and organizational identity perception); b) *creative competence* (can manifest through his /her creative role identity and self-efficacy beliefs); and c) *respect and value received from the group or organization* (revealed through his/her inclusion beliefs). Therefore, the processes of such interpretations can produce outcomes that gradually become routinized. Such emergent behaviours which evolve from deep diversity explain teams' ineffective outcomes.

HR policy makers tend to neglect the context when evaluating any output or performance of an individual or a team. The current study explained that the creative output of a team is highly dependent on the team's climate perception about the way a task is being executed. If deep diversity is not managed, social and cognitive integration of a team is hampered which is reflected in the quality of the team's output.

Relation Between Surface Diversity and Deep Diversity

Mixed evidence (positive and negative) was found in the relationship between surface diversity and deep diversity. Moreover, no effects of objective or actual surface diversity on deep diversity validated that surface diversity interacts with task and team process variables to deliver its intended effects.

It was observed that under a high task variety situation, objective and subjective surface-level diversity (task or relational) negatively influenced *task-related* deep diversity (e.g., creative role identity and creative self-efficacy). When there was high perceived gender diversity, low diversity in creative role-identity

among team members was observed. Similarly, under high task variety situation, gender diversity can negate the ill-effects of the differences created by creative self-efficacies among team members. The potential 'task-related' benefits from dissimilar others (surface-level) are sensed quickly in situations where unpredictable events define the task at hand and people tend to adjust their deep-level differences with them. On the other hand, under high task variety situation, surface level diversity (task or relational) positively influenced *relation-oriented* deep diversity (e.g., group identity and organizational identity). Under high task variety situation, diversity in age, gender, tenure among team members can increase the differences in the members' positive feelings for the group.

Relationship Between Deep diversity and Team Creativity

The dynamic perspective model of diversity by Srikanth et al. (2016), tries to explain the negative consequences of both surface and deep-level diversity by attributing the causes to the group-level coordination failures. Their model assumes that coordination failures are misattributed to motivational factors which lead to a team member's non-cooperation and reluctance to share information. In line with the dynamic perspective model, the findings of the two studies in the present research indicate that deep-level diversity reinforces co-ordination failures which results in the negative relationship between deep diversity and team creativity climate. Earlier research has proved that affective experiences, positive or negative, among team members influence a team's collaborative capacity (Stokols, Harvey, Gress, Fuqua, & Phillips, 2005). Identity threats, negative evaluation of others or negative feedback give rise to a negative affect which may result in a premature *cognitive closure* of team members (Salazar et al., 2012). This, in turn, hinders knowledge integration and creation. As the team climate of creativity is influenced by team learning, the overall perception a negative team climate impedes team creativity.

Relationship Between Deep Diversity and Team Learning

Experiential learning and appreciative inquiry over task related matters facilitate integrative knowledge creation (Stokols, 2006). However, status and power differences among members hinder equal access to dialogue (Bacharach, Bamberger, & Mundell, 1993). Deep diversities can often trigger perceived status and power inequality. Differences in creative self-efficacy beliefs among members, made some knowledgeable team members employ control over intentions to share knowledge to others by attributing other members' low status or reluctance to acquire knowledge. On the other hand, low creative self-efficacy members on observing low or no intention to share knowledge from important members, perceive a weak learning environment. Thus, in a team, a negative perception of team learning can thrive due to the differences in the inclusion beliefs among members. Excluded team members often perceive included members in decision making group as powerful. When they are excluded from social groups, they feel unimportant and disrespected by other members. Such negative effects of inequality power and status perceived through differences in inclusion can affect team learning climate.

Contributions and Implications

Theoretical Contributions

The aim of the present research was to investigate team diversity from a social identity perspective focusing on the effects of team members' deep diversity on team creativity. Most of the previous research has adopted two broad approaches towards managing diversity. The first approach generally deals with the mechanisms to reduce the social categorization effects of surface diversity. On the other hand, the second approach emphasizes the informational benefits that can be reaped through knowledge diversity among members. However, many studies on diverse groups have challenged the underlying mechanisms of these two approaches (Srikanth, Harvey, & Peterson, 2016). Srikanth et al. (2016) argued

that social identity and social categorization are rarely measured explicitly, instead they are theoretically linked to negative outcomes like relationship conflict, low trust or increased turnover. In the present empirical research, the analysis of implicit work group categorization (identity and beliefs differences among team members) has attempted to strengthen the concept of social identity and social categorization at workplace settings.

Van der Vegt and Bunderson (2005) identified group-identity of a deep-level diverse group as an important driver to determine the degree of information benefits. The present study has uniquely tried to analyse the team member differences in the variables such as group identity, inclusion beliefs, and creative-self-efficacy. Organizational psychology research has validated the direct or indirect links of these variables to information sharing. Therefore, it is implied that though informational benefits can be reaped from a functionally diverse team, the collaborative learning experience may get hampered due to the differences in team members' group identities, creative self-efficacy beliefs and inclusion beliefs.

The present research has addressed deep-diversity effects on team creativity from two approaches. In Chapter 2, Study 1 focused on the team creativity output based on team members' subjective experiences that are bounded by their views and understanding of their relative positions (deep-level similar or dissimilar) with other members (*self-team deep diversity*). In Chapter 3, Study 2 focused on the effects of the actual differences in the deep-level variables (*deep-level heterogeneity*) on team creativity and creative output. Both subjective and objective analysis of deep-diversity at team level is an unique contribution of this research study.

The research has strong implications for the categorization-elaboration theory which posits that intergroup biases from identity threats or challenges hinder information elaboration and perspectives in diverse groups. Therefore, the reasons for a diverse team performing poorly are rooted in some form of

social categorization which was left unmeasured to date (Srikanth et al., 2016). The present research has attempted to answer the above gap in the diversity-creativity literature.

The team climate of creativity has been conceptualized as a core team process variable representing the shared understanding of the expected collective behaviour of the team about creativity. Moreover, Brown and Leigh (1996) suggested that the psychological climate is likely to result from the individual differences among employees as well as from the interactions between the person and situation. Drawing on the logic of interactionist approach towards creativity, the present research implied that differences in individual's dispositional attributes (e.g., cognitive styles/abilities, personality, beliefs, identities etc.) in a team when interacts with team processes (e.g., learning and task/goal interdependency) can give rise to a shared understanding of creative collective behaviours (team mental model of creativity) responsible for the quality of team's creative performance. To an extent, the present research has attempted to address the diversity-creativity paradox by reinforcing the importance and relevance of deep diversity and team creativity climate in interpreting the puzzling results of diversity and creativity.

In the present research, team creativity has been conceptualized from both process and outcome perspective. The underlying assumption was that team creativity output guarantees team creativity but the reverse may not be true. Therefore, analysis of the effects of both identity and beliefs diversity on *team creativity* and team *creativity output* through team climate provides a unique contribution to the body of creativity literature.

Methodological Contributions

The present research has adopted both experimental (Study 1) and survey method (Study 2) to answer the research questions. For both the studies, responses were taken from organizational employees who were working full-time.

In Study 2, data was collected through two different sets of questionnaires. Set 1 was distributed randomly to teams consisting of junior and middle-level employees across organizations. The set consisted of measurement items of independent, contextual and dependent variables. Set 2 was distributed to the team managers who were directly managing the teams. This set consisted of measurement items of dependent variables (Team Creativity and Creativity Output) only. The role of team climate of creativity as a mediator between deep-diversity and team creativity has been established from the two studies.

Vignette technique was used to manipulate independent variables in Study 1 and the quality of creativity climate as this technique gives the opportunity to carefully craft scenarios of the constructs being tested (Aguinis & Bradley, 2014). It provides a greater control over the manipulation of independent variables. By using this method, any difference between the participants can be directly attributable to the objective value of the scenario described (Aguinis & Bradley, 2014). Considering the dichotomous nature of predictor variable (Diversity: homogeneity and heterogeneity) and the continuous mediator variable (climate of creativity), in Study 1 (Experimental Study), a *mediation macro* (MedText; Kenny, 2011) was executed to test the mediation effects. The macro successfully handles the test for mediation for dichotomous causal variables ensuring Baron and Kenny's (1986) mediation guidelines. In Study 2, mediation analyses were tested through PROCESS macro V.2.16 (Hayes, 2013). Traditional rules for mediation testing following Baron and Kenny's (1986) guidelines revealed some weaknesses (Zhao, Lynch, & Chen, 2010). The causal relationship between independent and dependent variable is no longer a precondition for mediation analysis (Hayes, 2009; Rucker, Preacher, Tormala, & Petty, 2011) and thus the strength of the indirect path through mediator is only reported in recent studies. Both macros in Study1 and Study 2 have used bootstrap confidence interval technique to test the significance of the indirect effect (Preacher & Hayes, 2004). Here, the resultant confidence interval, if does not contain value of zero, demonstrates that there is a difference in the change of coefficients for the test of mediation.

