DEMOGRAPHIC DIVERSITY AND OUTCOMES: A MULTILEVEL STUDY

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Abstract

Increasing numbers of immigrants and refugees, globalisation, growing mobility of individuals, enhanced representation of women, and an ageing population have resulted in increased demographic diversity within many workplaces. Work groups are becoming demographically diverse and this diversity is expected to continue. Diversity is an intricate phenomenon that can boost or disrupt individual and group performance. Despite considerable research addressing the processes and consequences of various forms of demographic diversity, the following gaps exist: a lack of focus at multiple hierarchical levels, scarcity of research studying the collective influence of objective and perceived demographic diversity, and a meagre focus on the negative outcomes of demographic diversity via social identity perspective. Focusing on age, gender and ethnic diversity, this dissertation addresses the following research question: How does demographic diversity affect individual and group outcomes and under what conditions?

Drawing on information elaboration theory, social categorisation theory and social identity theory, an integrated multilevel framework is proposed at individual and group levels. The framework suggests that demographic diversity (age, gender and ethnicity) aids positive information elaboration processes of communication and performance pressure, while also causing negative social categorisation processes of relationship conflict and lack of social integration. These processes impact individual and group outcomes of individual/group well-being, individual/group performance, turnover and turnover intention. The framework also identifies the following moderating factors not sufficiently addressed in the demographic diversity literature: leader fairness, diversity climate, identity threat, and faultlines.

This study used a time-lagged research design to explore the influence of demographic diversity within the same groups over a period of time. The proposed framework was tested in the banking sector of Pakistan. Seventy-eight groups (bank branches) comprising 305 group members participated in the data collection. Data were collected from employees and their immediate supervisors through two rounds of surveys, with a time lag of three months. At Time-1, group members reported on demographic diversity in their work group, processes and contextual factors. At Time-2, both group members and group leaders reported on a range of outcomes. The Time 1 and Time 2 survey data were analysed using the multilevel technique in MPlus.

The results provide support for the multilevel effects of objective and perceived gender and age diversity, supporting information-elaboration perspective and social identity perspective simultaneously. Objective group gender diversity has a negative relationship with communication, whereas perceived gender diversity shows a positive influence on communication. Both objective group gender diversity and perceived gender diversity enhance relationship conflict. Relationship conflict has a positive influence on individual well-being. Relationship conflict and well-being sequentially mediate the relationship between gender diversity and individual performance. Moreover, objective group age diversity has a positive association with well-being and perceived age diversity has a positive relationship with group performance at the group level. At the individual level, perceived age diversity is found to reduce social integration which in turn enhances employee turnover intention.

This research makes the following contributions. First, the multilevel models have laid the foundation and support for the integration of two competing theoretical perspectives of information elaboration and social identity, in the gender diversity literature. Second, the study

extends information-elaboration theory to propose multilevel and mediation effects. Third, the simultaneous analysis of objective and perceived dimensions of demographic diversity demonstrated differential impact on processes and performance. Fourth, the empirical evidence for the positive influence of perceived gender diversity on communication, objective group age diversity on well-being and perceived age diversity on group performance gives a new direction to researchers in understanding demographic diversity and its outcomes. Fifth, the significant multilevel impact suggests that managers need to understand the nesting phenomenon. Individuals nested within a group are dependent on each other and affect each others' behaviour and performance, driven by demographic diversity. Lastly, diversity training efforts need to focus on perceived gender diversity and perceived age diversity to capitalise on their benefits while weakening the negative outcomes of objective gender diversity. Managers must demonstrate efforts to establish positive communication and enhance social integration among workgroup members -failing to do so could have serious effects on well-being and performance.

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Glossary

Communication – It involves a range of activities such as simple chatting to discussions for devising policies and practices among a group of three or more people (Fielding, 2006).

Demographic Diversity – Demographic Diversity is referred as the differences among employees in terms of race, gender, ethnicity, and age (Baugh and Graen, 1997; Lawrence, 1997; Tsui et al., 1992; Tsui et al., 1995).

Diversity – Diversity was first defined by Thomas (1995) as any cumulative mixture indicating similarities and differences among its components. It can also be defined as the dissimilarities among individuals on any attribute that may lead to the perception that the other person is different from self (Jackson, 1992; Triandis et al., 1994; Williams and O'ReillyIII, 1998).

Diversity Climate – Diversity climate has been defined as employees' shared perceptions of organisations diversity related policies, procedures and practices (Kaplan et al., 2011; Mor Barak et al., 1998) or "aggregate member perceptions about the organization's diversity-related formal structure characteristics and informal value" (Gonzalez and Denisi, 2009, p. 24). Reichers and Schneider (1990) have defined organisational climate as a "shared perception of the way things are carried out".

Faultline Strength – Faultlines are the hypothetical dividing lines among subgroups depending on one or more attribute similarity (Bezrukova et al., 2009; Lau and Murnighan, 1998; Thatcher and Patel, 2011). Faultlines incorporate multiple attributes of several team members

simultaneously and clearly reflect the picture of diversity within a team (Molleman, 2005). Hence, faultlines are a source of subgroup formation and make the differences and similarities more noticeable and prominent. If the faultlines are strengthened, it will lead to more salient categorisation.

Group Well-being – Well-being is a positive situation in which personal, relative and collective requirements or needs and aspiration of individuals and societies are satisfied (Evans and Prilleltensky, 2007). Therefore, the group well-being may be defined as the state of affairs in which collective needs and aspirations of groups are fulfilled.

Identity Threat – Identity threat represents situations in which employees feel that their social identity, to which they belong, is negatively evaluated (Tajfel and Turner, 1986) or challenged, prompting negative emotions and behaviours (Walton and Cohen, 2007).

Individual Performance – Individual performance can be defined as the productivity and output of employees' activities (Hameed and Waheed, 2011).

Individual Well-being – Individual well-being can be defined by three interrelated and main components of pleasant affect, unpleasant affect and life satisfaction. Affect refers to good and bad moods and emotions while life satisfaction is about cognitive sense of comfort with life (Diener and Suh, 1997).

Information Elaboration Theory – Information elaboration theory mainly proposes that diversity among group members can have positive influence on the group through enhanced abilities, skills, information and knowledge of diversified workforce (Mannix and Neale, 2005; Schneid et al., 2016; Williams and O'Reilly III, 1998).

Objective Demographic Diversity – Objective diversity can be defined as actual differences among individuals or teams (Shemla et al., 2016; Shrivastava and Gregory, 2009).

Perceived Demographic Diversity – Perceived diversity is the "dissimilarity perceptions of individuals towards others on the grounds of readily detectible attributes or characteristics" (Hentschel et al., 2013; Shemla et al., 2016; Shrivastava and Gregory, 2009) or the extent to which individuals perceive themselves similar or different to others (Huang and Iun, 2006).

Perception of Leader Fairness – It can be defined as the employees' perception about the fair or just treatment from the supervisor with respect to outcomes received (distributive), procedures to reach those outcomes (procedural), and dignity and respect with which the employee is treated by the supervisor/leader (interactional) (Van Knippenberg et al., 2007).

Performance Pressure – According to LSA Global, performance pressure is the need for employees to perform better. As the need increases the performance pressure increases and vice versa. The "set of interrelated factors that increases a team's accountability for high quality performance", defines performance pressure (Gardner, 2012).

Relationship Conflict – Jehn (1994, 1995) defined relationship conflict as the "perception of interpersonal incompatibility and typical tension, irritation, and hostility among group members".

Social Categorisation Theory – Self-categorisation theory has a strong focus in intragroup processes (Turner et al., 1987). SCT assists with characterising identity at three levels of inclusiveness (human, social and personal) (Hornsey, 2008), with 'functional antagonism' in self-definition, making one level more salient and the other becomes less so.

Social Identity Theory – Social identity theory has a strong focus in intergroup relations based on social contexts (Hornsey, 2008). Individuals tend to classify themselves and others into social categories such as organisational membership; age; ethnicity; and gender (Tajfel & Turner, 1986). These categories help individuals to define themselves and others in the larger social environment and compare their social status with other groups (Ashforth and Mael, 1989). The spectrum of SIT ranges from interpersonal (how people see themselves –'us') to intergroup (how people see others –'them') behaviour for a desire of secure and positive 'self-concept' (Hornsey, 2008; Tajfel and Wilkes, 1963).

Social Integration – Social integration is a multifaceted phenomenon that explains the degree to which individuals within the group are attracted towards the group, feel satisfied with each other, socially interact, and are psychologically linked (Katz and Kahn, 1978; Polzer et al., 2002). The term 'social integration' is used interchangeably with 'cohesion' which means the extent to which group members are attracted towards one another.

Turnover – Turnover in groups can be defined as the number of individuals leaving the group (Mathew, 2018). It can also be defined as the individual's movement outside the boundary of an organisation or group (Price, 2001).

Turnover Intention – It is explained as the reflection of the probability of an individuals' desire to switch jobs within a specified time period (Sousa-Poza and Henneberger, 2002). It is considered as an immediate precursor of the actual turnover rate.

List of Publications

1. Mansoor, S., French, E. and Ali, M.(2019), "Demographic diversity, processes and outcomes: an integrated multilevel framework", *Management Research Review*, Vol. 43 No. 5, pp. 521-543. Q2 ranked as per Scimago. (Chapter 4)

2. Mansoor, S., Ali, M. and French, E. (under review), "A Multilevel Study of Gender Diversity, Processes and Outcomes", Review of Managerial Science. (Chapter 5)

3. Mansoor, S., Ali, M. and French, E. (under review), "The Multilevel Impact of Age Diversity on Group and Individual Outcomes: Role of Social Integration", The International Journal of Human Resource Management. (Chapter 6)

Conference Papers (not included in this dissertation)

1. Mansoor, S., French, E. and Ali, M.(2019), Demographic Diversity, Processes and Outcomes at Work: Developing an Integrated Multilevel Framework. The 12[th]Equality, Diversity and Inclusion (EDI) International Conference, 22-24 July 2019, Rotterdam School of Management, Erasmus University, Netherlands.

2. Mansoor, S., Ali, M. and French, E. (2020), Gender Diversity, Processes and Outcomes: A Multilevel Study. The British Academy of Management (BAM) Virtual Conference in the Cloud, 2-4 September 2020, London, United Kingdom.

3. Mansoor, S., Ali, M. and French, E. (2021) (Under Review), Age Diversity, Social Integration and Outcomes: A Multilevel Study. 81st Annual Meeting of the Academy of Management (AOM), 29 July – 4 August 2021.

Linkages among studies

The three studies of this project are interlinked. In the first study a detailed literature review of the past empirical research on age, gender and ethnic attributes of demographic diversity was conducted. On the basis of this literature review a detailed multilevel framework on demographic diversity is proposed (see figure below). Details of the proposed framework were published in the journal of 'Management Research Review' and are presented in chapter 4. The following two studies empirically investigated the research questions presented in the proposed multilevel framework. Below figure depicts the specific research questions for the three manuscripts.

> **Demographic Diversity and Outcomes for Groups and Individuals: A Multilevel Study**
>
> **Manuscript 1**
> **Research Question:** Despite extant research, why are the findings of demographic diversity literature inconsistent and inconclusive?
>
> **Manuscript 2**
> **Research Question 1:** Does objective group gender diversity and perceived gender diversity positively influence individual well-being and performance, at individual and group levels?
> **Research Question 2:** Do communication and relationship conflict act as mediators in the above relationships?
>
> **Manuscript 3**
> **Research Question 1:** Does social integration mediate the relationship between perceived age diversity and turnover intention/well-being, at individual level?
> **Research Question 2:** Does objective group age diversity influence group performance and well-being?

List of Abbreviations

ICC   Interclass correlation

IET   Information elaboration theory

ODD   Objective demographic diversity

OGAD   Objective group age diversity

OGD   Objective gender diversity

PAD   Perceived age diversity

PDD   Perceived demographic diversity

PGD   Perceived gender diversity

SCT   Self-categorisation theory

SET   Social exchange theory

SIT   Social identity theory

SPSS   Statistical package for the social sciences

Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signature: QUT Verified Signature

Date: 16 March 2021

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Chapter 1.   Introduction

The present dissertation by published papers is focused on the processes of objective and perceived demographic diversity (age, gender, and ethnicity) at the group and individual levels. It explores the influences of demographic diversity on group and individual level outcomes within workgroups. The contextual variables impacting the relationships are also explored. A framework for multilevel analysis of demographic diversity is proposed and tested as well as propositions identified for further studies. The dissertation results in three refereed journal papers, which includes one literature review paper and two empirical studies. This chapter presents the background, purpose, significance, research design, linkages between manuscripts, and the thesis outline.

1.1   Background

Diversity is an intricate phenomenon that can boost or disrupt individual and group performance. Work groups are becoming more and more demographically diverse and this diversity is expected to continue (Jackson, 1992; Triandis, Kurowski and Gelfand, 1994; Williams and O'Reilly III, 1998). Increasing numbers of immigrants and refugees, increased globalisation, continuously growing mobility of individuals, enhanced representation of women, and an ageing population, have all resulted in increased demographic diversity within many working environments (Doverspike *et al.*, 2000; Fullerton and Toossi, 2001; Gonzalez and Denisi, 2009). Literature explains diversity in a number of ways (Hobman, Bordia and Gallois, 2003), including, surface and deep level diversity and objective and perceived diversity (Harrison, Price and Bell, 1998). Surface versus deep level diversity is a classification which refers to the basis of

the prominence of the difference. Readily detectable attributes like age, gender and ethnicity are categorised under the umbrella of surface-level diversity, whereas less-visible and psychological differences such as skills and abilities are classified as deep-level diversity attributes (Harrison, Price and Bell, 1998). Differences in surface-level attributes or visible attributes of a human is also known as demographic diversity (Williams and O'Reilly III, 1998). It refers to differences between employees across various forms, such as age, gender, ethnicity and race (Baugh and Graen, 1997; Tsui, Egan and Xin, 1995).

Objective diversity refers to the actual differences among individuals (Shemla *et al.*, 2016; Shrivastava and Gregory, 2009), whereas perceived diversity refers to the extent to which group members perceive themselves as being similar or different to others (Huang and Iun, 2006). The increasing diversity within workplaces underlines the importance of providing managing practitioners with insights into how to capitalise on the potential benefits of diverse workgroups while overcoming any negative effects (Mayo *et al.*, 2017). On the advantages versus disadvantages of working with demographically different people, scholars remain divided (Mayo *et al.*, 2017). Benefits of demographically different groups include access to broader perspectives that can influence quality decisions (Watson, Kumar and Michaelsen, 1993)and innovative ideas; however, it may result in conflicts, lack of cohesion (Nakui, Paulus and van der Zee, 2011), dissatisfaction, turnover (Jackson *et al.*, 1991; Wagner, Pfeffer and O'Reilly, 1984)reduced commitment (Riordan and Shore, 1997), and decreased performance (Leslie, 2017). These mixed effects of diversity have been reported in multiple meta-analyses (Schneid *et al.*, 2016; Thatcher and Patel, 2011).