Simultaneous examination of both surface-level and deep-level diversity was carried out in the present research. Both objective (actual) and subjective surface diversity were measured. Standardized indices (Blau index) were determined to measure actual surface-level diversity of the team. Variables such as Team Creativity Climate, Team Learning Climate, Task Interdependency, Team Creativity and Creativity Output were aggregated to team level constructs using inter-rater agreement (r_{wg}) technique developed by Bliese (2000).

To reduce the common method bias and social desirability effect of team member responses on their team creativity and creativity output, In Study 2 responses on these measures were taken from both team members (Sample 1) and team managers (Sample 2). Therefore, to reduce the self-reported bias on these measures, the overall team creativity of an individual team was finally calculated by averaging the scores given by team manager (Sample 2) and aggregated group score (Sample 1) on the perception on team creativity and creativity output.

Practical and Social Implications

Organizations working in diversity-sensitive culture can adopt a dynamic perspective on diversity which deals with the psychological processes and dynamics underlying the relationship between diversity and work outcomes (Avery & McKay, 2010). Such a diversity model can help to find out the causes for low diversity tolerance in a work group which can hinder the evolution of effective creativity climate in organizations (Roffe, 1999). Thus, the diversity-climate-creativity model presented in the current research can help the top management to understand how group composition affects the perceptions of some important facets such as risk-appetite, idea-support, trust and openness prevailing in the team. This, in turn, can act as a platform to build effective diversity management policies. The model has an impact on the organizational recruitment and selection practices as selectors can develop better organizational-fit and team-fit measures to select the appropriate candidate for the workgroup.

Deep diversities are mutable (Roberson, 2013) as they can be changed over the period. Group members should be able to discover similarities at deep level to bring them together (Roberson, 2013). Effective diversity training programs with a focus on increasing team creativity can be designed and delivered to newly formed teams. However, according to a Harvard Business Review article by Bregman (2012), diversity trainings have proven to be ineffective. According to him, greater emphasis on reducing surface-level diversities such as Black vs. White, Westerners vs. Asians, generally facilitates categorization. The diversity trainings instead of focusing on de-individualisation techniques, can specially train people to respect one's and others' identity, values and beliefs. By making people understand the value and benefits of "being different" at the deep-level, acceptance of such differences can be achieved over a period. However, at the same time, organization's HR policies can embrace team-based incentive plans and appraisals linked to intra and inter-team competitions. HRs can formulate individual key performance indicators related to support received and given to others based on both task and non-task related matters. These measures can help to develop a sense of collective group and organizational identity.

Lastly, HRs and the top management should understand the creative preferences of individuals, groups and organization together with the desired creative outcomes of their activities. This can help in the identification and comparison of different creativity profiles to build specific creativity practices for individuals, team and organization.

Psychological evidences have repeatedly proved that Indians are power-savvy and the same is evident in India's social structure (Varma, 2004). Indian society has been nomenclatured as "homo hierarchicus" (Dumont, 1970). It indicates that power hierarchy is common in every sphere of Indian life. Moreover, Indian society has nurtured co-existence of multiple social identities among Indians where one gets into prominence depending on the time, space and context. The core components of "Indianness" are culture and religion (Kapur,

Mishra, & Das, 2011) where interestingly, diversity is observed at its highest level. Indians are oriented towards micro-level group identities such as local culture, region, religious beliefs, political identities, language identity than macro-level identity such as National identity (Ray & Singh, 2015).

Political parties often insinuate Indian's micro-level identities during electoral campaigns by giving assurance of their preservation from unknown external threats. Once a party gains supreme power, it tries to build a national identity which emphasizes its own cultural, political and regional hegemony. This often results in social conflicts. National identity which is a super-ordinate identity or secondary identity is a complex and multilayered affair and can be achieved through maintenance of micro-level identities (Kaviraj, 2000). The identification of common elements of Indian psyche is of prime importance which may help to define psychological identity markers of Indians (Ray & Singh, 2015). These commonalities can act as bridges in stringing the homogeneous or heterogeneous sects into a unified whole. The argument holds good based on the logic of "merger" given by social identity complexity theory (Roccas & Brewer, 2002) where a group on finding any common identity posses by the other group, treats them as an in-group.

In the present research it was observed that *differences* in organizational identity which is a super-ordinate identity can create a shared mental model of negative support and communal feeling. Therefore, differences in national identities may create a negative perception of governmental support and concern for its people. Government must build inclusive national policies keeping the commonalities of Indian identities in mind instead of playing the "dominance" identity card which neglects others' identities, sentiments and beliefs.

Limitations of the Study

As doctoral dissertations mark the research journey of scholars and are not destination in itself, they are bound to have some limitations. There is no exception with this research too. Following are some limitations of this research work.

1. Study 2 comprises of responses mostly from private sectors of which majority of the organizations belong to the IT sector. Therefore, limited generalizations can be drawn to other type of organizations.

2. In Study 2, it was not possible to obtain a 100% response from all the team members of the teams surveyed. However, to minimise the bias that could occur due to the missing team member responses, a cut off criteria of 60% within-team response was decided for team inclusion in the sample.

3. The average team size of the sample was 4.13 members which can be considered as small groups. However, more than 50% teams had group tenure of less than 15 months which can be considered as relatively newly formed groups. The negative influence of deep diversity effects on team learning and climate may be more salient in such groups as compared to others.

4. In this study, although the selection of the deep-level diversity variables is restricted to the conceptualization of the diversity approach adopted and their relevance to creativity, there could be few other relevant variables (e.g., team member's personality, morality, and justice perceptions) which were ignored due to the time and cost constraint of the research.

5. A qualitatitive study aiming to analyse the diversity perspectives and creative orientation of the team could have augmented the results the quantitative study.

Direction for Future Research

Future research should focus on the analysis of simultaneous effects of surface-level and deep-level diversity on creativity climate and creative outcomes. Moreover, the interaction effects of surface and deep-level attributes on team creativity can reveal interesting insights in creativity studies. There are chances of forming stronger *faultlines* which can impede the performance of a workgroup. There is a strong need to explore how surface level, deep-level or their composite faultline strength can impact team conflict, information elaboration and team performance in different workgroup settings.

Future research may analyze top management views on creativity and how it affects the formulation of policies, structures and processes in the system. The orientation of an organization towards creativity, be it divergent (breakthrough innovation) or convergent (incremental innovation), may influence creativity climate of an organization to a large extent. The top management of firms who supports the divergent approach tends to rely on broad and imaginative solutions gained from past knowledge and insights. On the other hand, people favouring convergent approach rely on reason, methodical behaviour and goal orientation.

Though the transformational and participative styles of leadership capture change-oriented leader's behaviours to some extent, it is important to tap a leader's behaviour related to his/her coaching abilities for creative skill development. The objective of change oriented behaviours like providing of vision, mental encouragement/supporting innovative thinking can only work if the leader himself/herself believes in the same and instils trust in subordinates by exhibiting such kind of creative behaviours (Yukl, Gordon & Taber, 2002). Under the supervision of a good leader, employees were found to report more errors

(Edmondson, 2003). Therefore, learning leaders create a non-threatening environment where openly committing about ones' mistakes are encouraged (Kim & Newby-Bennett, 2012). Therefore, future research should investigate creative leadership abilities as a boundary condition under which work group diversity, learning culture and creativity climate influences group's creative output.

The research conducted by Chang, Duck and Bordia (2006), indicated that group members' feelings on the similarity, closeness, and bonding within the teams help to develop the perception of team's effectiveness which is centred on the group task as a whole. In the study by Joo, Song, Lim and Yoon (2012), a clear positive interaction effect of learning culture and team level cohesion on creativity has been observed. This implies that high level of task cohesion enhances the positive effect of learning culture on team creativity. Future research can look at the role of task and social cohesion at the various stages of a team learning process to ascertain the nuances of team-level co-operation and competition required for group creativity to emerge.

Future research can develop an efficient method to calculate the composite deep-level diversity score of a variable. At the team level, *standard deviation* determines the average degree of separation of the members on the attribute. However, it fails to capture the effect of that member who is very high or low on that particular attribute. It is quite possible that its effect gets diluted in the overall diversity calculation. The problem becomes prominent in the case of social-loafing where a team performs well because of the excellent performance of a team member and others take a free-ride.

Finally, it can be concluded that social categorization is a common phenomenon even in modern workplaces. Organizations can focus on building a culture which does not pose any threat to an individual's identity but at the same time value differentiation and collaboration. As this research indicates, the nature of the task plays a crucial role in moderating the effects of diversity on team learning. It ultimately shapes a shared mental model of task-orientation and

participative-safety in the team. Team climate of creativity acts as instrumental in achieving team creativity and creative outcomes. In the process, team members fulfill their respective needs for maintaining personal identities and beliefs.

The thesis tries to address the mixed findings in the surface diversity and creativity link by establishing deep diversity and team creativity climate as the determining factors to team's creative performance. A surface-level homogeneous team which is supposed to have high group cohesion may experience negative learning in the team due to deep-level heterogeneity of team members and low task interdependency. This would likely to result in a weak creativity climate perception leading to the unfavourable group outcomes. On the other hand, a surface-level heterogeneous team can experience an integrative learning climate in the team due to deep-level homogeneity of members and low task interdependency. A strong creativity climate can help the team to draw useful meaning from the task at hand and can bestow a sense-of-perceived control over the team task as a whole. This, in turn, generates a high perception of the quality of the product or service produced by the team. Therefore, group diversity management in an organization is just like rearing an impish child who can become a genius or a dunce, depending on the child's perception of the role of the environment where he or she is being nurtured.

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Appendix A (Study 1)

SET I

Indian Institute of Technology Guwahati

Department of Humanities and Social Sciences
Guwahati – 781039 (Assam) INDIA

Dear Madam/Sir,

I'm a research scholar working at the Department of Humanities & Social Sciences, Indian Institute of Technology Guwahati under the guidance of Professor Nachiketa Tripathi. The area of my research is diversity and creative outputs in formal groups. I would request you to kindly participate in this study and go through the following pages to answer certain questions based on some hypothetical scenarios.

There is **no right or wrong answer**. Your answer is the best answer. Therefore, please feel free to indicate your choice. All the information provided by the participants will be kept confidential and will be used only for research purpose. **The identity of the organization and the employees will not be disclosed at any stage.**

I understand your time constraints, but, as you realize, without your help, it would not be possible for me to carry out this study. Therefore, I request you to kindly extend your cooperation.

Thanking you in advance.

Yours sincerely,

Vinit Ghosh
Research Scholar
E-mail: vinit@iitg.ernet.in

Personal Information

Name (optional):_____ Age (in years): _____

Gender (M/F):_____ Designation: _____

Qualifications: _____ Tenure in present job (in years): _____

Total work experience (in years): _____

Salary/month: Please indicate your choice by putting [✓]

[ ] 30,000 to 40,000	[ ] 60,000 to 70,000	[ ] 90,000 to 1,00,000
[ ] 40,000 to 50,000	[ ] 70,000 to 80,000	[ ] 1,00,000 and above
[ ] 50,000 to 60,000	[ ] 80,000 to 90,000	

PLEASE READ THE BELOW SECTION CAREFULLY BEFORE ANSWERING THE FOLLOWING QUESTIONS

Imagine that you are asked to work in a highly challenging assignment by the HR of your organization. The goal of the assignment is to provide a brilliant solution to a specific problem. The solution should be new, useful, and at the same time easy to implement. The HR selected few employees to work in this assignment along with you. Assume that there is an equal distribution of male and female employees in the group and all have same work experience and job position that you have.

After working for few months, you have found that your group members have the following characteristics

1. **They are very similar to you** in the way they feel for the group and its members in it. They held similar sets of beliefs and thoughts about the group and its members.

2. **They are very similar to you** in the way they feel for the organization. They held similar sets of beliefs and thoughts about the organization's role and purpose.

3. **They are very similar to you** in the way they feel about their involvement in the group's decision making process. They held similar kind of opinions about why their views get accepted or rejected in the group's decision making process.

4. **They are very similar to you** in their creative skills and competencies. Their approach towards looking or solving a difficult problem is very similar to your thinking process and approach.

YOU HAVE LABELLED THEM AS "**MY-TYPE⇨SIMILAR**" COLLEAGUES

Q1. Imagine that one fine day, you are asked by your HR manager to describe your **work group environment.**

Please tick [✓] one number to indicate how much you agree or disagree on such group's ("MY-TYPE → SIMILAR" likely behavioural reactions and responses over the assignment given.

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1. Every member is very clear about the group's objectives	1	2	3	4	5	6	7
2. Group members provide useful ideas and practical help	1	2	3	4	5	6	7
3. Group members put together each other ideas in order to achieve the best possible outcome	1	2	3	4	5	6	7
4. The team is open and can quickly adapt to changes	1	2	3	4	5	6	7
5. People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5	6	7
6. Members of the team meet frequently to talk both formally and informally	1	2	3	4	5	6	7
7. Members have a 'we are together' attitude	1	2	3	4	5	6	7

Q2. Please tick [✓] one number to indicate how much you agree or disagree **on such group's ("MY-TYPE → SIMILAR") creative performance.**

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1. The group's solution is excitingly new	1	2	3	4	5	6	7
2. The group's solution is capable of being put into effect	1	2	3	4	5	6	7
3. The group's solution is likely to cause the desired result	1	2	3	4	5	6	7
4. No one else could have easily thought of this solution	1	2	3	4	5	6	7

PART 1: **SCENARIO 1**

Imagine that you are working with "MY-TYPE → SIMILAR" colleagues (who share same feelings for group and its members, share same beliefs of inclusion/exclusion in group decision-making process, and have same creative competence) for few months.

While working, you have observed that most of the group members understand the assignment's objectives and goals. In every meeting, work problems are discussed with an open mind. Any new idea or an innovative solution provided by a group member is readily accepted by other group members. If there is any critical problem, all team members are ready to devote their time and effort in solving that problem. Achieving good quality outcome is of highest importance. To maintain high performance standards, team members can get task deadline extensions. Group members are very friendly with one another and good humour is often appreciated.

Q3. Imagine that one fine day, you are asked by your HR manager to describe your **work group environment.**

Considering the scenario 1, please tick [✓] one number to indicate how much you agree or disagree on such group's ("MY-TYPE → SIMILAR") likely behavioural reactions and responses over the assignment given.

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1.	Every member is very clear about the group's objectives	1	2	3	4	5	6	7
2.	Group members provide useful ideas and practical help	1	2	3	4	5	6	7
3.	Group members put together each other ideas in order to achieve the best possible outcome	1	2	3	4	5	6	7
4.	The team is open and can quickly adapt to changes	1	2	3	4	5	6	7
5.	People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5	6	7
6.	Members of the team meet frequently to talk both formally and informally	1	2	3	4	5	6	7
7.	Members have a 'we are together' attitude	1	2	3	4	5	6	7

Q4. Considering the scenario-1, please tick [✓] one number to indicate how much you agree or disagree **on group's (**"MY-TYPE → SIMILAR"**) creative performance.**

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1.	The group's solution is excitingly new	1	2	3	4	5	6	7
2.	The group's solution is capable of being put into effect	1	2	3	4	5	6	7
3.	The group's solution is likely to cause the desired result	1	2	3	4	5	6	7
4.	No one else could have easily thought of this solution	1	2	3	4	5	6	7

SCENARIO 2

Imagine that you are working with "MY-TYPE → SIMILAR" colleagues (who share same feelings for group and its members, share same feelings of inclusion/exclusion in group decision-making process, and have same creative competence) for few months.

But, while working, you have observed that most of the group members have very little understanding on the assignment's objectives and goals. In every meeting, work problems are rarely discussed with an open mind. Quite often a potential new idea or an innovative solution provided by a group member is rejected by other group members. If there is any critical problem, all team members try to avoid or overlook that problem. Achieving good quality outcome is not of prime importance. Every team member has to work under strict deadlines and failing to meet deadlines can lead to severe consequences. Group members are not very polite with one another and good humour is not appreciated.

Q5. Imagine that one fine day, you are asked by your HR manager to describe your work group environment.

Considering the above scenario 2, please tick [✓] one number to indicate how much you agree or disagree on such group's ("MY-TYPE → SIMILAR") likely behavioural reactions and responses over the assignment given.