Numerous studies have analysed the effects of demographic diversity on group outcomes, such as, social integration; communication and cooperation (Nishii, 2013). Evidence of team learning (Van Der Vegt and Bunderson, 2005) and team reflexivity (Schippers *et al.*, 2003) have also been identified as mediators in the relationship between group demographic diversity and performance. On the other hand, cohesion and conflict have been discussed as the mediators influencing negatively upon the outcomes of demographically diverse workgroups (e.g., Herring, 2009; King, Hebl and Beal, 2009; Van Knippenberg and Schippers, 2007). It is also reported that the conflicts in gender diverse teams reduce if groups have highly inclusive environments. This in turn increases satisfaction levels of the group members and reduces turnover rate (Nishii, 2013).

Adding to the complexities of various forms of diversity, objective versus perceived diversity and mixed effects on processes and outcomes, demographic diversity at any one organisational level may affect outcomes at multiple levels. For instance, individuals are often nested in groups within organisations (Peccei and Van De Voorde, 2019), and the impact of group diversity occurs at both individual and group levels (Tasheva and Hillman, 2019). In general, past research has focused only on one level of analysis, such as at the individual, group or organisational level (Chattopadhyay, 2003; Nishii, 2013). This narrow focus has also contributed to inconsistent findings (Chattopadhyay, 2003; Nishii, 2013). Multilevel analysis is important to bridge the gap between micro and macro levels of analysis and to avoid fallacy of the wrong level (Molina-Azorín et al., in press). The techniques of aggregation and disaggregation were used previously to analyse variables at multiple levels; however, it may produce errors while drawing inferences and interpretations about a certain level (Dansereau et al., 2006; Hitt et al., 2007; Mathieu and Chen, 2011). As a variable at the macro (higher) levels

may affect the variables at the micro (lower) levels, and vice versa (Pringle and Ryan, 2015), it is important to consider the multilevel influence to better understand the impact of demographic diversity attributes.

The objective of this dissertation is to review past diversity research to integrate these complexities of demographic diversity into one multilevel framework for an improved understanding and to present testable propositions, followed by the empirical investigation of the proposed framework. The present research focuses on objective and perceived dimensions of age, gender and ethnic diversity at the individual and group levels (Joshi, Liao and Roh, 2011; Peccei and Van De Voorde, 2019). Age, gender and ethnicity are the most easily identified forms of demographic diversity and thus can quickly initiate group processes leading to effects on various outcomes (Pelled, Eisenhardt and Xin, 1999; Van Knippenberg, De Dreu and Homan, 2004). Focusing on the individual and group levels enabled a proper scoping of this research (Hobman, Bordia and Gallois, 2003). Diversity literature at other levels (e.g., the organisational level) uses different theories and processes to investigate the impact on macro-level organisational outcomes (Ali, Ng and Kulik, 2014) so it was not utilised in this study.

1.2   **Theoretical underpinning**

Three theoretical frameworks have guided this research to address the previously inconsistent and inconclusive findings: information-elaboration perspective, social identity theory and self-categorisation theory (Hornsey, 2008; Mannix and Neale, 2005; Milliken and Martins, 1996; Tajfel, 1981; Turner *et al.*, 1987). Information-elaboration perspective focuses on positive effects of diversity due to increased variety of resources in the form of knowledge, skills and experiences, while social identity theory and self-categorisation theory suggests that the negative

outcomes of diversity are due to individuals' desire for self-esteem and acknowledgement (Schneid *et al.*, 2016).

1.3 Research Gaps and Research Questions

A number of gaps in the demographic diversity literature are evident relating specifically to the inconsistent findings due to a lack of focus at multiple levels, scarcity of research studying the collective influence of objective and perceived demographic diversity attributes, and a meagre focus on the negative outcomes of demographic diversity. These limitations and gaps in the literature provide an opportunity for further investigation of demographic diversity and therefore the following predominant research question is presented.

Main Research Question: What is the influence of demographic diversity on individuals and groups and how does it affect individual and group level outcomes under certain conditions?

1.4 Purpose of the study

The purpose of this research is to contribute to the knowledge of demographic diversity, specifically its impact at the group and individual level outcomes, through identifying and testing the positive and negative processes and moderating variables. This research enhances the demographic diversity scholarship by understanding the influence of information-elaboration perspective along with social identity perspective and offering insights into the workgroups diversity that contributes to the research scope.

1.5   Significance and aim of the Study

The overarching aim of the current research dissertation has been to identify the reasons for inconsistencies in the literature of demographic diversity, followed by the development and testing of a multilevel framework for demographic diversity. It is believed that the future development in the field of demographic diversity is dependent on analysing the concept across multiple levels in the workplace (e.g., Joshi, Liao and Roh, 2011; Peccei and Van De Voorde, 2019). The study distinguishes important factors at the group and individual levels, which play a substantial role in group and individual outcomes. First, the study refined the demographic diversity literature through improved analysis of diversity dynamics. The multilevel and time-lagged design in the current study allowed a better understanding of the influence of demographic diversity on outcomes. The results provide a more accurate picture of the relationships between demographic diversity and outcomes than previous research. The use of the multilevel framework suggests the need to investigate a combination of multilevel factors of demographic diversity to identify and acknowledge its complex nature and the interactivity at group and individual levels. The demographic diversity research needs to acknowledge the fact that individuals are nested in groups (Peccei and Van De Voorde, 2019) and the impact of diversity among individuals is multi-faceted (Tasheva and Hillman, 2019). This multifaceted nature of diversity has led to the inconsistent and contradictory findings in the previous literature regarding the relationship of demographic diversity and individual/group outcomes. This new framework suggests the need to investigate a combination of multilevel factors to identify and acknowledge the complex nature of demographic diversity and its interactivity at the group and individual levels.

Second, the framework focuses on both the objective and perceived demographic diversity together. Traditionally, past research has focused on the objective diversity among the team members (Hentschel *et al.*, 2013), while the perceived diversity has not received much attention (e.g., Harrison *et al.*, 2002; Shemla and Meyer, 2012; Zellmer-Bruhn *et al.*, 2008), despite the notion that individuals react or respond on the basis of their perceptions of diversity or reality rather than the factual reality per se (e.g., Hobman, Bordia and Gallois, 2003). The focus of researchers has only recently shifted from objective diversity to perceived diversity and a growing line of research is now focusing on the role of perceived diversity (Shemla *et al.*, 2016). Perceived diversity has been broadly defined as the "extent to which members perceive themselves as being similar to others" (Huang and Iun, 2006). Hentschel *et al.* (2013) explained that objective and perceived demographic diversity are two different constructs, which may or may not always align. A number of problems are associated with studying objective and perceived diversity separately. For example, studies related to objective diversity are reported to produce inconsistent findings (Van Knippenberg and Schippers, 2007). At the same time, Shemla *et al.* (2016) report that objective diversity studies are unable to discern the variety of meanings that individuals attribute to contrasting arrangements. Riordan (2000) stated the variance in findings accounted for by the analysis of objective demographic diversity alone is quite small. It is recommended to use both objective and perceived demographic diversity attributes in analyses to explain the substantive variance in understanding diversity. Therefore, it is proposed to study objective and perceived demographic diversity together to gain a better understanding of the total influence of demographic diversity.

Third, the framework identifies a number of positive and negative processes of demographic diversity based on an information-elaboration perspective and a social identity

perspective, respectively. Previously demographic diversity literature has generally followed the social categorisation paradigm (e.g., Harrison and Klein, 2007). It is proposed that demographic characteristics of individuals may equally influence information elaboration (positive aspects) among group members. This was further supported by empirical investigation of age and gender diversity (see chapters 5 and 6). Fourth, the framework proposed will help to move the field forward to identify any missing links that may help to explain inconsistent findings. The detailed integration of literature at a multilevel including group and individual levels will help to identify the trends and directions and identify future needs for researchers and practitioners.

1.6   Research Design

This study uses a three-month time-lagged survey design. The rationale of using the time-lagged design is to understand the influence of demographic diversity within the same groups over time. The diversity processes were measured in Time 1 and the outcome variables were measured in Time 2. The same individuals responded to the survey in both phases, with group leaders also reporting on the outcome variables at Time 2. The findings of Time 1 and Time 2 survey data from group leaders and group members were analysed to explore the processes and outcomes of demographic diversity. An overview of the research design is provided in figure 1.1.

	Manuscript 1	Data Collection		Manuscript 2	Manuscript 3
Literature review	Develop multilevel framework on demographic diversity	Phase one: January 2019 – Group member Survey 1	Phase two: April 2019 – Group leader Survey & Group member Survey 2	A multilevel study of gender diversity, processes, and outcomes	The multilevel impact of age diversity on group and individual outcomes: Role of social integration
				Data Analysis using SPSS &M*plus*	

Figure 1.1 *Research Design*

1.7   Dissertation Outline

This thesis comprises of seven chapters, as outlined in table 1.1. A brief introduction of each chapter is provided below to guide the readers through the document.

Chapter 1 provides an overview of the dissertation. It includes background of the study, purpose of the study, research design and linkages among three manuscripts presented later in the thesis.

Chapter 2 summarises the past literature on surface and deep level diversity; theoretical frameworks used to explain demographic diversity attributes of age, gender and ethnicity; and levels of analysis in past literature. Further, it explains the research gaps identified in the literature and research questions developed for the present dissertation. A framework is developed that identifies the major gaps in the literature and uses information elaboration theory, social categorisation theory and social identity theory, to propose hypotheses regarding process

and outcomes of demographic diversity at individual and group levels. This helps the reader to understand the theoretical background and scholarship of demographic diversity and the positioning of current research work in the broader picture.

Chapter 3 presents the design and methodology used in the thesis. It includes the details of research design including data collection approach, participants, population, sample, sampling technique, measures, and statistical software used. It identifies the survey method and the approach to analysis of data for this multilevel study, and the detailed data aggregation cut-off criteria are discussed in the respective manuscripts (see chapters 5 and 6).

Table 1.1 Dissertation Outline

	Chapter Title
Chapter 1	Introduction
Chapter 2	Literature Review
Chapter 3	Methodology
Chapter 4	Manuscript 1 - Demographic diversity, processes and outcomes: an integrated multilevel framework
Chapter 5	Manuscript 2 - A multilevel study of gender diversity, processes, and outcomes
Chapter 6	Manuscript 3 - The multilevel impact of age diversity on group and individual outcomes: Role of social integration
Chapter 7	Discussion and Conclusion

Chapter 4 provides the manuscript 1 (published online) that comes from the literature review discussed in chapter 2. Citation: Mansoor, S., French, E., & Ali, M. (2019). Demographic diversity, processes and outcomes: an integrated multilevel framework. *Management Research Review*. The abstract follows:

Purpose – A narrow focus of past diversity research and inconsistent findings have contributed to a lack of understanding of how to manage diversity for positive outcomes. Focusing on age, gender and ethnic diversity, this paper reviews literature on group objective demographic diversity and individual perceived demographic diversity to present an integrated multilevel framework for our improved understanding and to present testable propositions.

Design/methodology/approach – The authors conducted a thorough review of 51 empirical studies of demographic diversity at individual and group levels to propose a multilevel framework.

Findings – Drawing on information-elaboration theory, social categorisation theory and social identity theory, an integrated multilevel framework is proposed at individual and group levels. The framework suggests that demographic diversity (age, gender and ethnicity) aids positive information elaboration processes, while also causing negative social categorisation processes. These processes impact individual and group outcomes. The framework also identifies moderating factors not sufficiently addressed in the demographic diversity literature. Propositions and implications for future research in the field of demographic diversity are presented.

Originality/value – This review provides an integrated multilevel framework of objective and perceived demographic diversity and its positive and negative processes and effects at both individual and group levels, drawn from information elaboration, social categorisation and social identity theories.

Chapter 5 is published as manuscript 2 (in review). A multilevel study of gender diversity, processes, and outcomes. Authors are 'Mansoor, S.; Ali, M. & French, E.', submitted in the 'Review of managerial science'. The abstract follows:

Gender diversity is gaining increasing attention in organisations. This study investigates the processes and outcomes of objective group gender diversity and perceived gender diversity derived from two perspectives: information-elaboration and social identity. Data were collected through two rounds of employee surveys at two banks in Pakistan, with a time lag of three months. Seventy-eight groups comprising 305 members participated in both surveys. Multilevel analyses in Mplus indicate that objective group gender diversity has a negative relationship with communication, whereas perceived gender diversity shows a positive influence on communication. Both objective group gender diversity and perceived gender diversity enhance relationship conflict. Relationship conflict and well-being sequentially mediate the relationship between gender diversity and individual performance. The study contributes to the literature by simultaneously studying objective and perceived dimensions of gender diversity, highlighting the positive processes of gender diversity, and providing empirical support for the multilevel influence of gender diversity.

Chapter 6 is published as manuscript 3 (in review). The multilevel impact of age diversity on group and individual outcomes: Role of social integration. Authors are 'Mansoor, S.; Ali, M. & French, E.', submitted in the 'International journal of human resource management'. The abstract follows:

Workgroups are increasingly becoming more diverse. This study investigates the multilevel process and outcomes of objective and perceived age diversity via information-elaboration theory and social exchange theory. Data were collected from employees and their immediate supervisors through time-lagged surveys at two banks in Pakistan. Seventy-eight groups comprising 305 group members participated in both surveys, with 78 group leaders participating in the second survey. Multilevel analysis in Mplus indicates that objective group age diversity has positive association with well-being and perceived age diversity has a positive

relationship with group performance at the group level, whereas, at the individual level, perceived age diversity is found to reduce social integration which in turn enhances employee turnover intention. This study contributes to the literature by studying objective and perceived age diversity through the lens of information-elaboration theory, pioneering the theorising and testing of social integration as the process of perceived age diversity and providing empirical support for the multilevel influence of perceived age diversity. The results have several theoretical, research and practical implications.

Chapter 7 presents the discussion and conclusion of the combined project including all three manuscripts. This is followed by the limitations and future recommendations for further research in the field of demographic diversity.

1.8 Chapter Summary

This chapter provides the overview of this study, including background, research gaps and questions, purpose, significance, aim, research design and dissertation outline. The next chapter provides the review of previous literature on demographic diversity.

Chapter 2.   Literature Review

The inconsistencies in demographic diversity literature point towards the possible multilevel influence of demographic diversity attributes. This study asks the question: What is the influence of demographic diversity on individuals and groups and how does it affect individual and group level outcomes? The future research development in the field of demographic diversity is dependent on analysing the concepts of diversity across multiple levels in the workplace. This chapter provides an overview of extant literature on the classification of diversity attributes in literature, followed by the theoretical frameworks and levels of analysis used in literature to explain demographic diversity and to address the research questions. Subsequently this chapter identifies research gaps that justify the reason for undertaking the study and a need for the theoretical framework developed (published in chapter 4) and the empirical investigations undertaken (under review in chapters 5 and 6). Detailed research questions and linkages among the three manuscripts are also presented.