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1	Every member is very clear about the group's objectives	1	2	3	4	5	6	7
2	Group members provide useful ideas and practical help	1	2	3	4	5	6	7
3	Group members put together each other ideas in order to achieve the best possible outcome	1	2	3	4	5	6	7
4	The team is open and can quickly adapt to changes	1	2	3	4	5	6	7
5	People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5	6	7
6	Members of the team meet frequently to talk both formally and informally.	1	2	3	4	5	6	7
7	Members have a 'we are together' attitude	1	2	3	4	5	6	7

Q6. Considering the scenario-2, please tick [✓] one number to indicate how much you agree or disagree **on group's (**"MY-TYPE → SIMILAR"**) creative performance.**

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1. The group's solution is excitingly new	1	2	3	4	5	6	7
2. The group's solution is capable of being put into effect	1	2	3	4	5	6	7
3. The group's solution is likely to cause the desired result	1	2	3	4	5	6	7
4. No one else could have easily thought of this solution	1	2	3	4	5	6	7

PART 2:

Q7. **Without** considering any particular scenario, tell us what mental picture you have kept in your mind about your colleagues **("MY-TYPE → SIMILAR")** while answering all the above questions.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Strongly Agree

1. We shared **similar** feelings for our group	1	2	3	4	5
2. We have **different** views and opinions about the organization we are working	1	2	3	4	5
3. We have **similar** experiences while participating in important group decision-making meetings	1	2	3	4	5
4. We shared **different** feelings for our group	1	2	3	4	5
5. We have **similar** views and opinions about the organization we are working	1	2	3	4	5
6. We have **different** abilities to solve creative problems	1	2	3	4	5
7. We have **different** experiences while participating in important group decision-making meetings	1	2	3	4	5
8. We have **similar** abilities to solve creative problems	1	2	3	4	5

Q8. Please tick [✓] one number to indicate how much you agree or disagree on the statements provided below.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Strongly Agree

1. I have confidence in my ability to solve problems creatively	1	2	3	4	5
2. I feel that I am good at generating novel ideas	1	2	3	4	5
3. I have capability to further develop the ideas of others	1	2	3	4	5

Q9. Please tick [✓] one number to indicate how much you agree or disagree on the statements provided below.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Strongly Agree

1. I think that work groups benefit from the involvement of people from both genders	1	2	3	4	5
2. I think that work groups should contain people from one gender	1	2	3	4	5
3. A good mix of group members' gender helps doing the task well	1	2	3	4	5
4. I think that work groups benefit from the involvement of people from different cultural backgrounds	1	2	3	4	5
5. Creating work groups that contain people from different cultural backgrounds can be a recipe for trouble	1	2	3	4	5
6. I think that work groups are more harmonious if people in them are similar	1	2	3	4	5
7. I think that work groups are more harmonious if people in them are different	1	2	3	4	5

SET II

Indian Institute of Technology Guwahati

Department of Humanities and Social Sciences
Guwahati – 781039 (Assam) INDIA

Dear Madam/Sir,

I'm a research scholar working at the Department of Humanities & Social Sciences, Indian Institute of Technology Guwahati under the guidance of Professor Nachiketa Tripathi. The area of my research is diversity and creative outputs in formal groups. I would request you to kindly participate in this study and go through the following pages to answer certain questions based on some hypothetical scenarios.

There is **no right or wrong answer**. Your answer is the best answer. Therefore, please feel free to indicate your choice. All the information provided by the participants will be kept confidential and will be used only for research purpose. **The identity of the organization and the employees will not be disclosed at any stage.**

I understand your time constraints, but, as you realize, without your help, it would not be possible for me to carry out this study. Therefore, I request you to kindly extend your cooperation.

Thanking you in advance.

Yours sincerely,

Vinit Ghosh
Research Scholar
E-mail: vinit@iitg.ernet.in

Personal Information

Name (optional):_____ Age (in years): _____

Gender (M/F):_____ Designation: _____

Qualifications: _____ Tenure in present job (in years): _____

Total work experience (in years): _____

Salary/month : Please indicate your choice by putting [✓]

[ ] 30,000 to 40,000	[ ] 60,000 to 70,000	[ ] 90,000 to 1,00,000
[ ] 40,000 to 50,000	[ ] 70,000 to 80,000	[ ] 1,00,000 and above
[ ] 50,000 to 60,000	[ ] 80,000 to 90,000	

PLEASE READ THE BELOW SECTION CAREFULLY BEFORE ANSWERING THE FOLLOWING QUESTIONS

Imagine that you are asked to work in a highly challenging assignment by the HR of your organization. The goal of the assignment is to provide a brilliant solution to a specific problem. The solution should be new, useful, and at the same time easy to implement. The HR selected few employees to work in this assignment along with you. Assume that there is an equal distribution of male and female employees in the group and all have same work experience and job position that you have.

After working for few months, you have found that your group members have the following characteristics.

1. They **are very different from you** in the way they feel for the group and its members in it. They held different sets of beliefs and thoughts about the group and its members.

2. They **are very different from you** in the way they feel for the organization.
   They held different sets of beliefs and thoughts about the organization's role and purpose.

3. They **are very different from you** in the way they feel about their involvement in the group's decision making process. They held different kind of opinions about why their views get accepted or rejected in the group's decision making process.

4. They **are very different from you** in their creative skills and competencies. Their approach towards looking or solving a difficult problem is very different from your thinking process and approach.

YOU HAVE LABELLED THEM AS "**NOT MY-TYPE ⇨ DIFFERENT**" COLLEAGUES

Q1. Imagine that one fine day, you are asked by your HR manager to describe your **work group environment.**

Please tick [✓] one number to indicate how much you agree or disagree on such group's ("NOT MY-TYPE → DIFFERENT" likely behavioural reactions and responses over the assignment given.

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1. Every member is very clear about the group's objectives	1	2	3	4	5	6	7
2. Group members provide useful ideas and practical help	1	2	3	4	5	6	7
3. Group members put together each other ideas in order to achieve the best possible outcome	1	2	3	4	5	6	7
4. The team is open and can quickly adapt to changes	1	2	3	4	5	6	7
5. People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5	6	7
6. Members of the team meet frequently to talk both formally and informally	1	2	3	4	5	6	7
7. Members have a 'we are together' attitude	1	2	3	4	5	6	7

Q2. Please tick [✓] one number to indicate how much you agree or disagree **on such group's ("NOT MY-TYPE → DIFFERENT") creative performance.**

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1. The group's solution is excitingly new	1	2	3	4	5	6	7
2. The group's solution is capable of being put into effect	1	2	3	4	5	6	7
3. The group's solution is likely to cause the desired result	1	2	3	4	5	6	7
4. No one else could have easily thought of this solution	1	2	3	4	5	6	7

PART 1: **SCENARIO 1**

Imagine that you are working with "MY-TYPE → DIFFERENT" colleagues (who share different feelings for group and its members, share different beliefs of inclusion/exclusion in group decision-making process, and have different creative competence) for few months.

While working, you have observed that most of the group members have very little understanding on the assignment's objectives and goals. In every meeting, work problems are rarely discussed with an open mind. Quite often a potential new idea or an innovative solution provided by a group member is rejected by other group members. If there is any critical problem, all team members try to avoid or overlook that problem. Achieving good quality outcome is not of prime importance. Every team member has to work under strict deadlines and failing to meet deadlines can lead to severe consequences. Group members are not friendly with one another and good humour is not appreciated.

Q3. Imagine that one fine day, you are asked by your HR manager to describe your work group environment.

Considering the above scenario-1, please tick [✓] one number to indicate how much you agree or disagree on such group's (NOT MY-TYPE → DIFFERENT) likely behavioural reactions and responses over the assignment given.

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1	Every member is very clear about the group's objectives	1	2	3	4	5	6	7
2	Group members provide useful ideas and practical help	1	2	3	4	5	6	7
3	Group members put together each other ideas in order to achieve the best possible outcome	1	2	3	4	5	6	7
4	The team is open and can quickly adapt to changes	1	2	3	4	5	6	7
5	People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5	6	7
6	Members of the team meet frequently to talk both formally and informally	1	2	3	4	5	6	7
7	Members have a 'we are together' attitude	1	2	3	4	5	6	7

Q4. Considering the above scenario-1, please tick [✓] one number to indicate how much you agree or disagree **on such group's (**"NOT MY-TYPE → DIFFERENT"**) creative performance.**

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1. The group's solution is excitingly new	1	2	3	4	5	6	7
2. The group's solution is capable of being put into effect	1	2	3	4	5	6	7
3. The group's solution is likely to cause the desired result	1	2	3	4	5	6	7
4. No one else could have easily thought of this solution	1	2	3	4	5	6	7

PART 2:

SCENARIO 2

Imagine that you are working with "NOT MY-TYPE → DIFFERENT" colleagues (who share different feelings for group and its members, share different beliefs of inclusion/exclusion in group decision-making process, and have different creative competence) for few months.

But, while working you have observed that most of the group members understand the assignment's objectives and goals. In every meeting, work problems are discussed with an open mind. Any new idea or an innovative solution provided by a group member is readily accepted by other group members. If there is any critical problem, all team members are ready to devote their time and effort in solving that problem. Achieving good quality outcome is of highest importance. To maintain high performance standards, team members can get task deadline extensions. Group members are very friendly with one another and good humour is often appreciated.

Q5. Imagine that one fine day, you are asked by your HR manager to describe your work group environment.

Considering the above scenario-2, please tick [✓] one number to indicate how much you agree or disagree on such group's ("NOT MY-TYPE → DIFFERENT") likely behavioural reactions and responses over the assignment given.