2.1   Diversity

Workplace diversity in organisations refers to similarities and/or differences among employees on any attribute (or characteristic) that may lead to the perception or belief that the other person or employee is different from oneself (Jackson, 1992; Triandis, Kurowski and Gelfand, 1994; Williams and O'Reilly III, 1998). The term was first coined by Thomas Jr (1995) as any cumulative mixture demonstrating differences and similarities among its components. Diversity research has addressed various forms of difference, but principally the focused categories include age, gender, ethnicity, functional background, education, and tenure of service (Chatman and

O'Reilly, 2004; Halaby, 2003; Reagans and Zuckerman, 2001). However, there are an infinite number of attributes (or characteristics) that can distinguish one person from another, for example religion (Hicks, 2002); marital status (e.g., Price, Harrison and Gavin, 2006); sexual orientation (Ragins, Singh and Cornwell, 2007); disability (Olkin, 2002); skills, expertise, and experience (e.g., Van der Vegt, Bunderson and Oosterhof, 2006); and values, attitudes, and personality (e.g., Harrison *et al.*, 2002; Jehn, Chadwick and Thatcher, 1997; Liao, Chuang and Joshi, 2008).

There are a number of perspectives used to develop categories to classify the potentially infinite number of diversity attributes. The most commonly referred categorisations in literature are:

1. Surface versus deep level diversity;

2. Objective versus perceived diversity;

3. Tripartite classification: separation, variety and disparity

2.1.1   Surface versus deep level diversity

The surface versus deep level of diversity classification is common among scholars and refers to the basis of the prominence of the difference. Surface level diversity (Harrison, Price and Bell, 1998) is also commonly referred to as demographic (Williams and O'Reilly III, 1998), readily detectable (Jackson *et al.*, 1995), observable (Milliken and Martins, 1996), or visible (Mor Barak, Findler and Wind, 2001) diversity. It typically includes age, gender, ethnicity, tenure and functional background of employees (Harrison *et al.*, 2002; Lawrence, 1997; Tsui, Egan and Xin, 1995). Differences in such salient characteristics are visible and immutable, making them easy to

identify and develop social consensus (Harrison, Price and Bell, 1998). Despite the importance of other diversity attributes, it is difficult to deny demographic/surface-level differences, as they play an important role in developing initial perceptions of individuals and about each other (McCann *et al.*, 1985; Taylor *et al.*, 1978). Researchers and managers have developed a strong interest in surface-level diversity (Mohammed and Angell, 2004). A majority of the past diversity literature has focused on demographic attributes of diversity (e.g.,Goldberg, Riordan and Schaffer, 2010; Hoever *et al.*, 2012; Nishii, 2013).

Deep-level diversity (Harrison, Price and Bell, 1998) is also referred to in the literature as the underlying (Jackson *et al.*, 1995), less-visible (Milliken and Martins, 1996), psychological (Jackson and Ruderman, 1995) and invisible (Mor Barak, Findler and Wind, 2001) differences between individuals. Differences between individuals on the basis of information, values, attitudes, knowledge, skills, abilities, opinions, and personality are investigated throughout the deep-level diversity literature (Harrison, Price and Bell, 1998; Harrison *et al.*, 2002b; Jehn, Chadwick and Thatcher, 1997; Jehn, Northcraft and Neale, 1999). Further, attributes like sexual orientation and physical and mental conditions are also studied under the umbrella of 'deep-level diversity' (Clair, Beatty and Maclean, 2005; Ragins, Singh and Cornwell, 2007).

2.1.2 *Objective versus perceived diversity*

Diversity within a workgroup has come to refer to all aspects of objective and perceived differences among the group members (Van Knippenberg, De Dreu and Homan, 2004). Objective diversity is defined as the actual differences among individuals or teams (Hentschel *et al.*, 2013), whereas, perceived diversity captures the members' belief or perception about differences with each other (Hentschel *et al.*, 2013; Shemla *et al.*, 2016). It is defined as

"dissimilarity perceptions of individuals towards others on the grounds of readily detectible attributes or characteristics" (Shrivastava and Gregory, 2009) or the extent to which individuals perceive themselves similar to others (Huang and Iun, 2006). Traditionally, most of the research has been focused on the objective diversity among individuals and workgroups (Hentschel *et al.*, 2013) despite the fact that individuals react or respond on the basis of their perceptions of diversity or reality rather than the factual reality per se (e.g., Hobman, Bordia and Gallois, 2003). The focus of researchers has only recently shifted from objective diversity to perceived diversity and a growing line of research is now focused on the role of perceived diversity (Shemla *et al.*, 2016). As Hentschel *et al.* (2013) stated, "objective and perceived diversity are two separate constructs that may sometimes but not always align". Harrison and Klein (2007) suggest that perceived diversity has more proximal descriptive power than objective diversity.

While research to date has predominantly focused independently on the objective diversity among the team members (Hentschel *et al.*, 2013; Shemla *et al.*, 2016), perceived diversity has not received much attention (e.g., Harrison *et al.*, 2002; Shemla and Meyer, 2012; Zellmer-Bruhn *et al.*, 2008). Further, the objective and perceived demographic diversity attributes have previously been studied in isolation. A number of problems are associated with studying objective and perceived diversity separately. For example, studies related to objective diversity are reported to be inconclusive and are producing inconsistent findings (Van Knippenberg and Schippers, 2007). At the same time, Shemla *et al.* (2016) report that objective diversity studies are unable to discern the variety of meanings that individuals attribute to contrasting arrangements. Concurrently, a number of studies have reported that objective diversity in teams usually has an indirect influence on the group outcomes (e.g., Harrison *et al.*, 2002; Ries *et al.*, 2013). Riordan (2000) stated the variance in findings accounted for by the

analysis of objective demographic diversity alone is quite small. It is the use of both objective and perceived demographic diversity attributes in any analysis that is recommended to explain the substantive variance in explaining and understanding diversity. Therefore, it is growing increasingly important to collectively study both the objective and perceived attributes of demographic diversity.

2.1.3 *Tripartite classification as variety, disparity and separation*

In a further effort to explain diversity, Harrison and Klein (2007) have offered a diversity typology. According to them, diversity dimensions within an organisation could be indicative of variety, disparity or separation. Differences in the information, education, knowledge or experience among group members is classified as 'variety', while differences in status, pay or position can be indicative of diversity considered as 'disparity'. 'Separation' accounts for the differences in the beliefs, opinions or positions of employees, leading to opposition or disagreement (Harrison and Klein, 2007). Each category is associated with a different set of outcomes. For example, if the dimension considered is a source of 'variety' it is associated with enriching creativity and debate. Diverse individuals can bring about unique approaches, creativity and ideas (Williams and O'Reilly III, 1998) representing their specific broader group within the society or organisation. Demographically diverse individuals may recognise a larger pool of information within the group, which is the information processing unit for the organisation (Hinsz, Tindale and Vollrath, 1997). Where everybody in the group is different, they can offer a unique viewpoint (Gibson and Vermeulen, 2003), and this potentially helps groups to develop better communication through being open and receptive to others' viewpoints (Harrison and Klein, 2007). Groups that consist of members from within various age brackets

and different ethnicities will expand the number of experiences and information on hand. Similarly, the presence of both genders within a group will help to ensure the perspectives of each gender within the group. Harrison and Klein (2007) stated that each attribute of diversity can be categorised on all three classifications, depending on the context-dependent interpretations. However, the demographic diversity attributes have been primarily studied as a source of separation and have been principally linked to negative outcomes (e.g., Kirkman, Tesluk and Rosen, 2004; Timmerman, 2000).

2.1.4   Summary of Diversity Attributes

Research has provided several ways to categorise the range of diversity attributes, including surface and deep level diversity, objective and perceived diversity, and diversity as a source of variety, disparity or separation. In contrast to objective diversity (that is actual differences among individuals or teams); perceived diversity captures the members' belief or perception about differences with each other (Hentschel *et al.*, 2013; Shemla *et al.*, 2016). Research to date has predominantly focused independently on objective and perceived demographic diversity attributes and investigated them as a source of separation among the group members' outcomes (e.g., Kirkman, Tesluk and Rosen, 2004; Timmerman, 2000). A number of problems are associated with studying objective and perceived diversity separately. For example, studies related to objective diversity are reported to be inconclusive and are producing inconsistent findings (Van Knippenberg and Schippers, 2007). At the same time, Shemla *et al.* (2016) reported that objective diversity studies are unable to discern the variety of meanings that individuals attribute to contrasting arrangements. Concurrently, a number of studies reported that

objective diversity in teams usually has an indirect influence on the group outcomes (e.g., Harrison *et al.*, 2002; Ries *et al.*, 2013).

However, the literature also suggests that studying objective and perceived dimensions together may significantly increase the variation of understandings of diversity in a population and therefore influence outcomes (Harrison and Klein, 2007; Riordan, 2000). Riordan (2000) stated the variance accounted for by the objective demographic diversity is quite small, and the use of both objective and perceived demographic diversity attributes may increase the variance explained in the outcomes. This led the present study to examine both objective and perceived dimensions of the three main demographic diversity attributes of age, gender, and ethnicity as a source of separation as well as variety among group members.

2.2   Theoretical Foundations

The study of extant literature suggests that demographic diversity within a workgroup can have powerful effects on the individual and group outcomes. Understanding how demographic differences lead to such powerful effects is of utmost importance for managers and organisations, to maximise their benefits (Pelled, 1996). Three theoretical frameworks are most often used within the diversity literature to predict and explain effects: namely, social identity theory (Turner and Tajfel, 1986); self-categorisation theory (Turner *et al.*, 1987); and information elaboration theory (Mannix and Neale, 2005; Williams and O'Reilly III, 1998).

2.2.1 Social Identity Theory

Social identity theory (SIT) was first proposed by Tajfel (1978). It was the first social psychological theory acknowledging the presence of different hierarchical levels of status and power in groups. Social identity is "that part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership" (Tajfel, 1978, p. 63). Social identity theory has a strong focus in intergroup relations based on social contexts (Hornsey, 2008). Individuals tend to classify themselves and others into social categories such as organisational membership; age; ethnicity; and gender (Tajfel and Turner, 1986). These categories help individuals to define themselves and others in the larger social environment and compare their social status with other groups (Ashforth and Mael, 1989).

SIT is based on three assumptions (Turner and Brown, 1978). First, individuals categorise themselves into social groups. Second, an individual's positive social identity is linked with the status of his/her group. Third, the status of a group is relative to other groups. SIT suggests that people like to perceive their identity positively (Tajfel and Turner, 1986). The tendency to see one's own group as better than other groups promotes psychological division and social comparison between the in-group and the out-group. Further, social comparison between the in-group and the out-group generates affective, cognitive, and behavioural biases (Moreland, 1985), favouritism toward in-group members (Allen and Wilder, 1975; Billig and Tajfel, 1973; Turner and Brown, 1978), discrimination toward out-group members (Tajfel *et al.*, 1971) and social competition between them (Turner and Brown, 1978). These in-group/out-group dynamics

may result in decreased communication and increased stereotyping (Stephan and Stephan, 1985), and conflict between groups (Sherif and Predicament, 1966).

Moreover, during theory articulation, Tajfel and Turner (1986) argued that the nature of interaction among humans ranges on a spectrum from interpersonal to intergroup (Hornsey, 2008). A completely interpersonal interaction is when individuals interact with no knowledge of their social context or social categories (such situations are rare); whereas, a purely intergroup interaction is when people interact solely as representative of their social categories or groups. Moving from an interpersonal to an intergroup end of spectrum changes the way people perceive, behave and interact with each other. When the social categories are 'salient', people make a clear distinction between 'us versus them'. Categorisation also develops a sense of self-concept among individuals (Tajfel *et al.*, 1979). At the interpersonal end of the spectrum, their self-concept defines their personal identity depending on their attitudes, behaviours and emotions; whereas at the intergroup end of the spectrum, it defines their social identity comprising of their image derived from the social category to which they belong. Therefore, individuals strive to secure their positive 'self-concept', both personal and social, and are motivated to believe and appreciate their groups as good groups (Hornsey, 2008).

Furthermore, individuals compare their social groups with others, to maintain their positive social identity. They think and behave in ways to achieve a positive distinctiveness among their own group and other out-groups (Hornsey, 2008). People from relatively low status groups strive to claw back their positive social identity either through leaving the group, downward intergroup comparisons, focusing on group's positive dimensions, and devaluing bad ones (Abrams and Hogg, 1988; Tajfel *et al.*, 1979; Turner and Brown, 1978). In sum, SIT

advocates that people like to perceive their own social group as superior, promoting the psychological divide and social comparison between the in-group and out-groups (Turner and Tajfel, 1986).

2.2.2   Self-categorisation Theory

Self-categorisation theory (SCT) focuses on intragroup interactions (Turner *et al.*, 1987) while SIT focused on intergroup interactions. Despite this difference the two theories share many assumptions, ideology and theoretical perspective but with different foci and emphases. Therefore, many researchers now refer to the two theories as 'social identity perspective' or 'social identity approach' (Hornsey, 2008).

SCT has a strong focus on intragroup processes (Turner *et al.*, 1987) and considered the same categorisation process used in SIT, however, rather than considering the spectrum on interpersonal and intergroup dynamics, SCT characterised identity as operating at three levels of inclusiveness: human, social, and personal (Hornsey, 2008). The human category is the superordinate category of the individual as a human being, social category is the intermediate level and is the definition of self as a member of a social group, whereas, personal category is based on the interpersonal comparisons and is considered as the subordinate category (Hornsey, 2008). Individuals use similarities and differences to categorise themselves into different groups and to ensure the categorisation distinguishes them from one or more out-groups. This encourages them to favour in-group members over out-group members (Brewer, 1979; Turner *et al.*, 1987; Turner and Tajfel, 1986).

According to SCT the prominence of social categorisation depends on both accessibility and fit (Oakes, 1987; Oakes, Turner and Haslam, 1991). Fit indicates the extent to which an individual's social category is indicative of social reality, that is, real-world differences. Therefore, the three functions (Oakes, Haslam and Turner, 1994; Turner *et al.*, 1987) for the prominence of self-categorisation are: comparative fit, normative fit, and cognitive accessibility (Van Knippenberg, De Dreu and Homan, 2004). Comparative fit is defined as the extent to which the similarities and differences among the group members can be easily categorised. Individuals will perceive high fit if there are maximum perceived inter-category differences and minimum intra-category differences (Hornsey, 2008). Normative fit is the level of categorisation that makes sense in the psychological frame of reference of individuals in the workgroup. Individuals will perceive high fit if the group membership and social behaviours are aligned with stereotypical expectations. Cognitive accessibility is the ease with which the categorisation can be used and comes to mind by the individual. Perceived categories of individuals can be temporarily accessible or chronically accessible depending on the situation and motivation to use them (Hornsey, 2008). Van Knippenberg, De Dreu and Homan (2004) have proposed that the salience of social categorisation is contingent upon the interaction of these three functions of social categorisation within the workgroup.