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1. Every member is very clear about the group's objectives	1	2	3	4	5	6	7
2. Group members provide useful ideas and practical help	1	2	3	4	5	6	7
3. Group members put together each other ideas in order to achieve the best possible outcome	1	2	3	4	5	6	7
4. The team is open and can quickly adapt to changes	1	2	3	4	5	6	7
5. People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5	6	7
6. Members of the team meet frequently to talk both formally and informally	1	2	3	4	5	6	7
7. Members have a 'we are together' attitude	1	2	3	4	5	6	7

Q6. Considering the above scenario-2, please tick [✓] one number to indicate how much you agree or disagree **on such group's ("NOT MY-TYPE → DIFFERENT") creative performance.**

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Somewhat Agree	Strongly Agree

1. The group's solution is excitingly new	1	2	3	4	5	6	7
2. The group's solution is capable of being put into effect	1	2	3	4	5	6	7
3. The group's solution is likely to cause the desired result	1	2	3	4	5	6	7
4. No one else could have easily thought of this solution	1	2	3	4	5	6	7

Q7. **Without** considering any particular scenario, tell us what mental picture you have kept in your mind about your colleagues **("NOT MY-TYPE → DIFFERENT")** while answering all the above questions.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Strongly Agree

1. We shared **similar** feelings for our group	1	2	3	4	5
2. We have **different** views and opinions about the organization we are working	1	2	3	4	5
3. We have **similar** experiences while participating in important group decision-making meetings	1	2	3	4	5
4. We shared **different** feelings for our group	1	2	3	4	5
5. We have **similar** views and opinions about the organization we are working	1	2	3	4	5
6. We have **different** abilities to solve creative problems	1	2	3	4	5
7. We have **different** experiences while participating in important group decision-making meetings	1	2	3	4	5
8. We have **similar** abilities to solve creative problems	1	2	3	4	5

Q8. Please tick [✓] one number to indicate how much you agree or disagree on the statements provided below.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Strongly Agree

1. I have confidence in my ability to solve problems creatively	1	2	3	4	5
2. I feel that I am good at generating novel ideas	1	2	3	4	5
3. I have capability to further develop the ideas of others	1	2	3	4	5

Q9. Please tick [✓] one number to indicate how much you agree or disagree on the statements provided below.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Strongly Agree

1. I think that work groups benefit from the involvement of people from both genders	1	2	3	4	5
2. I think that work groups should contain people from one gender	1	2	3	4	5
3. A good mix of group members' gender helps doing the task well	1	2	3	4	5
4. I think that work groups benefit from the involvement of people from different cultural backgrounds	1	2	3	4	5
5. Creating work groups that contain people from different cultural backgrounds can be a recipe for trouble	1	2	3	4	5
6. I think that work groups are more harmonious if people in them are similar	1	2	3	4	5
7. I think that work groups are more harmonious if people in them are different	1	2	3	4	5

SET III

Indian Institute of Technology Guwahati

Department of Humanities and Social Sciences
Guwahati – 781039 (Assam) INDIA

Dear Madam/Sir,

I'm a research scholar working at the Department of Humanities & Social Sciences, Indian Institute of Technology Guwahati under the guidance of Professor Nachiketa Tripathi. The area of my research is diversity and creative outputs in formal groups. I would request you to kindly participate in this study and go through the following pages to answer certain questions based on some hypothetical scenarios.

There is **no right or wrong answer**. Your answer is the best answer. Therefore, please feel free to indicate your choice. All the information provided by the participants will be kept confidential and will be used only for research purpose. **The identity of the organization and the employees will not be disclosed at any stage.**

I understand your time constraints, but, as you realize, without your help, it would not be possible for me to carry out this study. Therefore, I request you to kindly extend your cooperation.

Thanking you in advance.

Yours sincerely,

Vinit Ghosh
Research Scholar
E-mail: vinit@iitg.ernet.in

Personal Information

Name (optional):_____ Age (in years): _____

Gender (M/F):_____ Designation: _____

Qualifications: _____ Tenure in present job (in years): _____

Total work experience (in years): _____

Salary/month : Please indicate your choice by putting [✓]

[ ] 30,000 to 40,000	[ ] 60,000 to 70,000	[ ] 90,000 to 1,00,000
[ ] 40,000 to 50,000	[ ] 70,000 to 80,000	[ ] 1,00,000 and above
[ ] 50,000 to 60,000	[ ] 80,000 to 90,000	

PLEASE READ THE BELOW SECTION CAREFULLY BEFORE ANSWERING THE FOLLOWING QUESTIONS

Imagine that you are asked to work in a highly challenging assignment by the HR of your organization. The goal of the assignment is to provide a brilliant solution to a specific problem. ***The solution should be new, useful, and at the same time easy to implement.*** *The HR selected few employees to work in this assignment along with you. Assume that there is an equal distribution of male and female employees in the group and all have same work experience and job position that you have.*
After working for few months, you have found that your group members have the following characteristics

1. A) **Some of the members are very similar to you** in the way they feel for the group and its members in it. They held similar sets of beliefs and thoughts about the group members and overall group's purpose.

   B) **Some of the members are very different from you** in the way they feel for the group and its members in it. They held different sets of beliefs and thoughts about the group and its members.

2. A) **Some of the members are very similar to you** in the way they feel for the organization.
   They held similar sets of beliefs and thoughts about the organization's role and purpose.

   B) **Some of the members are very different from you** in the way they feel for the organization.
   They held different sets of beliefs and thoughts about the organization's role and purpose.

3. A) **Some of the members are very similar to you** in the way they feel about their involvement in the group's decision making process. They held similar kind of opinions about why their views get accepted or rejected in the group's decision making process.

   B) **Some of the members are very different from you** in the way they feel about their involvement in the group's decision making process. They held similar kind of opinions about why their views get accepted or rejected in the group's decision making process.

4. A) **Some of the members are very similar to you** in their creative skills and competencies. Their approach towards looking or solving a difficult problem is very similar to your thinking process and approach.

   B) **Some of the members are very different from you** in their creative skills and competencies. Their approach towards looking or solving a difficult problem is very different from your thinking process and approach.

YOU HAVE LABELLED THEM AS "MIXED- TYPE COLLEGUES"

Q1. Imagine that one fine day, you are asked by your HR manager to describe your work group environment.

Please tick [✓] one number to indicate how much you agree or disagree on such group's likely behavioural reactions and responses over the assignment given.

1	2	3	4	5	6	7
Disagree Strongly	Disagree somewhat	Disagree slightly	Neither agree nor disagree	Agree slightly	Agree somewhat	Agree Strongly

1. Every member is very clear about the group's objectives	1	2	3	4	5	6	7
2. Group members provide useful ideas and practical help	1	2	3	4	5	6	7
3. Group members put together each other ideas in order to achieve the best possible outcome	1	2	3	4	5	6	7
4. The team is open and can quickly adapt to changes	1	2	3	4	5	6	7
5. People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5	6	7
6. Members of the team meet frequently to talk both formally and informally.	1	2	3	4	5	6	7
7. Members have a 'we are together' attitude	1	2	3	4	5	6	7

Q2. Please tick [✓] one number to indicate how much you agree or disagree on such group's **("MIXED-TYPE")** creative performance.

1	2	3	4	5	6	7
Disagree Strongly	Disagree somewhat	Disagree slightly	Neither agree nor disagree	Agree slightly	Agree somewhat	Agree Strongly

1. The group's solution is excitingly new	1	2	3	4	5	6	7
2. The group's solution is capable of being put into effect	1	2	3	4	5	6	7
3. The group's solution is likely to cause the desired result	1	2	3	4	5	6	7
4. No one else could have easily thought of this solution	1	2	3	4	5	6	7

Q3. Please tick [✓] one number to indicate how much you agree or disagree on the statements provided below.

1	2	3	4	5
Disagree Strongly	Disagree slightly	Neither agree nor disagree	Agree slightly	Agree Strongly

1. I have confidence in my ability to solve problems creatively	1	2	3	4	5
2. I feel that I am good at generating novel ideas	1	2	3	4	5
3. I have capability to further develop the ideas of others	1	2	3	4	5

Q4. Please tick [✓] one number to indicate how much you agree or disagree on the statements provided below.

1	2	3	4	5
Disagree Strongly	Disagree slightly	Neither agree nor disagree	Agree slightly	Agree Strongly

1. I think that work groups benefit from the involvement of people from both genders	1	2	3	4	5
2. I think that work groups should contain people from one gender	1	2	3	4	5
3. A good mix of group members' gender helps doing the task well	1	2	3	4	5
4. I think that work groups benefit from the involvement of people from different cultural backgrounds	1	2	3	4	5
5. Creating work groups that contain people from different cultural backgrounds can be a recipe for trouble	1	2	3	4	5
6. I think that work groups are more harmonious if people in them are similar	1	2	3	4	5
7. I think that work groups are more harmonious if people in them are different.	1	2	3	4	5

Appendix B (Study 2)

SET 1

Indian Institute of Technology Guwahati

Department of Humanities and Social Sciences
Guwahati – 781039 (Assam) INDIA

Dear Madam/Sir,

I'm a research scholar working at the Department of Humanities & Social Sciences, Indian Institute of Technology Guwahati under the guidance of Professor Nachiketa Tripathi. The area of my research is diversity-creativity management. I would request you to kindly participate in this study and go through the following pages to answer certain questions related to diversity and creativity.