Another cornerstone of SCT is the concept of depersonalisation, where individuals cognitively represent themselves and others within their social group as prototypes. Prototype is not a reality, but just the perception of the defining attributes of the social category to which the individual belongs (Hornsey, 2008). These perceptions may change or fluctuate in different situations or contexts. In sum, SCT is a detailed investigation and analysis of intragroup processes, as compared to intergroup processes (Turner *et al.*, 1987).

The categorisation process may trigger a divide among workgroup members, resulting in an increased tendency for negative perceptions for other subgroups (e.g., Brewer, 1979; Turner, 1982). Increased homogeneity among group members tends to enhance the positive outcomes (like individual and group performance, well-being), whereas the augmentation of heterogeneity within the workgroup leads to negative influences (like relationship conflict, lack of communication and social integration), exacerbating the negative outcomes (individual and group well-being, performance, turnover) (Jehn, Northcraft and Neale, 1999; Simons, Pelled and Smith, 1999; Van Knippenberg, De Dreu and Homan, 2004). Based on the social identity theory and self-categorisation theory, demographic diversity is believed to cause categorisation among group members and has been predominantly linked to negative outcomes (Kirkman, Tesluk and Rosen, 2004; Timmerman, 2000; Garcia Martinez, Zouaghi and Garcia Marco, 2017).

2.2.3   Information-elaboration Theory

Information elaboration theory (IET) encourages an optimistic view, where diversity enhances performance by creating a positive environment. It proposes the mechanism that allows diverse group members to engage in sharing unique knowledge and perspectives (Harvey, 2015). IET states that variation within groups can have positive outcomes due to the increased abilities, knowledge, skills, experiences and information of diverse group members (Ancona and Caldwell, 1992; Mannix and Neale, 2005; Tziner and Eden, 1985; Winquist and Larson Jr, 1998). These added alternatives and expertise can make the demographically diverse group more effective. Thus, the IET focuses on the benefits that diversity brings to the group. Diverse group members can immerse the group in mutual problem-solving; experience intellectual conflict and respond with unique insights by improving their elementary assumptions (Mannix and Neale,

2005); eventually enhancing the groups' problem-solving abilities (Perret-Clermont, Perret and Bell, 1991) and performance.

Furthermore, according to IET heterogeneous groups are believed to outperform homogeneous groups (Ancona and Caldwell, 1992; Williams and O'Reilly III, 1998). This is because diverse groups are seen to have a larger pool of resources, in addition to other beneficial effects (Van Knippenberg, De Dreu and Homan, 2004). The group members will engage in discussions to reconcile conflicting viewpoints that lead the group to thoroughly process task-relevant information and avoid opting for choices that can easily be achieved with consensus. Additionally, exposure to divergent viewpoints may lead to creative and innovative solutions and ideas for the tasks in hand (Ancona and Caldwell, 1992; Bantel and Jackson, 1989; De Dreu and West, 2001).

Information elaboration (Mannix and Neale, 2005; Williams and O'Reilly III, 1998), self-categorisation and social identity (Hornsey, 2008; Tajfel, 1981; Turner *et al.*, 1987)theories are frequently used in the diversity literature. However, the demographic diversity literature (age, gender) generally considers diversity as a source of separation among the group members (e.g., Harrison and Klein, 2007), mainly drawing on the theories of self-categorisation and social identity (Fiske, 1998; Van Knippenberg, De Dreu and Homan, 2004). Notwithstanding this literature, the present study supports the viewpoint that information elaboration among the demographically diverse group members may have a positive influence on individual and group outcomes as suggested by Van Knippenberg, De Dreu and Homan (2004) in their categorisation-elaboration model and Harvey (2015). A few studies reported that gender and ethnic diversity can have a positive influence on group processes (Kent and McGrath, 1969; Kirchmeyer and

Cohen, 1992). Díaz-García, González-Moreno and Jose Saez-Martinez (2013) found a positive influence of gender diversity on radical innovation rather than incremental innovation, while Kearney, Gebert and Voelpel (2009) reported a positive relationship between age diversity and team performance if the team's need for cognition was high.

The presence of demographic differences among group members enable them to freely exchange information and contrasting viewpoints with each other (Loyd *et al.*, 2013; Phillips and Loyd, 2006) without fearing for recognition and identity within their own group of similar individuals (Rink and Ellemers, 2007). Salient diversity within workgroups helps individuals to engage in finding solutions for the task in hand without losing attention for problematic interpersonal relations (Loyd *et al.*, 2013). Employees working in homogeneous groups expect to share opinions and perspectives and may react negatively if opinions differ (Phillips and Loyd, 2006; Rink and Ellemers, 2007). They may become uncomfortable after realising differences in views with those they perceived similar (Rink and Ellemers, 2007). This potentially diminishes or lowers their desire to share or elaborate information (Phillips and Loyd, 2006), enhancing smooth consensus among group members.

2.2.4 *Summary of theoretical foundation*

Increased demographic heterogeneity in workgroups is projected to bring about many important benefits, such as enhanced variance in perspectives and a number of different ways to solve problems (Chatman and Flynn, 2001). The potential advantage of demographically diverse groups over the homogenous groups lies in the ability of members to interact with each other for the best possible outcomes. The larger and different social networks of the diverse groups offer group members a larger talent pool and access new information to make better quality decisions

and support (Ancona and Caldwell, 1992). The concern here is the processes engendered by demographic diversity. The literature generally considers demographic diversity attributes as a source of separation among the group members (e.g., Harrison and Klein, 2007) and associates them with the theories of self-categorisation and social identity (Fiske, 1998; Van Knippenberg, De Dreu and Homan, 2004). However, it is possible that information elaboration may also positively influence the outcomes of a demographically diverse group at the group and individual levels (Joshi, Liao and Roh, 2011) as these processes can help develop a better understanding of others' capabilities.

2.3   Level of Analysis

Demographic diversity literature can be divided into studies done at individual (Flynn, Chatman and Spataro, 2001; Maranto and Griffin, 2011; McKay *et al.*, 2007; Sliter *et al.*, 2014; Volpone, Avery and McKay, 2012), group (Boehm *et al.*, 2014; Fay *et al.*, 2006; Hoever *et al.*, 2012; Rico *et al.*, 2007), and organisation level (e.g., Salloum, Jabbour and Mercier-Suissa, 2019). The findings are both confirming and contradictory regarding the positive and negative impacts of diversity on performance. This is recognised as due to individuals being ingrained within their group(s) and differences among them do impact outcomes concurrently at both group and individual levels (Brodbeck, Guillaume and Lee, 2011; Peccei and Van De Voorde, 2019). As a result, researchers and practitioners are now advocating for investigating the impact of diversity using a multilevel approach (e.g., Brodbeck, Guillaume and Lee, 2011; Choi, 2007; Gonzalez and Denisi, 2009). The following is a review of literature across the three main levels of investigation including individual, group, organisational and multilevel analysis.

2.3.1 Individual level perceived demographic diversity

Demographic differences between individuals influence both individual behaviours and outcomes within groups. Individuals within a social unit compare their demographic characteristics to determine similarities and differences (Tsui, Egan and O'Reilly, 1992; Tsui and O'Reilly, 1989). The greater the similarities level between them, the greater the positive influence on the work-related behaviours and the outcomes of the individual. For instance, the more co-workers within a relatively similar age group in a work unit, the greater the reduction in their intention to quit the organisation (Wagner, Pfeffer and O'Reilly, 1984). Similarities in demographic characteristics may lead to enhanced integration; self-enhancement; and identification with the group; a desire for affiliation; liking; and enhanced communication. At the same time, stereotyping and performance pressures may be decreased (Riordan, 2000). The outcomes of increased differences between individuals in a work team include the decreased desire to turnover or leave the organisation (Elvira and Cohen, 2001; O'Reilly III, Caldwell and Barnett, 1989), lower levels of absenteeism (Tsui, Egan and O'Reilly, 1992), and greater frequency of communication with others in the team (Zenger and Lawrence, 1989). In addition, evidence shows the potential for a greater trust between co-workers; and also an attraction towards co-workers (Chattopadhyay, 2003), and more engagement with co-workers (Avery, McKay and Wilson, 2007). Further the benefits of demographic diversity between individuals in a team also include more trust in the manager (Houkamau and Boxall, 2011), compensation satisfaction (Flynn, Chatman and Spataro, 2001); and improved employee performance (Flynn, Chatman and Spataro, 2001; McKay, Avery and Morris, 2008).

Organisational commitment (McKay *et al.*, 2007) and psychological diversity climate perceptions (Volpone, Avery and McKay, 2012) have been studied as mediating processes in defining the relationship between demographic diversity and performance of individuals. Volpone, Avery and McKay (2012) reported that the fairness and accuracy within workplace appraisals of individuals along with a strong psychological diversity climate is critical for organisations to effectively and adequately engage with racio-ethnically diverse workgroups. Similarly, according to Abramovic and Traavik (2017) demographically diverse individuals with higher diversity values demonstrate a higher positive response towards the use of diversity practices within the workplace.

Studies have also investigated numerous variables that may moderate the relationship of demographic diversity with different performance outcome measures at the individual level including dogmatism (individual differences in terms of openness and closedness of the employees' belief system: Chattopadhyay, 2003), supervisor's facilitation (Pelled, Xin and Weiss, 2001), and diversity climate (McKay, Avery and Morris, 2008). In addition, demographic diversity variables are also studied as a moderator to test a number of predictors for employee performance (e.g., McKay *et al.*, 2007; Volpone, Avery and McKay, 2012; Avery, McKay and Wilson, 2007). Avery *et al.* (2013) studied the moderating role of gender differences among empowerment and performance relationship and found empowerment of employees is contingent upon demographic differences.

Diversity climate is also considered as an important influencer in the diversity/performance relationship. It is defined as employees' shared perceptions of organisations diversity-related policies, procedures and practices (Kaplan, Wiley and Maertz Jr,

2011; Mor Barak, Cherin and Berkman, 1998) or "aggregate member perceptions about the organisation's diversity-related formal structure characteristics and informal value" (Gonzalez and Denisi, 2009, p. 24). A supportive diversity climate is reported to have a negatively moderated effect on the relationship between gender dissimilarity and an individual's intention to quit but not for ethnic dissimilarity (Gonzalez and Denisi, 2009). However, a supportive climate is not found to be a significant moderator in the relationship between racial diversity and social support (Bacharach, Bamberger and Vashdi (2005). The effects of relational demography are reported to be more positive if leaders are more similar to the employees and high in openness to diversity (Guillaume *et al.*, 2017). McKay *et al.* (2007) reported that the diversity climate perceptions of black workers is found to have a greater link to their turnover intentions compared to white male, female and Hispanic workers.

2.3.2 *Group level Demographic Diversity*

Organisations are increasingly shifting their focus towards the use of workgroups in work settings (e.g., Lawler III, Mohrman and Ledford, 1995), with a view to enhancing group and organisational productivity; the quality of product outputs; the satisfaction level of employees; and the quality of their work lives (Eby and Dobbins, 1997; Moorhead, Neck and West, 1998). This shifting trend has developed the interests of both researchers and practitioners in the study of demographic diversity at the workgroup level (Mohammed and Angell, 2004). Diversity dynamics are salient in workgroups, because of a high face-to-face interaction and dependence on each other for the completion of ultimate group goals (Mohammed and Angell, 2004). Workgroup level research indicates that the demographic characteristics of individuals within the group do affect group outcomes and the experiences of individual employees within a team (e.g.,

Harrison *et al.*, 2002; Jackson and Ruderman, 1995; Milliken and Martins, 1996). Researchers consider group diversity as a double-edged sword. On the one hand, it allows groups greater access to wide-ranging perspectives that may influence decision quality and increase innovative ideas (Hoffman and Maier, 1961; Watson, Kumar and Michaelsen, 1993) while on the other hand, it may result in more conflicts or a lack of cohesion (Nakui, Paulus and van der Zee, 2011), greater dissatisfaction, increased turnover (Jackson *et al.*, 1991; Wagner, Pfeffer and O'Reilly, 1984) and lower commitment (Riordan and Shore, 1997).

Numerous studies have analysed the effects of demographic diversity on group outcomes through a number of group processes (e.g., Hoever *et al.*, 2012; Nishii, 2013). Among the positive influencing processes are the social integration of individuals; and their level of communication and cooperation (Nishii, 2013). Hoever *et al.* (2012) stated that diverse teams involved in perspective taking are found to outperform homogenous teams (Hoever *et al.*, 2012). In addition, shared vision between individuals and maximum interaction among and between the multidisciplinary teams can help to conquer the negative effects of social categorisation processes (Fay *et al.*, 2006). It is information elaboration between individuals that can enhance the group creativity (Hoever *et al.*, 2012) and the innovation potential of diversified groups (Fay *et al.*, 2006). Evidence of team learning (Van Der Vegt and Stuart Bunderson, 2005) and team reflexivity (Schippers *et al.*, 2003) have also been identified as influencing the relationship between the groups' demographic diversity and its performance.

Cohesion and conflict have also been discussed as influencing negatively upon the outcomes of diverse groups (e.g., DiTomaso, Post and Parks-Yancy, 2007; Herring, 2009; King, Hebl and Beal, 2009; Mannix and Neale, 2005; Van Knippenberg, De Dreu and Homan, 2004).

Heterogeneous groups are identified as potentially experiencing more conflicts which possibly leads to negative group outcomes (Jackson, Joshi and Erhardt, 2003; Mannix and Neale, 2005; Milliken and Martins, 1996; Van Knippenberg, De Dreu and Homan, 2004b; Herring, 2009; King, Hebl and Beal, 2009; Mohammed and Angell, 2004). Conflict is considered as a robust mediator in the relationship between diversity and performance (e.g., Jehn, Northcraft and Neale, 1999; Pelled, Eisenhardt and Xin, 1999), and demographic diversity is primarily linked to relationship conflict among group members (Hope Pelled, 1996; Jehn, Chadwick and Thatcher, 1997; Jehn, Northcraft and Neale, 1999; Thatcher, Jehn and Chadwick, 1998).

A number of elements have been examined in the study of demographic diversity and performance relationship, including climate; HR practices; culture (people and competition oriented cultures within groups) (Jehn and Bezrukova, 2004), leadership; and individual differences (Guillaume *et al.*, 2017). Furthermore, the productivity of heterogeneous groups increases if they are working on complex tasks, compared to simple ones (Pelled, Eisenhardt and Xin, 1999). Nishii (2013) reported that the conflicts within gender diverse teams reduce if the groups have developed highly inclusive environments. This in turn increases the satisfaction levels of the group members and reduces their turnover rate (Nishii, 2013). Schippers *et al.* (2003) adds that the combined effects of diversity and group longevity and combined effects of diversity and outcome interdependence were important for predicting the groups' reflexivity ("the extent to which teams reflect upon and modify their functioning": p. 779) and in turn team outcomes. Group longevity is the duration of existence of the group, whereas outcome interdependence refers to the amount of group goals and group feedback provided to the group members. Similarly, status enhancement (individual's efforts or actions to dissociate from low-status groups and showing bias for high-status subgroups: Chattopadhyay, George and

Lawrence, 2004; Ellemers, Wilke and Van Knippenberg, 1993; Gaertner, Dovidio and Samuel, 2000; Hornsey and Hogg, 2002) has been identified as moderating both race and gender similarity effects on group outcomes (Goldberg, Riordan and Schaffer, 2010). Age diversity is also acknowledged as providing a positive relationship with team outcomes, whenever the team need for cognition (ability of an individual to enjoy and engage in effortful psychological endeavours) is high rather than low (Kearney, Gebert and Voelpel, 2009).