There is no right or wrong answer. Your answer is the best answer. Therefore, please feel free to indicate your choice. All the information provided by the participants will be kept confidential and will be used only for research purpose. The identity of the organization or the employees will not be disclosed at any stage.

I understand your time constraints, but, as you realize, without your help, it would not be possible for me to carry out this study. Therefore, I request you to kindly extend your cooperation.

Thanking you in advance.

Yours sincerely,

Vinit Ghosh
Research Scholar
E-mail: vinit@iitg.ernet.in

* Items are mandatory

Personal Information

Name (optional):_____

Age* (in years): _____

Gender* (M/F):_____

Religion* (Hindu/Muslim/Christian/Other): _____

Mother tongue*: _____

Qualifications*: _____

Designation*: _____

Department*: _____

Functional role in the team*: _____

Team size*: _____

Tenure in present team* (in months): _____

Total work experience* (in years): _____

Please indicate by putting [✓]

Native place* (Northern/Southern/Eastern/Western) part of India.

Native place type* (Rural/Town/City/Metropolitan)

Salary*: Please indicate your choice by putting [✓]

[ ] 30,000 to 40,000	[ ] 60,000 to 70,000	[ ] 90,000 to 1,00,000
[ ] 40,000 to 50,000	[ ] 70,000 to 80,000	[ ] 1,00,000 and above
[ ] 50,000 to 60,000	[ ] 80,000 to 90,000	

SECTION I

[SD]

For each statement below, please tick [✓] one number to indicate the **extent to which you think your team is similar or different on the characteristics mentioned**.

1	2	3	4	5
Very Similar	Moderately Similar	Cannot Say	Moderately Different	Very Different

1. How different are the members of your team with respect to their **age**?	1	2	3	4	5
2. How different are the members of your team with respect to their **gender (male vs. female)**?	1	2	3	4	5
3. How different are the members of your team with respect to their **cultural/regional background**?	1	2	3	4	5
4. How different are the members of your team with respect to their **educational background?**	1	2	3	4	5
5. How different are the members of your team with respect to their **mother tongue?**	1	2	3	4	5
6. How different are the members of your team with respect to their **functional roles?**	1	2	3	4	5

SECTION II

[TVA]

Listed below are statements which indicate a **team member's perceptions about the task's variety he/she faces during work.** For each statement, please tick [✓] **one** number to indicate the extent to which you agree or disagree with the statement.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. When a problem arises in my work, it takes a lot of experience and training to know what to do	1	2	3	4	5	6	7
2. There is variety in the events that cause my work	1	2	3	4	5	6	7
3. Tasks in my work require an extensive and demanding search for a solution	1	2	3	4	5	6	7

[GI]

Please indicate the extent to which you agree or disagree on your perceptions about **group membership** by ticking [✓] one of the options given below.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. I often think about being a member of my team	1	2	3	4	5	6	7
2. Being a member of my team has little to do with how I feel about myself in general	1	2	3	4	5	6	7
3. Being a member of my team is an important part of my self-image	1	2	3	4	5	6	7
4. The fact I am a team member rarely enters my mind	1	2	3	4	5	6	7
5. In general I'm glad to be a team member	1	2	3	4	5	6	7
6. I often regret being a member of my team	1	2	3	4	5	6	7
7. Generally I feel good about myself when I think about being a member of my team	1	2	3	4	5	6	7
8. I don't feel good about being a member of my team	1	2	3	4	5	6	7
9. I have a lot in common with other team members	1	2	3	4	5	6	7
10. I feel strong ties to other team members	1	2	3	4	5	6	7
11. I find it difficult to form a bond with other team members	1	2	3	4	5	6	7
12. I don't feel a strong sense of being connected to other team members	1	2	3	4	5	6	7

[01]

Please indicate the extent to which you agree or disagree on your perceptions about your **organization membership** by ticking [✓] one of the options given below.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. When someone criticizes my organization, it feels like a personal insult	1	2	3	4	5	6	7
2. I am very interested in what others think about my organization	1	2	3	4	5	6	7
3. When I talk about my organization, I usually say "We" rather than "They"	1	2	3	4	5	6	7
4. The organization's successes is my successes	1	2	3	4	5	6	7

5. When someone praises my organization, it feels like a personal compliment	1	2	3	4	5	6	7
6. If a story in the media criticized my organization, I would feel embarrassed	1	2	3	4	5	6	7

[I-EB]

The following statements are about your perceptions on the extent of **your involvement with the team and management.** Please indicate your extent of agreement or disagreement by ticking [✓] one of the options given below.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. I have influence in decisions taken by my team regarding our tasks.	1	2	3	4	5	6	7
2. My coworkers openly share work-related information with me.	1	2	3	4	5	6	7
3. I am typically involved and invited to actively participate in work-related activities of work group	1	2	3	4	5	6	7
4. I am able to influence decisions that affect my organization	1	2	3	4	5	6	7
5. I am usually among the last to know about important changes in the organization.	1	2	3	4	5	6	7
6. I am usually invited to important meetings in my organization	1	2	3	4	5	6	7
7. My supervisor often asks for my opinion before making important decisions	1	2	3	4	5	6	7
8. My supervisor does not share information with me	1	2	3	4	5	6	7
9. I am invited to actively participate in review and evaluation meetings with my supervisor	1	2	3	4	5	6	7
10. I am often invited to contribute my opinion in meetings with management higher than my immediate supervisor.	1	2	3	4	5	6	7
11. I frequently receive communication from management higher than my immediate supervisor	1	2	3	4	5	6	7
12. I am often invited to participate in meetings with management higher than my immediate supervisor	1	2	3	4	5	6	7
13. I am often asked to contribute in planning social activities not directly related to my job function	1	2	3	4	5	6	7
14. I am always informed about informal social activities and company social events	1	2	3	4	5	6	7
15. I am rarely invited to join my co-workers when they go for lunch or drinks after work	1	2	3	4	5	6	7

[CSE]

The following set of statements deal with one's **feelings about handling creative tasks**. Please tick [✓] **one** number that best describes your agreement or disagreement with each statement.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. I have confidence in my ability to solve problems creatively	1	2	3	4	5	6	7
2. I feel that I am good at generating novel ideas	1	2	3	4	5	6	7
3. I have capability to further develop the ideas of others	1	2	3	4	5	6	7

[CRI]

The following set of statements deal with one's perceptions **about his/her creative self.** Please tick [✓] **one** number that best describes your agreement or disagreement with each statement.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. I often think about being creative	1	2	3	4	5	6	7
2. I do not have any clear concept of myself as a creative employee	1	2	3	4	5	6	7
3. To be a creative employee is an important part of my Identity	1	2	3	4	5	6	7

SECTION III

[TCR]

Listed below are statements which indicate a **member's perceptions about his/her team creativity level**. For each statement, please tick [✓] **one** number to indicate the extent to which you agree or disagree with the statement.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. My team suggests new ways to achieve goals or objectives	1	2	3	4	5	6	7
2. My team comes up with new and practical ideas to improve performance	1	2	3	4	5	6	7
3. My team suggests new ways to increase quality	1	2	3	4	5	6	7
4. My team is a good source of creative ideas	1	2	3	4	5	6	7

5. My team is not afraid to take risks	1	2	3	4	5	6	7
6. My team exhibits creativity on the job when given the opportunity	1	2	3	4	5	6	7
7. My team often has new and innovative ideas	1	2	3	4	5	6	7
8. My team comes up with creative solutions to problems	1	2	3	4	5	6	7
9. My team often has a fresh approach to problems	1	2	3	4	5	6	7
10. My team suggests new ways of performing work tasks	1	2	3	4	5	6	7

[CO-U]

The following set of statements deal with the perceptions of a team member about the **team's creative output based on usefulness**. Please tick [✓] one number that best describes your present agreement or disagreement with each statement.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. The team's work is worth doing	1	2	3	4	5	6	7
2. The team's output is capable of being put into effect	1	2	3	4	5	6	7
3. The team's output is likely to cause the desired result	1	2	3	4	5	6	7
4. The team's output will have a monetary value	1	2	3	4	5	6	7

[CO-N]

The following set of statements deal with the perceptions of a team member about the **team's creative output based on uniqueness**. Please tick [✓] one number that best describes your present agreement or disagreement with each statement