2.3.3 *Multilevel demographic diversity*

Conflicting viewpoints regarding the possible effects of demographic diversity on the group and individual performance of employees have developed (Mannix and Neale, 2005; Milliken and Martins, 1996; Van Knippenberg and Schippers, 2007). Diversity can be a source of improved decision making and enhanced performance, while it is also identified as potentially preventing cohesion between individuals or influencing performance negatively (Leslie, 2017). This is thought to be due to the multilevel impact of diversity. Hence, research is now focusing on the multilevel effects of demographic diversity on performance outcomes (e.g., Brodbeck, Guillaume and Lee, 2011; Gonzalez and Denisi, 2009; Mor Barak, Cherin and Berkman, 1998). This includes workers' perceptions of diversity (Mor Barak, Cherin and Berkman, 1998), individual turnover (Sacco and Schmitt, 2005), employee creative behaviour(Choi, 2007), as well as the level of internal discrimination claims (Leslie and Gelfand, 2008).

A number of studies have been undertaken at both group and individual levels. Choi (2007) studied the workgroup composition (relational demography and group diversity) and the creative behaviour of employees in Korean electronics companies. Findings indicate age diversity is positively related to the creative behaviour of individual employees and the

functional background also enhances the creative behaviour of employees at the group level. Brodbeck, Guillaume and Lee (2011) studied ethnic diversity at the group, individual and societal levels. Ethnic diversity within the workgroup can have positive and/or negative effects on individual learning (an individual level outcome variable only) simultaneously. Finally, Meyer, Schermuly and Kauffeld (2016) described the relationship between faultlines and the group members' inclination to exhibit social loafing behaviour, where faultlines are the hypothetical dividing lines among subgroups depending on one or more attribute similarity (Bezrukova *et al.*, 2009; Lau and Murnighan, 2005; Thatcher and Patel, 2011). Faultlines incorporate multiple attributes of several team members simultaneously and clearly reflect the picture of diversity within a team (Molleman, 2005). Hence, faultlines are a source of subgroup formation and make the differences and similarities more noticeable and prominent. If the faultlines are strengthened, it may lead to more salient categorisation. Meyer *et al.* (2016) propose individual level reactions of employees to the faultlines of the team can differ for all team members, depending on team size and the social competence of the individual members. Leslie (2017) studied the relationship of ethnic diversity and performance through cohesion among the group members and found that efforts to avoid negative effects of ethnic status differences are expected to improve the cohesion among the group members and ultimately will improve the performance at the group and individual levels.

Multilevel literature on demographic diversity has been focused on the direct impact of different demographic diversity types on several performance measures. The processes underlying this relationship have not been fully explored. Researchers have generally considered the diversity climate (Drach-Zahavy and Trogan, 2013; Gonzalez and Denisi, 2009; Leslie and Gelfand, 2008); the societal status of ethnic groups (Brodbeck, Guillaume and Lee, 2011); and

the social competence, and subgroup size (Meyer, Schermuly and Kauffeld, 2015) as the moderators in the relationship between diversity and performance. According to Drach-Zahavy and Trogan (2013), irrespective of the level of diversity climate, age diversity within the group is found to have a positive relationship with interpersonal aggression; while gender diversity has a negative relationship with interpersonal aggression (Drach-Zahavy and Trogan, 2013). Multilevel research in the field of diversity is a new feature and more is needed to be done.

2.3.4 Summary of Level of Investigation

Despite a large number of primary studies of conditions which link demographic diversity to positive and/or negative performance outcomes through numerous processes and moderators, it is still not clear which factors influence this relationship in its development (Guillaume *et al.*, 2013). Past research is largely driven by the potential for benefits at a specific level (individual, group or organisation). A vast number of studies have focused on the effects of different diversity dimensions on performance at the employee level (e.g., Maranto and Griffin, 2011; McKay *et al.*, 2007; Sliter *et al.*, 2014; Volpone, Avery and McKay, 2012), and group level (e.g., Boehm, Kunze and Bruch, 2014; Hoever *et al.*, 2012; Rico *et al.*, 2007). Joshi, Liao and Roh (2011) reported that more than 30% of past empirical research focused on demographic diversity variables like gender and race/ethnicity but despite the extensive research, the literature lacks consistent findings (Choi and Rainey, 2010; Joshi, Liao and Roh, 2011; Milliken and Martins, 1996; Williams and O'Reilly III, 1998). It is proposed that the reason for this could be the nesting of individuals within groups (Peccei and Van De Voorde, 2019) that influences the performance at both group and individual levels. This gap may be due to the ease of doing research at one level; or the lack of theories and development of research methods for multiple level studies.

Considered separately, group and individual level studies do not fully capture the complex nature of the context of diversity. Hence, these levels need to be studied together. The weak and at times, inconclusive empirical findings of literature suggest the need to re-examine the theoretical and methodological approaches. Multilevel models have gained importance in the past decade (Aguinis, Gottfredson and Culpepper, 2013), but the studies are still scarce in the diversity literature (Joshi, Liao and Roh, 2011). Curşeu and Pluut (2013) also proposed the need to study the cross-level interactions. Brodbeck, Guillaume and Lee (2011) proposed there is a need for more empirical evidence to demonstrate the multilevel models' generalisability to demographic diversity variables such as, gender, age, functional background, etc.

The impact of diversity among individuals is believed to be multi-faceted (Tasheva and Hillman, 2019). The multifaceted nature of diversity has led to the inconsistent and contradictory findings in the literature regarding the relationship of demographic diversity and individual and group outcomes. There is a need to investigate a combination of group and individual factors of demographic diversity, to identify and acknowledge the complex nature of demographic diversity and its interactivity at the group and individual levels. Consequently, the present study considers the individual and group level of analysis simultaneously.

2.4 **Summary**

From the above review of literature (summary provided in figure 2.1), a number of gaps in demographic diversity literature are evident, relating specifically to inconsistent findings due to scarcity of research studying the collective influence of objective and perceived demographic diversity attributes, the meagre focus on negative outcomes of demographic diversity and the

lack of a focus at multiple levels. The shaded boxes in figure 2.1 will be the focus of this research.

Research Gap #1: A lack of research in studying the collective influence of objective and perceived demographic diversity attributes.

Research Gap #2: Lack of studies of the positive influence of information elaboration in the relationship of objective/perceived demographic diversity and multilevel outcomes.

Research Gap #3: Inconsistent findings due to lack of focus on the multilevel impact of demographic diversity attributes.
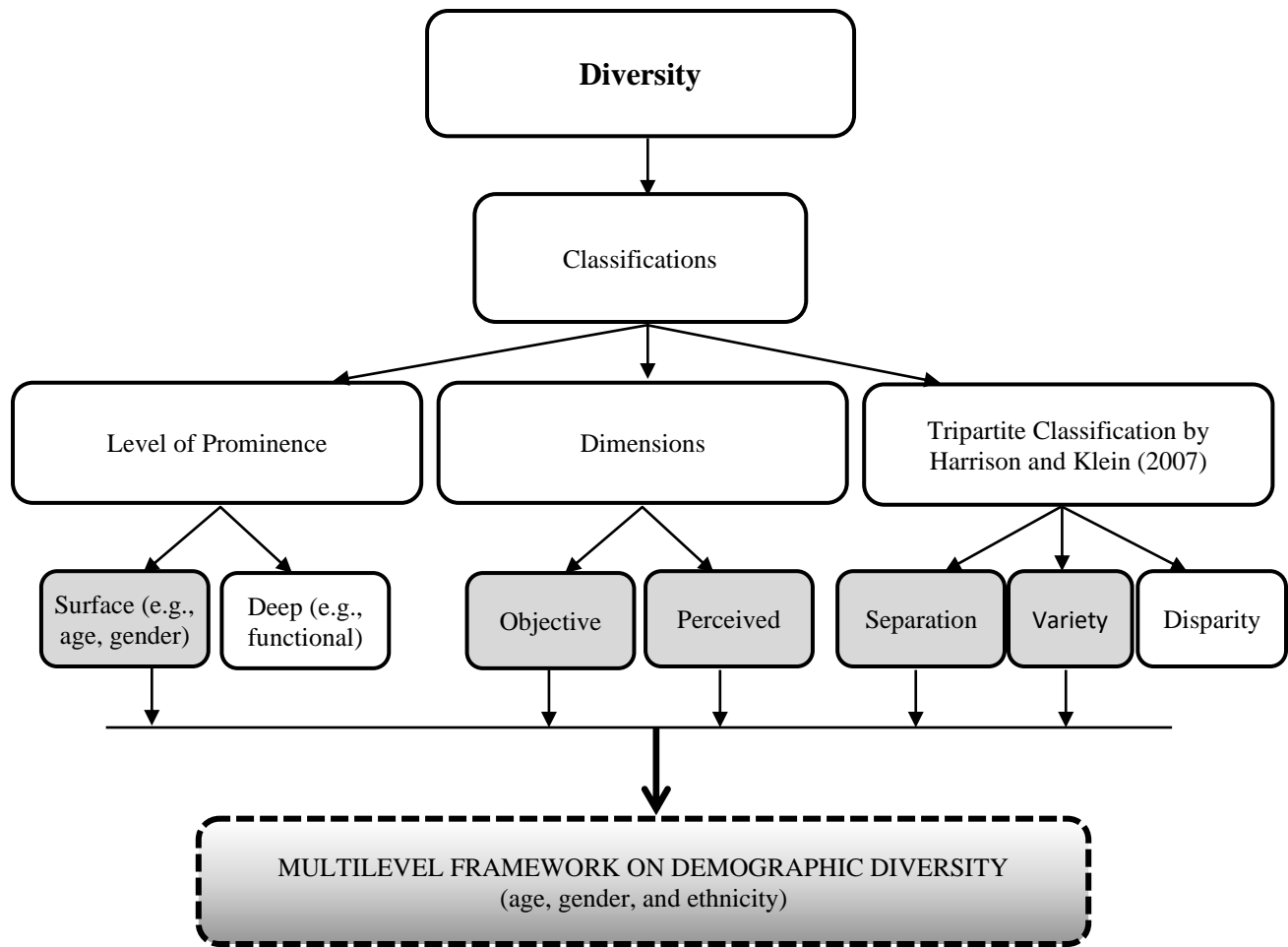
Figure 2.1 *Summary of Literature Review and Link with Current Study*

2.5   **Research Questions**

Attempting to address the above-mentioned research gaps in the demographic diversity management literature, this proposed research aims to address the following research questions:

Research Question 1: How do objective demographic diversity and perceived demographic diversity influence individual level outcomes in the workgroups?

Research Question 2: How do objective demographic diversity and perceived demographic diversity influence group level outcomes in the workgroups?

Research Question 3: What are the positive processes and moderators that strengthen or weaken the above relationships?

Research Question 4: What are the negative processes and moderators that strengthen or weaken the above relationships?

2.6 Linkages among studies

The three studies of this project are interlinked. In the first study a detailed literature review of the past empirical research on age, gender and ethnic attributes of demographic diversity was conducted. On the basis of this literature review a detailed multilevel framework on demographic diversity is proposed (see figure 2.3). Details of the proposed framework were published in the journal of 'Management Research Review' and are presented in chapter 4. The following two studies empirically investigated the research questions presented in the proposed multilevel framework. Figure 2.2 depicts the specific research questions for the three manuscripts.

Demographic Diversity and Outcomes for Groups and Individuals: A Multilevel Study

Manuscript 1

Research Question: Despite extant research, why are the findings of demographic diversity literature inconsistent and inconclusive?

Manuscript 2

Research Question 1: Does objective group gender diversity and perceived gender diversity positively influence individual well-being and performance, at individual and group levels?
Research Question 2: Do communication and relationship conflict act as mediators in the above relationships?

Manuscript 3

Research Question 1: Does social integration mediate the relationship between perceived age diversity and turnover intention/well-being, at individual level?
Research Question 2: Does objective group age diversity influence group performance and well-being?

Figure 2.2 Linkages among Manuscripts
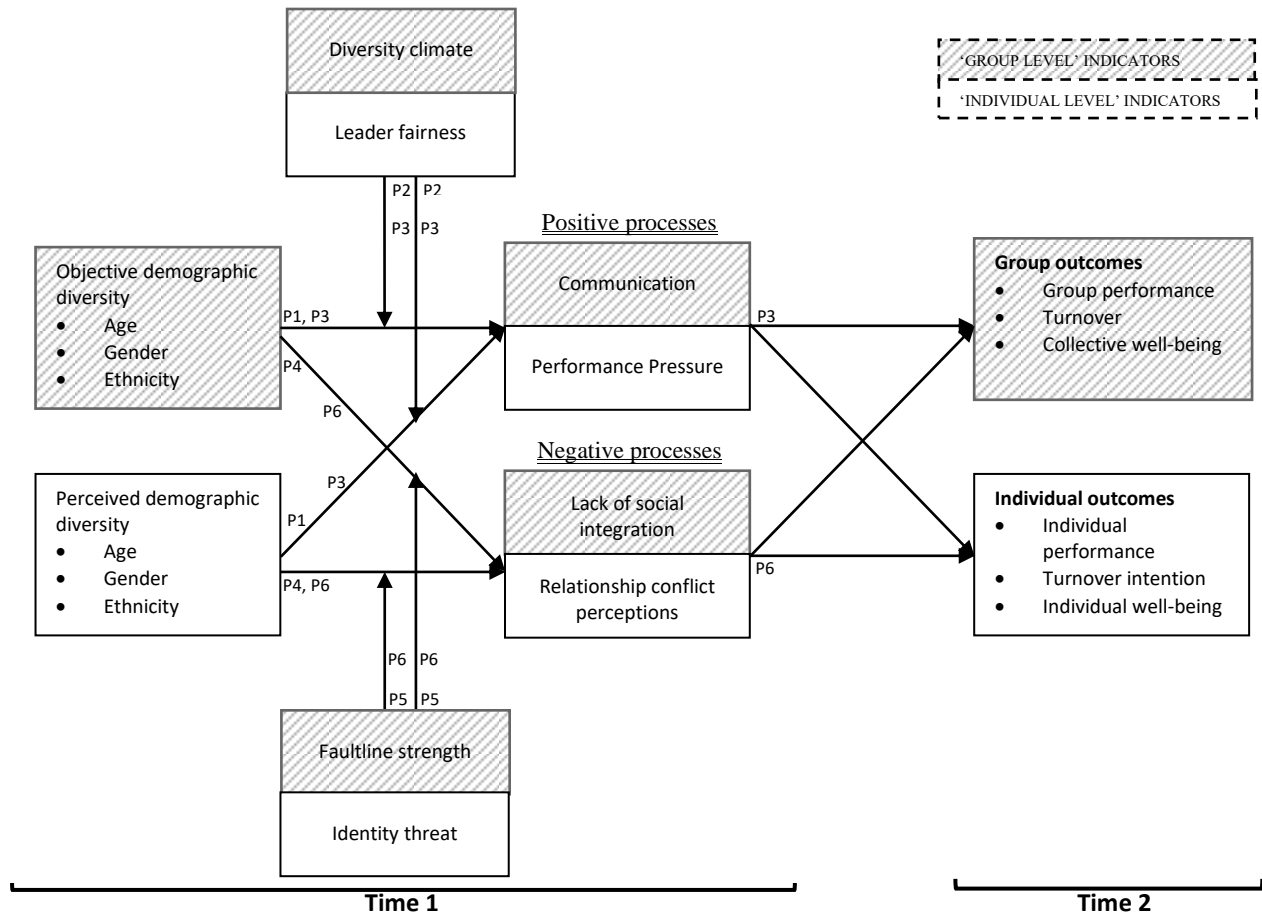
Figure 2.3 Multilevel framework on Demographic Diversity

2.7 Conclusion

This chapter has presented the detailed classifications of diversity in literature; three theoretical frameworks used in demographic diversity literature; analysed the extant literature at individual, group, organisational and multilevel of analysis; and the research gaps identified in literature. Literature mainly classifies diversity types as surface level and deep level diversity depending on the prominence of diversity type under consideration. Also, scholars classify diversity as objective and perceived diversity. Past literature of demographic diversity has mainly focused on the objective dimensions of diversity through the lens of social identity theory and self-

categorisation theory. Moreover, the focus remained on only one level of analysis: either individual, group or organisation.

The following chapter explains the design and methodology for conducting the research project and linkages among three manuscripts presented in chapters 4, 5 and 6.

Chapter 3. Methodology

Theoretical and empirical evidence in the literature review from the previous chapter identified the need of collective investigation of objective and perceived dimensions of demographic diversity at multiple levels through an information-elaboration perspective and social identity perspective. This has led to the following research questions for this study:

Research Question 1: How does objective demographic diversity and perceived demographic diversity influence individual level outcomes in the workgroups?
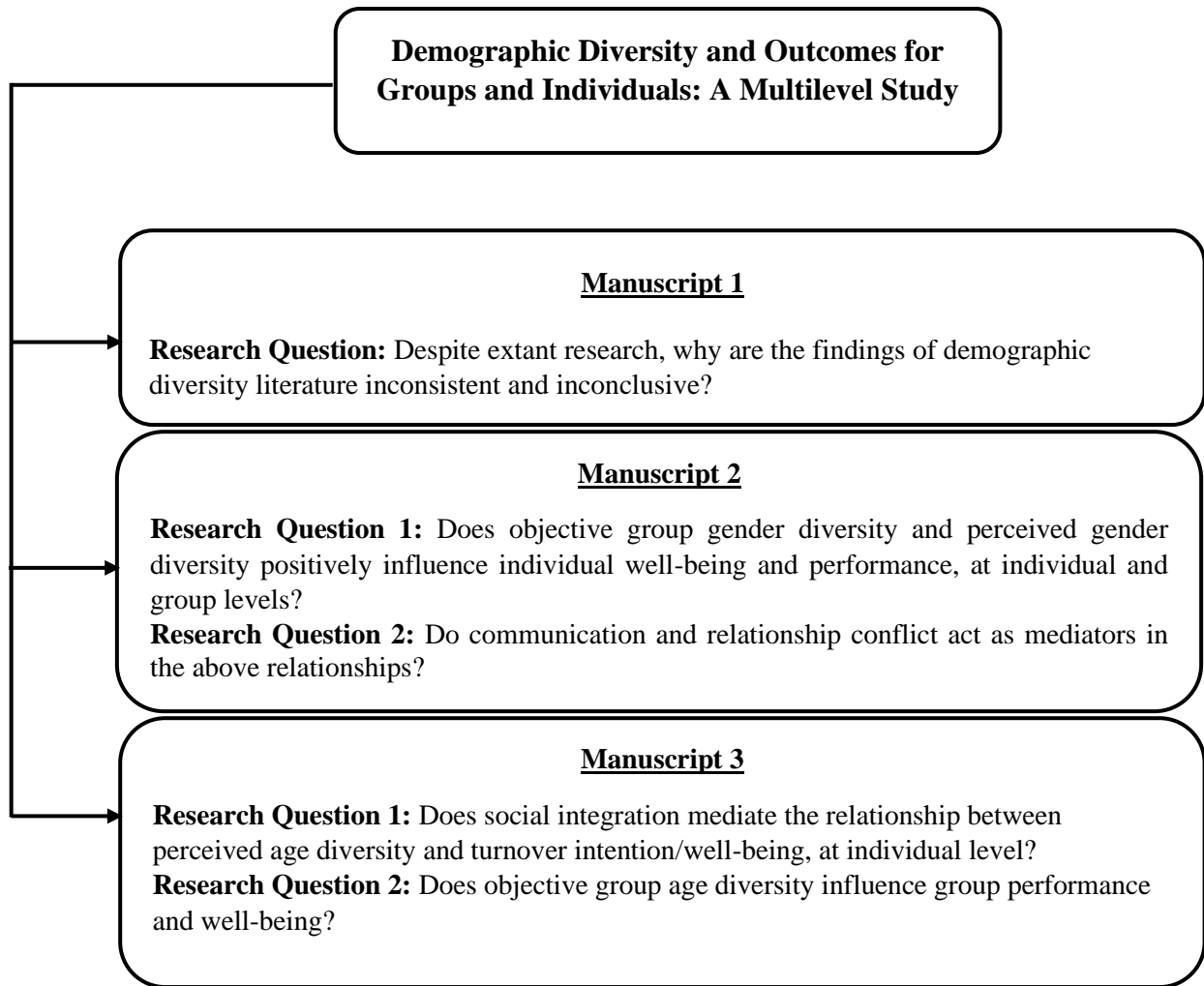
Research Question 2: How does objective demographic diversity and perceived demographic diversity influence group level outcomes in the workgroups?

Research Question 3: What are the positive processes and moderators that strengthen or weaken the above relationships?

Research Question 4: What are the negative processes and moderators that strengthen or weaken the above relationships?

This chapter provides detail of the design and methodological approach adopted for exploring the above research questions. The overview and sequence of the approach and chapter is provided in figure 3.1.
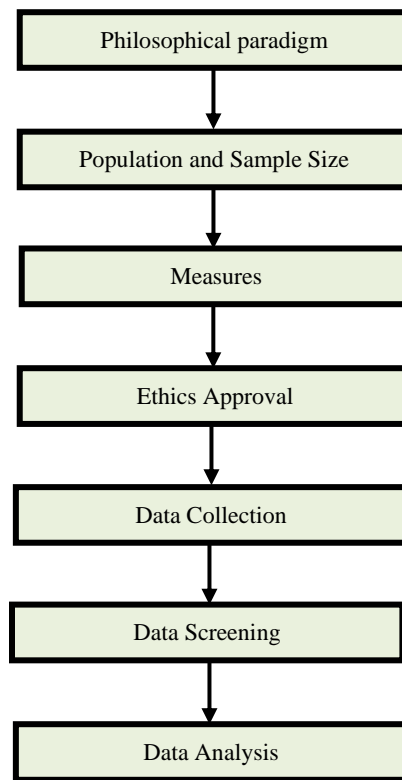
Figure 3.1Methodological Design

3.1 **Philosophical Paradigm**

The philosophical paradigm refers to the mechanism through which data has been sourced, analysed and interpreted to reach a certain conclusion (Lee, 2017). Guba (1990) proposes the careful selection of three key elements while developing the research design. These are ontology, epistemology and methodology. 'Ontology' refers to the study of real events happening in any specific research area including such areas as business and human resource management (Fleetwood and Hesketh, 2006). The second key element is 'epistemology' that refers to theory of knowledge especially with regard to its objective inquiry of reality (Matveev, 2002). Positivism is one perspective or paradigm that offers a means of studying real events that

purports there is one reality (ontology) and independent of the researcher or observer and that this reality can be measured using reliable designs and tools (epistemology) (Aliyu *et al.*, 2014). The positivism paradigm adheres to the belief that 'factual' information or true knowledge can be obtained through observations and experiments and that this is trustworthy (Aliyu *et al.*, 2014). The researcher is charged with using inductive reasoning to develop hypotheses and test them, where the researcher's part is limited to data collection and interpretation in an objective way (Dudovskiy, 2018; Nel, 2016). The current study adopted a positivist paradigm to explore the causes and consequences of demographic diversity through hypotheses development and testing. This study applies the rationale of the general phenomenon of demographic diversity and the various information of employee and group outcomes in the banking industry in Pakistan to identify what the group identifies as acceptable. The causes and effects and explanatory nature of the study's research questions led to objectivism, where biases and partiality are believed to be reduced or even eliminated.

The positivist paradigm requires that bias be excluded from the research, as real, genuine and factual occurrences or circumstances can be studied scientifically or empirically through rational investigations (Aliyu *et al.*, 2014). In the present research, the researcher remained independent of the research with minimal interaction with the research participants as recommended by Wilson (2014). Moreover, the current study used a time-lagged research design to collect the data at two points in time, with a time-lag of three months, to avoid common method variance (Podsakoff *et al.*, 2003), that can limit generalisability of the data and can distort study outcomes indicating a minimum bias in the data.

'Methodology' refers to the system of methods to undertake the study. This third element of research design needs to be carefully selected to answer the research questions of the study (Guba, 1990). Positivist paradigm believes in the proposition of research questions and hypotheses that are later subject to empirical investigations (Guba, 1990). This approach led the study to investigate the presented hypotheses through the analysis of quantitative data collections, as this is considered the best process and method utilised by researchers to collect knowledge and information about the world and the research under investigation. Quantitative analyses allow researchers to probe into specific differences among groups based on factors like age and gender with improved internal validity (Kaboub, 2008; Madrigal & McClain, 2012). The second and third manuscripts of the present dissertation (chapters 5 and 6) report on the investigations of the proposed hypotheses.

3.2 Research Design

3.2.1 Population and Sample Size

Workgroups in Pakistan's banking industry were considered as the population of this research. Central human resource departments of five large banks were approached for the present study, to gain access to their banking employees. Only two banks agreed to participate. Overall, the banking sector of Pakistan comprised of 45 banks (15,053 branches) (SBOP, 2018). One participating bank is from the public sector whereas the other is a renowned private banks and considered as the most profitable bank in 2019 with a growth of 12.2% in profits (Rahman, 2020). In 2016, the total assets of Pakistan's banking sector were PKR 15,134 billion (Michaels, 2017). Data for this study was collected from 78 different branches (final sample size) of two

banks from all four provinces of Pakistan. All the employees in each bank branch, undergoing frequent daily interaction, are treated as one group for the current study.

POPULATION	Banking sector of Pakistan
SAMPLE	2 Pakistani Banks
SAMPLE TIME 1	250 groups, 1250 group members
SAMPLE TIME 2	85 groups, 350 group members
FINAL SAMPLE SIZE	78 groups, 305 group members
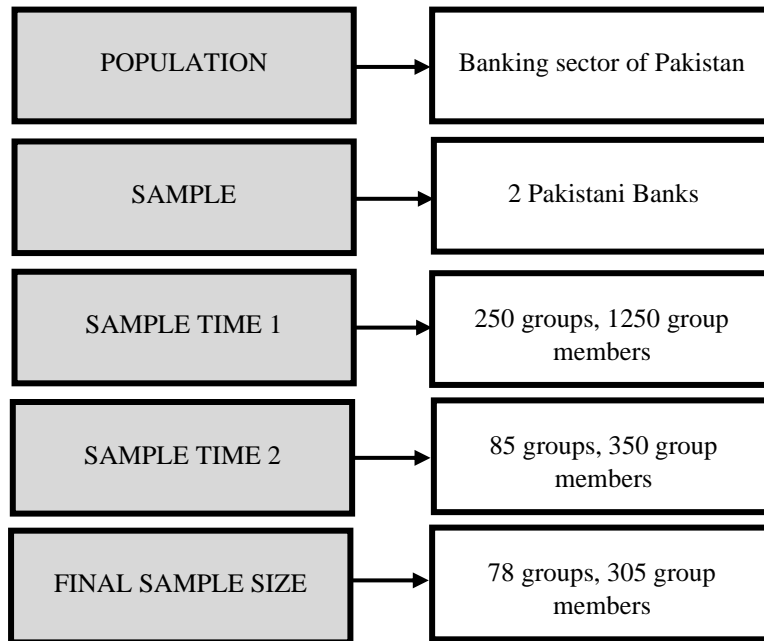
Figure 3.2 Population & Sample Size

Sample size estimation is also considered as a crucial step. As the statistical power of the sample is an important predictor for establishing the validity of the results, where too little power is believed to cause erroneous results (Murphy, Myors and Wolach, 2014). Prior research indicates the need for larger sample sizes for multilevel studies as compared to single level studies (Liu, 2013; Scherbaum and Ferreter, 2009). Increasing the level-2 (higher level of analysis in the study) sample size relative to level-1 (lower level of analysis in the study) sample size has more impact on statistical power (Maas and Hox, 2005; Scherbaum and Ferreter, 2009). The number of participants is different in each group and as it is beyond our control to increase the number of observations in each group, it is suggested to increase the number of groups (Zhang, Zyphur and Preacher, 2009).

Different rules of thumb are defined in literature to define the sample size in multilevel studies. For example, Kreft (1996) defined '30/30 rule' (that is 30 groups and 30 participants in each group), Hox (1998) established '50/20 rule' (that is 50 groups and 20 participants in each group). Hence, as the number of groups increases, the number of participants in each group will decrease (Hox, 2002). The same principle is applied for the current study, where the data has been collected from 78 groups having four group members on average (Hox, 2002; Scherbaum and Ferreter, 2009).

3.2.2   Unit of Analysis

Unit of analysis is the most important and crucial part of any study (Tabachnick, Fidell and Ullman, 2007), as the conceptual framework, determination of data collection techniques and sample size depends on it (Cavana, Delahaye and Sekeran, 2001; Neuman, 2011). It is referred as '*the units, cases, or parts of social life that are under consideration. They are key to developing concepts, empirically measuring or observing concepts, and using data analyses*' (Neuman, 2011, p. 69). This can be individuals, groups, organisations or dyads. In the current research study, the banking group consisting of one supervisor and on average four subordinates is taken as the unit of analysis. For the level-2 variables of group performance and turnover the unit of analysis is the supervisor, whereas all other variables are measured at the individual level, where group members are the unit of analysis.

3.2.3   Survey

Separate surveys were designed for the group members and group leaders. Also, the outcome variables were measured three months after the data collection of predictor and process variables.

Therefore, two survey instruments were designed for the group members at Time 1 and Time 2 and one survey was developed for the group leader at Time 2 (see Appendices A-C). There was a time-lag of three months between the two data collection time periods. The following section explains the scales used for data collection.