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. Some other team could easily do our team's work (R)	1	2	3	4	5	6	7
2. The team's output is different from usual run of things	1	2	3	4	5	6	7
3. The team's output is excitingly different from what has been done previously	1	2	3	4	5	6	7
4. The team's output represents a radical departure from traditional practices	1	2	3	4	5	6	7
5. The team's output is one of a kind	1	2	3	4	5	6	7

SECTION IV

[TL]

The following set of statements deal with **your perceptions on your team learning experience**. Please tick [✓] **one** number that best describes your present agreement or disagreement with each statement.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. In my team, errors are considered a source of learning	1	2	3	4	5	6	7
2. In my team, there is freedom to experiment	1	2	3	4	5	6	7
3. The 'lessons learned' in the team are made available to all team members	1	2	3	4	5	6	7
4. In my team, individuals revise their thinking as a result of group discussion or information collected	1	2	3	4	5	6	7
5. In my team, individuals are encouraged to take risk when trying new ideas	1	2	3	4	5	6	7

[TID]

The following set of statements deal with **the perceptions of team member's task dependency on other members**. Please tick [✓] **one** number that best describes your present agreement or disagreement with each statement.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. My team members have to obtain information and advice from other members to complete their work	1	2	3	4	5	6	7
2. My team members depend on each other for the completion of their work	1	2	3	4	5	6	7
3. My team members have their own responsibilities and they rarely have to check or work with others	1	2	3	4	5	6	7
4. My team members have to work closely with each other to do their work properly	1	2	3	4	5	6	7

SECTION V

[TCI-V]

The following set of questions or statements deal with **the perceptions one has related to the creative environment at the work group level.** Please tick [✓] **one** number that best describes your extent of present agreement or disagreement with each statement.

1	2	3	4	5	6	7
Not at All	Very Little	Little	Neutral	Moderate	Large	To a Great extent

1. To what extent do you think your team's objectives are clearly understood by other members of the team?	1	2	3	4	5	6	7
2. How far are you in agreement with these objectives?	1	2	3	4	5	6	7
3. To what extent do you think your team's objectives actually can be achieved?	1	2	3	4	5	6	7
4. How worthwhile do you think these objectives are to the organization?	1	2	3	4	5	6	7

[TCI-TO]

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. Team members are prepared to question the basis of what the team is doing	1	2	3	4	5	6	7
2. My team critically appraise potential weaknesses in what it is doing in order to achieve the best possible outcome	1	2	3	4	5	6	7
3. Members of my team build on each other's ideas in order to achieve the best possible outcome	1	2	3	4	5	6	7

[TCI-SI]

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. In my team, we take the time needed to develop new ideas	1	2	3	4	5	6	7
2. People in this team cooperate in order to help develop and apply new ideas and plans	1	2	3	4	5	6	7
3. People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5	6	7

[TCI-PS]

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. The team members have a 'we are together' attitude	1	2	3	4	5	6	7
2. People keep each other informed about work-related issues in the team	1	2	3	4	5	6	7
3. People feel understood and accepted by each other	1	2	3	4	5	6	7
4. There are real attempts to share information throughout the team	1	2	3	4	5	6	7

Thank you very much for your valuable time.

SET 2

Indian Institute of Technology Guwahati

Department of Humanities and Social Sciences
Guwahati – 781039 (Assam) INDIA

Dear Madam/Sir,

I'm a research scholar working at the Department of Humanities & Social Sciences, Indian Institute of Technology Guwahati under the guidance of Professor Nachiketa Tripathi. The area of my research is diversity-creativity management. I would request you to kindly participate in this study and go through the following pages to answer certain questions related to diversity and creativity.

There is no right or wrong answer. Your answer is the best answer. Therefore, please feel free to indicate your choice. All the information provided by the participants will be kept confidential and will be used only for research purpose. The identity of the organization or the employees will not be disclosed at any stage.

I understand your time constraints, but, as you realize, without your help, it would not be possible for me to carry out this study. Therefore, I request you to kindly extend your cooperation.

Thanking you in advance.

Yours sincerely,

Vinit Ghosh
Research Scholar
E-mail: vinit@iitg.ernet.in

Personal Information

Name (optional):_____

Age (in years): _____ Gender (M/F):_____

Qualifications: _____ Designation: _____

Department: _____

Tenure in present position (in months): _____

Total work experience (in years): _____

Salary: Please indicate your choice by putting [✓]

[ ] 30,000 to 40,000	[ ] 60,000 to 70,000	[ ] 90,000 to 1,00,000
[ ] 40,000 to 50,000	[ ] 70,000 to 80,000	[ ] 1,00,000 and above
[ ] 50,000 to 60,000	[ ] 80,000 to 90,000	

[TCR]

Listed below are statements which indicate a **leader or a manager's perceptions about his/her team creativity level**. For each statement, please tick [✓] **one** number to indicate the extent to which you agree or disagree with the statement.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. The team suggests new ways to achieve goals or objectives	1	2	3	4	5	6	7
2. The team comes up with new and practical ideas to improve performance	1	2	3	4	5	6	7
3. The team suggests new ways to increase quality	1	2	3	4	5	6	7
4. The team is a good source of creative ideas	1	2	3	4	5	6	7
5. The team is not afraid to take risks	1	2	3	4	5	6	7
6. The team exhibits creativity on the job when given the opportunity	1	2	3	4	5	6	7
7. The team often has new and innovative ideas	1	2	3	4	5	6	7
8. The team comes up with creative solutions to problems	1	2	3	4	5	6	7
9. The team often has a fresh approach to problems	1	2	3	4	5	6	7
10. The team suggests new ways of performing work tasks	1	2	3	4	5	6	7

[CO-U]

The following set of statements deal with a team leader or a manager's perception about the **team's creative output based on usefulness**. Please tick [✓] one number that best describes your present agreement or disagreement with each statement.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. The team's work is worth doing	1	2	3	4	5	6	7
2. The team's output is capable of being put into effect	1	2	3	4	5	6	7
3. The team's output is likely to cause the desired result	1	2	3	4	5	6	7
4. The team's output will have a monetary value	1	2	3	4	5	6	7

[CO-N]

The following set of statements deal with a team leader or a manager's perception about the **team's creative output based on uniqueness**. Please tick [✓] one number that best describes your present agreement or disagreement with each statement

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. Some other team could have easily do the team's work (R)	1	2	3	4	5	6	7
2. The team's output is different from usual run of things	1	2	3	4	5	6	7
3. The team's output is excitingly different from what has been done previously	1	2	3	4	5	6	7
4. The team's output represents a radical departure from traditional practices	1	2	3	4	5	6	7
5. The team's output is one of a kind	1	2	3	4	5	6	7

Thank You

Appendix C
About the Organizations (Study 2)

Organization 1

It is a global management consulting and market research company dealing with consulting projects for clients which includes companies like 3M, Audi, BASF to name a few. Organization 1 helps other companies to formulate market entry strategies, aiding in market research, advice on capital investment and strategic consulting. Organization 1 is actively operating this business since the last fifteen years and involves a team of trusted industry experts to execute projects or create strategies required for success. It headquartered in Dallas, Texas (USA), with its office of Indian operations is in Raipur, Chattisgarh (INDIA).

Organization 2

It is a Media and Entertainment platform ranked number 1 in Food and Drinks category for Social Media in India. The company tries to engage consumers by providing a platform for videos, information and feedback on food trends, providing visibility to various food brands and share consumers insights on experiences they have had with a view to increase businesses. The Organization has helped over 250 brands to reach over 400 million video followers on various media channels like Facebook, Instagram and YouTube. The company prides itself on helping people in the quest and the discovery of their favourite food as well the places where it is served.

Organization 3

Organization 3 is one of the global leaders in the field of innovative implant-based dental restorations. With over 60 years of experience and continuous innovation Organization 3 has introduced a number of solutions that have become

benchmarks in the industry. Organization 3 is a part of Danaher Corporation which is a global science and technology innovator helping its customer solve complex challenges and improving their quality of life. United by a common culture and operating system, the Danaher Business System (DBS) based in Washington D.C., Organization 4 are an international company with a diverse workforce of over 2,500 employees.

Organization 4

This Organization is a pioneer and a nodal agency for propelling IT growth and implementation of the IT and E-Governance projects in the State of Chattisgarh, India. The Organization employs the services of e-governance experts and consultants from corporate and academic institutions in a professional approach towards IT implementation in the State. With their office in the capital city of Raipur, the organization is involved in mega IT projects like SWAN (State Wide Area Network), SDC (State Data Centre), Cloud Infrastructure to name a few.

Organization 5

It is one of the leading innovators in the field of software design. Since its inception at Ahemdabad, Gujarat in 2012, the organization offers web and mobile application development as well as cloud computing technologies. They help enterprises set up their own technology team as well as provide effective softwares for running and operating a business smoothly.