3.3   Measures – Time 1

3.3.1   Individual level predictor

Perceived demographic diversity (PDD) was measured using the four-item scale adapted from Harrison, Price and Bell (1998), with a reported reliability (Cronbach's alpha value reported by the researcher who developed the scale and tested it for the first time) of .75. Representative items are *'How diverse do you think your syndicate group is in general'* and *'In your opinion, how diverse is your group with respect to their gender?'* Answers were recorded on a five-point Likert scale from very similar (1) to very diverse (5). The full scale can be found in Appendix A. The scale was self-reported and rated by individual group members. As age, gender and ethnicity are surface-level demographic characteristics and are easily observable, group members should be able to readily determine the composition of their group and make accurate assessments of diversity.

3.3.2   Group level predictor

Objective demographic diversity (ODD) was calculated for age, gender and ethnicity. Participants self-reported on these variables. Objective age diversity was calculated through standard deviation of the group, consistent with the previous literature at group and individual levels (Thommes and Klabuhn, 2019; Wegge *et al.*, 2008). However, objective gender and ethnic

diversity of each group were calculated through Blau's index of heterogeneity for categorical variables (Blau, 1977). According to Blau's index, heterogeneity equals $1 - \sum pi^2$ (pi = fraction of the population in each category). Blau's index is a continuous scale (Buckingham and Saunders, 2004) ranging from 0–0.5. The value increases as the representation of both genders in the workgroup becomes equal. Zero represents complete homogeneity (0/100 gender proportions), whereas .5 represents complete heterogeneity (50/50 gender proportions).

3.3.3   Individual level mediators

Performance Pressure was assessed using the five-item measure, developed by Eisenberger and Aselage (2009), with the reported reliability of .88. The sample item is 'At work, I feel pressured to do my job well'. The Cronbach's alpha value for the current data set is .50. The alpha values from .45 to .98 are acceptable in the literature (Taber, 2017).

Relationship conflict was measured using De Dreu and Van Vianen (2001) five-item relationship conflict scale with a reported reliability of .91. Group members were asked to rate how often they perceived tension and frustration about interpersonal style, attitude, political preferences, norms and values, personality, and sense of humour of their group members. Group members rated each item on a five-point Likert scale (1= almost never to 5 = very often; α = .82). The variable was operationalised at the individual level.

3.3.4   Group level mediators

Communication among group members was measured using a shorter version of the scale developed by Watson and Michaelsen (1988), comprising 51 items with a reliability of .73. The scale was reduced to 15 items by Roberts, Cheney and Sweeney (2002). A representative item is

'Everyone has a chance to express their opinions' ($\alpha = .77$). The concept is operationalised at the group level, with aggregated scores of group members. Responses to these items were collected on a 5-point Likert scale (1 = to very little extent, to 5 = to very great extent).

Social integration was measured using Seashore's (1954) four-item scale, with a reported reliability of .91. A sample item is 'How willing are they to help each other.' Respondents used a 5-point Likert scale (1 = not very good to 5 = great, couldn't be better; $\alpha = .80$). Additionally, the construct demonstrated a sufficient inter-rater agreement score (.73), ICC(1) coefficient (.24) and ICC(2) coefficient (.56), indicating decent agreement to justify aggregation of the construct at the group level (Glick, 1985; James, Demaree and Wolf, 1984; LeBreton and Senter, 2008).

3.3.5 Individual level moderators

Leader Fairness was self-reported by group members on 18-item scale developed by Moorman (1991). The scale measured formal procedures, interactional and distributive fairness of immediate supervisors. The reported reliability of the measure was .94. The representative items are 'my supervisor showed concern for my rights as an employee' and 'my supervisor rewards me fairly considering my responsibilities'. The Cronbach's alpha value for the current study is .93.

Identity Threat was measured through a 4-point scale developed by Murtagh, Gatersleben and Uzzell (2012) on a 5-point Likert scale (1= very unlikely, to 5=very likely), with a reported reliability of .90. The sample item is 'My attachment with the current team makes me feel less competent'. The Cronbach's alpha value for the present study is .71.

3.3.6   Group level moderators

Diversity Climate was measured with the McKay, Avery and Morris (2008) four-item scale. The representative items are 'My team members maintain a diversity friendly work environment' and 'I trust my team members to treat me fairly'. Responses ranged from '1' (strongly disagree) to '5' (strongly agree). The reported and current reliability of the scale was .80.

Faultline Strength can be measured through a statistic *Fau,* first introduced by Thatcher, Jehn and Zanutto (2003). It measures faultline strength "as the proportion of total variation in overall group characteristics explained by the strongest group split" (Zanutto, Bezrukova and Jehn, 2011, p. 706). Its value is always larger than 0 and less than or equal to 1. The greater the value the stronger the faultline will be.

3.4   **Measures – Time 2**

3.4.1   *Individual level outcomes*

Individual performance was measured using Williams and Anderson's (1991)seven-item scale to analyse the employee performance on the job, with the reported reliability of .91. A sample item is 'I fulfil responsibilities specified in my job description' ($\alpha = .71$).

Turnover intention was measured using individual employees on a three-item scale developed by Sparr and Sonnentag (2008), with a reported reliability of .89. A sample item from the scale is 'I often think of quitting this work team.' The alpha coefficient for this study is .84. Group members rated each item on a five-point Likert scale from 1 (very unlikely) to 5 (very likely). For an aggregation of the construct at the group level, the r_{wg}, ICC(1) and ICC(2) values

were calculated. The r_{wg} value was .70, ICC(1) was .36 and ICC(2) was .69, indicating an adequate fit to justify aggregation of the construct (Glick, 1985; James, Demaree and Wolf, 1984; LeBreton and Senter, 2008).

Individual well-being of employees was evaluated through Rosenberg's (1965) ten-item self-esteem scale, with a reliability of .77-.88 for different samples (see Rosenberg, 1986; Blascovich and Tomaka, 1991). A sample item from the scale is 'I feel that I have several good qualities.' The alpha coefficient for this scale is .75.

3.4.2   Group level outcomes

Group performance was measured using Liden *et al.* (2006) five performance dimensions: quality of work, quantity of work, overall group performance, completing work on time, and responding quickly to problems. Group leaders were asked to rate their group's performance on these dimensions on a 5-point Likert scale from 1 (much worse) to 5 (much better). The reported reliability of the scale ranges from .78 to .94. For the current study, the Cronbach's alpha value is .70, which is within the accepted range stated by Nunnally (1994).

Turnover was calculated using a data provided by group leaders at Time 2, consistent with previous research (Nishii and Mayer, 2009). The group leaders were asked to report the number of group members who left the group in the past three months and the reason for leaving. Reason for leaving was reported as 'voluntary' and 'involuntary'. Then the numbers of voluntary turnovers were divided by total number of group members, to calculate turnover rate in the past three months.

Collective Well-being was measured through a scale developed by Luhtanen and Crocker (1992). The scale included four categories of membership, private, public and identity. However, for the current study only the membership and private self-esteem were used, as both are closely related to workgroups. The reported reliability of scale was .73 for the three studies. The sample items are 'I often regret that I belong to this work team' and 'I am a cooperative participant of the work team I belong to'. Responses were recorded on a 5-point Likert scale from '1' (strongly disagree) to '5' (strongly agree). The Cronbach's alpha value for the current study is .70.

3.4.3   Controls (Time 1 and Time 2)

Consistent with the past research, the current study controlled for organisational tenure, group tenure, marital status and nature of contract of employees, in order to avoid alternative explanations.

Organisational and group tenure are found to influence employee performance and perceptions (e.g., Huckman, Staats and Upton, 2009). Therefore, the study controlled for employee experience in the current organisation and the current group. Consistent with previous research, employees reported their experience in years (e.g., Ng and Feldman, 2010). Some studies measure experience as an ordinal variable (like 1=0-5 years, 2=6-10 years, ….7 =more than 30 years). However, in either case, higher value indicates more years of experience.

Marital status of employees is likely to influence their behaviours and perceptions. As Jordan and Zitek (2012) reported the influence of marital status on the employee perception of male and female job applicants. Marital status was coded as '0' for unmarried and '1' for married.

Nature of contract may affect the employees' behaviours and commitment with the work group. It was coded as '0' for permanent and '1' for temporary.

3.5 Ethical considerations

Queensland University of Technology Human Research Ethics approval was sought before the data collection procedure (QUT ethics approval number 1800001013). As per the guidelines, the study's nature, aim, procedures, potential benefits, nature of involvement, and right of withdrawal were explicitly explained to the participants. A consent form was signed by all the respondents in the survey, showing their intent to participate in the study (see Appendix D). All the participants (including group leaders and group members) were provided with a return envelope to ensure confidentiality of the data. Participants were provided with the contact details of Queensland University of Technology Ethics Advisory Committee and Research Team for any clarification or complaint. Data gathered will be stored for five years as per the QUT Ethics advisory committee guidelines.

3.6 Data Collection Procedure

At data collection Time 1 (January 2019), a package containing an invitation letter, consent form, ethics approval letter, return envelope, research information sheet, and the survey was sent to bank employees. Later, two reminder calls (one at two weeks and the other at four weeks after the initial survey) were made to the branch managers. A total of 250 banking groups (1,250 group members) were approached in this round. Final completed surveys during this round totalled 350 from 85 groups. The response rate was 34% with respect to number of groups.

At Time 2 (April 2019), one survey with a return envelope was sent to all the employees and another was sent to the branch managers of 85 groups (350 group members). After eliminating surveys with incomplete and missing responses, and those with less than three group members, the final sample comprised 78 groups with 305 group members. The response rate was 32%.

Consistent with previous literature, the average group size was four employees (e.g., Farh and Chen, 2014; Mawritz, Dust and Resick, 2014; Priesemuth *et al.*, 2014). Prior research indicates the need for larger sample sizes for multilevel studies as compared to single level studies (Liu, 2013; Scherbaum and Ferreter, 2009). Increasing the level-2 sample size relative to level-1 sample size has more impact on statistical power (Maas and Hox, 2005; Scherbaum and Ferreter, 2009). The number of participants is different in each group and as it is beyond our control to increase the number of observations in each group, it is suggested to increase the number of groups (Zhang, Zyphur and Preacher, 2009). Therefore, the data has been collected from 78 groups with 305 group members. The mean age was 34 years, whereas the mean organisational and branch tenure was 6.58 years and 2.3 years, respectively. Overall, 84.4% of the respondents were employed on a permanent contractual basis, while 15.2% had temporary contracts. A total of 195 respondents were male (63.5%), whereas 112 were female (36.5%).

Self-reporting of data can increase the chances of common method bias (Podsakoff *et al.*, 2003). Therefore, four corrective measures were taken for this study: a) a time-lagged research design was used where independent and dependent variables were temporally separated; b) data were collected from two sources, namely branch managers (group leader) and branch employees (group members); c) respondents were assured of the anonymity of the data as the surveys did

not contain any identifiable information (e.g., names); and d) confidentiality of the data was established by providing a return envelope to each respondent (Podsakoff *et al.*, 2003).

3.7   Data Screening

Data screening is an important step before undertaking data analysis. This includes the analysis of missing values, outliers, normality, multicollinearity, data manipulation and data aggregation (Hair *et al.*, 2010; Pallant, 2020; Tabachnick and Fidell, 2007; Tharenou, Donohue and Cooper, 2007). The details of data screening are provided in figure 3.3.

DATA SCREENING

| Missing Data | 1. Missing data was less than 5%, hence no need for sensitivity analysis.
2. Mplus uses full information maximum likelihood (FIML) technique to deal effectively with missing values (Muthén&Muthén, 2000).
3. For analysis in Mplus, all the missing values were replaced with the value (-99). |

| Outliers | 1. Outliers are the values that are well above or well below other data scores (Pallant, 2020).
2. Can be identified by frequency tables and histograms (Tharenou*et al.*, 2007).
3. No outliers identified in the study. |

| Normality | 1. Normality refers to the normal distribution of responses on continuous variables (Tabachnick&Fidell, 2007; Tharenou*et al.,* 2007).
2. Can be assessed with bell-shaped and symmetrical curves (Pallant, 2013), skewness and kurtosis (Tabachnick&Fidell, 2007; Tharenou*et al.*, 2007).
3. Multivariate normality assumptions are rarely met with larger sample sizes (Hair *et al.,* 2010); hence no data transformations were carried |

| Multicollinearity | 1. Multicollinearity refers to the strong correlation among the study variables (Tharenou*et al.*, 2007), suggesting that both variables are actually measuring the same thing.
2. Cut-off criteria is .70 and above.
3. Correlation and multicollinearity diagnostics were performed.
4. No multicollinearity issue diagnosed. |

| Data Preparation | 1. Reversing negatively worded items (Hair *et al.,* 2010; Pallant, 2013; Tharenou*et al.,* 2007).
2. Averaging the individual items' scores to develop an operationalisable construct. |

| Data Aggregation | 1. Within-group agreement (James *et al.,* 1984; James, Demaree& Wolf, 1993; LeBreton &Senter, 2008).
2. Intraclass correlation coefficients (Bliese, 2000; Bliese, Halverson &Schriesheim, 2002; LeBreton &Senter, 2008).
3. Explained in the next section and in the respective manuscripts. |

Figure 3.3 Data Screening

3.8 Data Aggregation

The current dissertation has proposed and tested a multilevel framework, with individual and group levels of data. The individuals are hierarchically nested in groups (Hofmann, 1997;

Raudenbush and Bryk, 2002). Therefore in line with previous research on multilevel data (Preacher, Zyphur and Zhang, 2010; Zhang, Zyphur and Preacher, 2009) the data has been tested for an important issue of data aggregation (Hofmann and Gavin, 1998). Researchers often aggregate individual level perceptions (e.g., communication and social integration) of group members to understand the group level dynamics or group level perceptions. To check the reliability of these aggregated constructs, multilevel research rely on within-group agreement (rwg) statistics (James, Demaree and Wolf, 1984; James, Demaree and Wolf, 1993; LeBreton and Senter, 2008) and intraclass correlation coefficients (ICC1 and ICC2) (Bliese, 2000; Bliese, Halverson and Schriesheim, 2002; LeBreton and Senter, 2008).

Within group agreement (rwg) index was developed by James, Demaree and Wolf (1984) and is calculated as follows:

$$r_{WG} = 1 - \frac{s^2}{\sigma^2} \tag{1}$$

Where s^2 is the observed variance and the σ^2 is the expected variance of the theoretical null distribution of no agreement (James, Demaree and Wolf, 1984; LeBreton and Senter, 2008). In the case of similar perceptions among all group members the value of observed variance (s^2) will be very small, whereas in the case of perfect agreement the value of s^2 will be equal to zero. The recommended cut-off point in research for reliable aggregation of the construct is between .75 to .80 (LeBreton and Senter, 2008). However, LeBreton and Senter (2008, p. 836) have provided the values for interpretation of r_{wg} in terms of level of agreement. .00 to .30 represents no agreement, .31 to .50 shows weak agreement, .51 to .70 depicts moderate agreement, .71 to .90

suggests strong agreement, and .91 to 1.00 points to very strong agreement in group members' perceptions.