Organization 6

Organization 6 is ranked 195 on 2018 Fortune 500 and has been voted for 10 years as one of the most admired Fortune companies. It offers support to its client by combining and building their assets and knowledge with powerful digital technologies to generate new revenue streams, new operating models and entirely new ways of delighting their customers. With revenues of over US$ 14.8 billion, Organization 6 has 357 strategic clients and over 6000 consulting

professionals worldwide to help clients embed digital thinking and solutions into the core of their businesses.

Organization 7

The Organization 7 started with a limited functioning way back in 1944, it was formally inaugurated in 1950 as one of the first four laboratories decided to be set up under the Council of Scientific and Industrial Research, in Kolkata. Tasked initially with the identification of mineral sources and quality control aspect in glass and ceramic, its work today primarily concentrates in formulating several major programmes under 11th Five Year Plan of CSIR. Network Project on Nano materials, photonics for communication, Supra Institutional Project on ceramic materials for liquid and gas separation technology are just some of the projects the organization is involved in.

Organization 8

This Organization completed 25 years of listing on Indian stock exchanges in 2018 as a specialist in global consulting and software services. Organization 8 with more than 209,000 employees and a market capitalization of approximately US$ 42.4 billion has been a major catalyst in leading India's emergence as a global destination for software services talent. Since its inception, Organization 8's journey of over 35 years has seen it become of the first IT Company from India to be listed on NASDAQ enabling clients in further 45 countries to help them succeed in their digital transformation. Globally, Organization 8 has 82 sales and marketing offices and 123 development centres as on 31st March, 2018.

Organization 9

Organization 9 is India's flagship national oil company, and with 88th position in the year 2013, it is the highest ranked Indian corporate in the prestigious Fortune Global 500 listing. The Organization and its subsidiaries hold a dominating share of national refining capacity in the petroleum products market, as it owns 10 of 22 refineries in India. It boasts of a portfolio of popular energy brands like LPGas,

SERVO lubricants, to name a few; it also caters to a major share of fuel needs of all sectors of the country. Having set up subsidiaries in Sri Lanka, Mauritius, UAE (United Arab Emirates), Sweden and USA, the organization is involved in continuously scouting new business opportunities in the energy markets of Asia and Africa.

Organization 10

The Organization was founded in June 2013 with its headquarters in Ahmedabad, Gujarat, with an aim to provide IT solutions as a service to leverage growth and sustainability of a company. It is a software company specializing in designing, integration and implementation of web and software applications. Organization 10 is a trusted partner to several Fortune 500 companies for managing their end-to-end application life cycle and business critical processes. They also provide a platform for entrepreneurs focusing on their business needs in the internet market.

Organization 11

Organization 11 in India is an integral part of a global R&D network with similar technologically advanced laboratories in various countries including Japan, U.K., France, Germany, USA, China, Singapore and Brazil. The goal of the organization in India is to support the dynamic growth of the nation by providing innovative technology solutions to its social and business needs. Part of their social innovation business model is to provide IT infrastructure consulting in terms of providing IT platform and solutions. By linking social infrastructure to information technology (IT), the primary focus behind the first R&D lab in India is social innovation.

Organization 12

It is one of the major companies offering services in information technology. The company provides business and technical consulting, training and support, software for communications, data storage and enterprise solutions, to name a

few. In addition, the company also serves aerospace, automotive, banking, healthcare, insurance, retail industries in India. The Organization was founded in 1992 with the base of its operations in Bengaluru, Karnataka. With approximately 350,000 employees generating over $35 billion of the companies' revenue, it is one of the biggest domestic IT player in the country.

Organization 13

Since its inception in 1992, the Organization 13 is considered one of the leading IT solutions provider committed to delivering meaningful technology solutions to large enterprises and Fortune 500 organizations. It offers application development, consulting and business process outsourcing services in a global arena through a combination of technology, domain and process expertise. The Organization's headquarters are based in North America (New Jersey) while in India it operates through two offices located in New Delhi and Bengaluru respectively.

Organization 14

It is one of the fastest growing Indian pharmaceutical companies employing a therapy centric business model, having recorded a turnover of Rs. 5150 crore. Currently ranked 4th in steadily growing market share, it operates through 33 exclusive and dedicated sales depots and established relationships with over 4100 stockists in India. Organization 14's success is credited to robust execution of successful and strategic moves made in areas of manufacturing, R&D, biotechnology and global operations over the last 3 years. A rapidly growing domestic presence also drives their presence and alliances in 70 countries worldwide including distribution markets of pharmaceuticals in North America, Europe, Central & Latin America.

Organization 15

It offers one of the most powerful suites of tools and services to manage and engage an entire workforce needs from hiring to creating a great place of work. Some of their products include workforce management solutions, labour law issues and workforce innovation tools such as employee scheduling, time and attendance, labour activities and analytics. The company founded by MIT alum in 1977 employs over 5,000 diverse workforce in 70 offices and 16 countries around the world. The company engages in continuous innovation, moving from public to a private company, with renewed focus on workforce management industry and a heavy investment in mobile and cloud based solutions.

Organization 16

As one of the fastest growing IT brands in India, Organization 16 combines tech expertise and business intelligence to bring in change and deliver results for their clients. As an IT consulting firm, it offers its customers the experience of using analytics over instincts in approaching their decision making. With a global presence spanning 46 countries and a strong workforce of 400,875 employees representing 143 nationalities, Organization 16 is widely recognized as a leader in finance and accounting digital solutions.

Organization 17

Organization 17 is globally recognised for its comprehensive portfolio of services, strong commitment to sustainability and good corporate governance, with over 160,000 employees serving clients across six continents. A NYSE listed company; it provides global information technology, consulting and business process services to its clients. Since its inception in 1945 it is one of the most recognized companies in the IT world and among India's most innovative companies by CII industrial innovation awards 2017.

Organization 18

Organization 18 is a global automobile manufacturer, marking its presence in India since 2005, it has achieved many milestones. Organization 18 is considered 9th best automobile maker in the world with presence in over 118 countries. It has an experience of 115 years in manufacturing and innovating automobile products such as cars and accessories. With its headquarters in France, Organization 18 has steadily increased its presence in India by strategically partnering with Mahindra & Mahindra since its inception to gaining a stronghold in Indian market by independently manufacturing and introducing its automotive products (cars, vans and trucks) to Indian markets.

Organization 19

It is a Media and Entertainment Company engaged in providing broadcasting services and is one of the most popular broadcasting companies in India in terms of their content. With over 25,000 hours of content in its extensive library, it is amongst the largest producers and aggregators of entertainment content in the world. It also holds rights to more than 4200 movie titles and offers content in multiple languages in 38 international and over 30 domestic channels. Incorporated in the year 1982, today the company holds operations in over 170 countries with over 1.3 billion viewers.

Organization 20

Organization 20 is engaged in selling of newspapers, publications and advertisement. The company also provides news on multiple digital platforms, developing mobile news content and selling advertisements on multiple digital platforms. The Organization has also diversified into different segments focusing on Media, Finance and Real estate among other ventures. The Organization 19 owns one of the largest daily newspapers in Gujarat; with further 7 editions of newspaper across Gujarat and Mumbai. Since its inception in the year 1943, the

company has developed a digital presence with over 5 million followers across different digital platforms.

Organization 21

The Organization 21 operates from its office in Ahemdabad, Gujarat and was recently awarded India's Best Design Project Awards 2017 for branding and packaging design. The company employs strategy, design and a practical mechanism to help brands understand and connect with their audiences. Offering services in strategy formulation, branding, advertising and digital media platforms to create a sustainable and data-driven design for all stakeholders of a product or company.

Organization 22

It is an autonomous, not for profit institute, set up in 1983 and is sponsored by several apex financial institutions such as IDBI Bank, IFCI, ICICI Bank and State Bank of India (SBI). Organization 22 is a national resource institute for imparting entrepreneurship education, research, training and institution building. With its base of operations in the state of Gujarat, it has taken entrepreneurship education to a large number of schools, colleges and science and technology as well as management institutions in several states. The Ministry of External Affairs, Govt. of India assigned the organization to the task of setting up entrepreneurship development centres in other countries such as Cambodia, Laos, Myanmar and Vietnam.

Organization 23

Established in 2008 Organization 23 provides information technology and outsourcing business services. The company specialises in managing IT, system integration, cash management and printing services. The Organization manages a network of over 105,000 ATMs across 98.3% districts of India, retail pick up points and managed service points making it India's largest Cash Management Company and the world's fifth largest ATM cash management company. The Organization is

uniquely positioned as the company that literally serves as the circulation system of the country's economy.

Organization 24

It is a private company incorporated in June, 1987 as is classified as a non-govt. company with a capital of Rs. 4,000,000. The company publishes an English daily newspaper from Guwahati and Dibrugrah, Assam. It has a readership of over 3 million, with over 7, 00,000 copies in current circulation. It is one of the highest circulated English daily in North-east India.