Interclass correlation (ICC) also holds importance in the multilevel modeling and has significant impact on the aggregation of variables at the higher levels (Bliese, 1998). ICCs furnish information about both interrater reliability and interrater agreement (LeBreton and Senter, 2008). ICC1 affects the aggregation as it estimates the variance between group member's perceptions (Castro, 2002). The formula for calculating ICC1 is as follows:

$$ICC1 = \frac{\sigma_b^2}{\sigma_b^2 + \sigma_w^2} \tag{2}$$

The ICC1 values range from 0-1 in the random-coefficient model, and from -1 to +1 in the ANOVA model (Bliese, 2000). Larger values represent stronger agreement and low variance among group members (Bliese, 1998; Bliese, 2000; Bliese and Halverson, 1998). However, group members are providing a limited level of unique information, therefore, researchers have suggested to increase the number of groups and group sizes to achieve more reliable results (Castro, 2002). This will also help in achieving acceptable values of ICC2 (Bliese, 1998). ICC2 measures the reliability of group means (Bliese, 1998; Bliese, 2000; Castro, 2002). Where the group sizes are known, the Spearman-Brown formula can be used to calculate ICC2 values.

$$C2 = \frac{k * ICC1}{1 + (k - 1) * ICC1} \tag{3}$$

Here, k represents group size. For the current study the r_{wg}, ICC1 and ICC2 values are calculated

for the variables that are aggregated at the group level. The results for these values are provided

in respective manuscripts (see chapters 5 and 6).

3.9 **Data Analysis**

Two different statistical software packages are used to analyse data for the current study (SPSS

and M*plus*). The Statistical Package for the Social Sciences (SPSS) version 25 was used initially

for the preliminary data analysis, like data screening, correlation, reliability, and descriptive

analysis. However, M*plus* statistical program (version 8: Muthén and Muthén, 2000) was used

subsequently for analysing the proposed hypotheses.

3.10 **Chapter Summary**

This chapter has focused on the methods used in the present study. It outlines the philosophical

paradigm, literature review process, research settings and procedures, sampling, measures,

ethical considerations, data screening process and data analysis packages used in the current

study. Appendices A, B and C provide the surveys used in the study. The following three

chapters present the three manuscripts of the study.

Chapter 4.   Published Paper – Demographic diversity, processes and outcomes: an integrated multilevel framework

This chapter presents the first manuscript of the study, comprising a component of an extensive literature review identified in chapter 2 and proposes a multilevel framework of demographic diversity. The contribution of this paper involves the eight propositions and the framework developed from the literature review outlined in chapter 2. The eight propositions are:

Proposition 1: Objective demographic diversity and perceived demographic diversity are likely to enhance communication and lead to positive performance pressure.

Proposition 2: Objective demographic diversity and perceived demographic diversity are likely to engender stronger positive processes if groups have a supportive diversity climate and positive perceptions of leader fairness.

Proposition 3: Objective demographic diversity and perceived demographic diversity are likely to engender stronger positive information-elaboration processes and positive individual and group outcomes where groups have a supportive diversity climate and perceptions of positive leader fairness.

Proposition 4: Objective demographic diversity and perceived demographic diversity are likely to decrease social integration and increase relationship conflict.

Proposition 5: Objective demographic diversity and perceived demographic diversity are likely to engender stronger negative processes if groups have strong faultlines and experience identity threat.

Proposition 6: Objective demographic diversity and perceived demographic diversity are likely to engender stronger negative processes and, therefore, individual and group outcomes if groups have strong faultlines and experience identity threat.

Proposition 7: Relative to objective demographic diversity, perceived demographic diversity is likely to engender stronger processes within workgroups.

Proposition 8: Collectively, objective demographic diversity and perceived demographic diversity attributes can explain a large variance in individual and group outcomes.

The paper is published online in the journal of "Management Research Review" and was also presented at the "12th Equality, Diversity and Inclusion (EDI)" conference held in Rotterdam School of Management, Erasmus University, Netherlands from 22-24 July 2019.

4.1 Credentials of Selected Journal

Journal Name: Management Research Review

Publisher: Emerald Group Publishing Limited

Scimago journal ranking: Business, Management and Accounting (miscellaneous) Quartile 2

Statement of Contribution of Co-Authors for Thesis by Published Paper

The authors listed below have certified that:

1. they meet the criteria for authorship and that they have participated in the conception, execution, or interpretation, of at least that part of the publication in their field of expertise;
2. they take public responsibility for their part of the publication, except for the responsible author who accepts overall responsibility for the publication;
3. there are no other authors of the publication according to these criteria;
4. potential conflicts of interest have been disclosed to (a) granting bodies, (b) the editor or publisher of journals or other publications, and (c) the head of the responsible academic unit, and
5. they agree to the use of the publication in the student's thesis and its publication on the QUT's ePrints site consistent with any limitations set by publisher requirements.

In the case of this chapter:

Title: Demographic diversity, processes and outcomes: an integrated multilevel framework
Publication Journal: Management Research Review (Published)

Contributor	Statement of contribution*
Sadia Mansoor Signature: *Sadia Mansoor* 21/12/2020	Designing the study, analysis of literature, interpretation of findings, writing of manuscript
Associate Professor Erica French	Guidance to write the literature review and review of manuscript
Dr. Muhammad Ali	Guidance to write the literature review and review of manuscript

Principal Supervisor Confirmation

I have sighted email or other correspondence from all Co-authors confirming their certifying authorship. (If the Co-authors are not able to sign the form please forward their email or other correspondence confirming the certifying authorship to the GRC).

Dr. Muhammad Ali	QUT Verified Signature	22/12/2020
Name	Signature	Date

4.2 **Published paper**

Demographic diversity, processes and outcomes: an integrated multilevel framework

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Abstract

Purpose – A narrow focus of past diversity research and inconsistent findings has contributed to a lack of understanding of how to manage diversity for positive outcomes. Focusing on age, gender and ethnic diversity, this paper reviews literature on group objective demographic diversity and individual perceived demographic diversity to present an integrated multilevel framework for our improved understanding and to present testable propositions.

Design/methodology/approach – The authors conducted a thorough review of 51 empirical studies of demographic diversity at individual and group levels to propose a multilevel framework.

Findings – Drawing on information elaboration theory, social categorisation theory and social identity theory, an integrated multilevel framework is proposed at individual and group levels. The framework suggests that demographic diversity (age, gender and ethnicity) aids positive information elaboration processes, while also causing negative social categorisation processes. These processes impact individual and group outcomes. The framework also identifies moderating factors not sufficiently addressed in the demographic diversity literature. Propositions and implications for future research in the field of demographic diversity are presented.

Originality/value – This review provides an integrated multilevel framework of objective and perceived demographic diversity and its positive and negative processes and effects at both individual and group levels, drawn from information elaboration, social categorisation and social identity theories.

Keywords – Demographic diversity, perceived diversity, information elaboration, social categorisation

Paper type – Theoretical framework.

Introduction

Demographic diversity refers to the differences among employees in various forms, such as age, gender, ethnicity and race (Baugh and Graen, 1997; Lawrence, 1997; Tsui *et al.*, 1992; Tsui*et al.*, 1995). Objective diversity refers to the actual differences among individuals (Shemla*et al*., 2016; Shrivastava and Gregory, 2009); whereas perceived diversity refers to the extent to which members perceive themselves as being similar or different from others (Huang and Iun, 2006). Organisations are becoming increasingly more demographically diverse, and this is expected to continue (Jackson, 1992; Triandis *et al.*, 1994; Williams and O'Reilly III, 1998). The increasing diversity underlines the importance of providing practitioners with insights into how to capitalise on the potential benefits of diverse workgroups while overcoming any negative effects (Mayo *et al*., 2016). Diversity provides a wide range of perspectives and innovative ideas that can improve the quality of decisions (Hoffman and Maier, 1961; Watson *et al.*, 1993). It may also result in conflict or a lack of cohesion (Nakui *et al.*, 2011), dissatisfaction and turnover (Jackson *et al.*, 1991; Wagner *et al.*, 1984), lower commitment (Riordan and Shore, 1997), and decreased performance (Leslie, 2014). These mixed effects of diversity have also been reported by multiple meta-analyses (Schneid *et al*., 2016; Thatcher and Patel, 2011).

Adding to the complexities of various forms of diversity, objective versus perceived diversity, and mixed effects on processes and outcomes, demographic diversity at any one organisational level can affect outcomes at multiple levels. For instance, individuals are nested in groups within organisations (Peccei and Van De Voorde, 2016), and the impact of group diversity occurs at both individual and group levels (Tasheva and Hillman, 2018). In general, past research has focused only on one level of analysis, such as at the individual, group or

organisational level (e.g. Chattopadhyay, 2003; Nishii, 2013; Salloum *et al.*, 2019). This narrow focus has contributed to inconsistent findings (e.g. Chattopadhyay, 2003; Nishii, 2013; Salloum *et al.*, 2019). The objective of this paper is to review past diversity research to integrate these complexities of demographic diversity into one multilevel framework for an improved understanding and to present testable propositions. This review focuses on age, gender and ethnic objective and perceived demographic diversity at the individual and group levels (e.g., Joshi *et al.*, 2011; Peccei and Van De Voorde, 2016). Age, gender and ethnicity are the most easily identified forms of demographic diversity and thus can quickly initiate group processes leading to effects on various outcomes (Pelled *et al.*, 1999; van Knippenberg *et al.*, 2004). Focusing on only the individual and group levels enabled a proper scoping of this review. Diversity literature at other levels (e.g., the organisational level) uses different theories and processes to investigate impact on macro-level organisational outcomes (e.g., Ali *et al.*, 2014).

This paper contributes to the literature in several ways. First, it presents a pioneering multi-level framework of age, gender and ethnic demographic diversity at the individual and group levels. Second, the proposed framework focuses on both objective and perceived demographic diversity. Past research has mainly concentrated on objective diversity among team members (e.g., Amini *et al.*, 2017; Curseu, 2013), while perceived diversity has received little attention (e.g., Harrison *et al.*, 2002). Hentschel *et al.* (2013) explain that objective and perceived demographic diversity are two different constructs which may not always align. Third, the proposed framework draws on three theoretical lenses to explore the positive and negative aspects of demographic diversity: information elaboration theory (IET) (Van Knippenberg *et al.*, 2004), social categorisation theory (SCT) (Turner *et al.*, 1987; Turner and Reynolds, 2011), and social identity theory (SIT) (Tajfel, 1978; Turner and Brown, 1978).Demographic diversity

literature has generally used SCT and SIT (e.g., Harrison and Klein, 2007). Fourth, the proposed framework and testable propositions present future research directions.

This paper is organised as follows. First, it presents an overview of the extant review studies as well as the methodology and findings of the current review. This is then followed by the proposed framework, theoretical lenses and propositions. The paper concludes with the future research directions, practical implications and limitations.

Past reviews, methodology and findings

This section reviews relevant past review studies and then outlines the methodology and major findings of the current review.

Past reviews

Review studies of age, gender and ethnic forms of demographic diversity at the individual and group levels are scarce (e.g., Chattopadhyay *et al*., 2016; Riordan, 2000). The focus of these studies varies as follows: reconceptualising the diversity construct (Joshi *et al*., 2011; Shemla *et al*., 2016; van Knippenberg and Schippers, 2007), outlining developments (Joshi *et al*., 2011; Riordan, 2000; van Knippenberg and Schippers, 2007), identifying moderators (Chattopadhyay *et al*., 2016; Chattopadhyay *et al*., 2004; Guillaume *et al*., 2017; Guillaume *et al*., 2014; Van Knippenberg *et al*., 2004; van der Zee *et al*., 2009), integrating literature to propose a framework (Chattopadhyay *et al*., 2016; Chattopadhyay *et al*., 2004; Guillaume *et al*., 2014; Riordan, 2000; van Knippenberg *et al*., 2004; van der Zee *et al*., 2009), and presenting propositions (Chattopadhyay *et al*., 2004; Guillaume *et al*., 2014; van Knippenberg *et al*., 2004). Most reviews discuss diversity as a general construct, without specifying any particular forms (e.g.,

Guillaume *et al*., 2014; Joshi *et al*., 2011; van Knippenberg *et al*., 2004). The reviews note that past empirical research has studied diversity mainly at one level of analysis – individual or group (Joshi *et al*., 2011) – highlighting the need for multilevel analysis. Two reviews presented a multilevel framework (Guillaume *et al*., 2014; Riordan, 2000), including one with a testable proposition (Guillaume *et al*., 2014). However, neither of the proposed multilevel frameworks suggests a simultaneous effect of objective and perceived dimensions of age, gender and ethnic diversity on both individual and group outcomes.

Methodology

The authors reviewed literature from the past two decades, following the guidelines provided by Tranfield *et al*. (2003). The EBSCOhost, ProQuest, and Scopus databases were searched for literature published in the English language since 1995, using a broad conceptualisation of demographic diversity and all possible terms, such as objective demographic diversity, perceived demographic diversity, demographic diversity, gender diversity, workplace discrimination, age diversity, ethnic diversity, diversity climate, climate for diversity, stereotyping and so on. The search results were organised into three categories: individual-level studies, group-level studies and multilevel studies. Studies conducted at levels other than these were excluded. Studies considering diversity forms other than age, gender and/or ethnicity were also excluded. This exclusion process resulted in 51 studies for review (see the table 4.1 for a complete list).

Findings

Of the 51 studies, nine studies included all three forms of diversity: age, gender and ethnicity (see table 4.1). Eight focused on age and gender, six on gender and ethnicity, one on age and ethnicity, twelve on gender, nine on ethnicity and six on age. The focus appears to be on gender

or multiple forms of diversity. A vast majority of studies measured objective diversity (45), with only three each focusing on perceived diversity or both types of diversity. SCT and/or SIT have been used by a large number of studies, indicating the emphasis on diversity's negative processes (processes that leads to negative outcomes of demographic diversity). Only seven studies drew on IET. This illustrates that past empirical studies on demographic diversity envisage diversity as a source of categorisation or separation among people but not as a source of variety (Kirkman *et al*., 2004; Timmerman, 2000). The level of analysis was predominantly at the group level (27), with only a few studies (nine) focusing on an individual level of analysis. Only six multilevel studies included both individual and group levels. The findings of these 51 studies were mixed: 18 found positive effects, 11 found negative effects and 22 found mixed effects.

To move the field forward, these findings demand a contextual focus on both positive and negative processes and outcomes of objective and perceived age, gender and ethnic diversity at both the individual and group level.

Framework, theoretical lenses and propositions

An integrated multilevel framework

Figure 1 presents an integrated multilevel framework of demographic diversity at individual and group levels, based on the findings and suggested future research directions of studies included in the review. The framework acknowledges that information elaboration, social categorisation and social identity processes co-exist to influence outcomes at both levels. The following section discusses the three theoretical lenses.
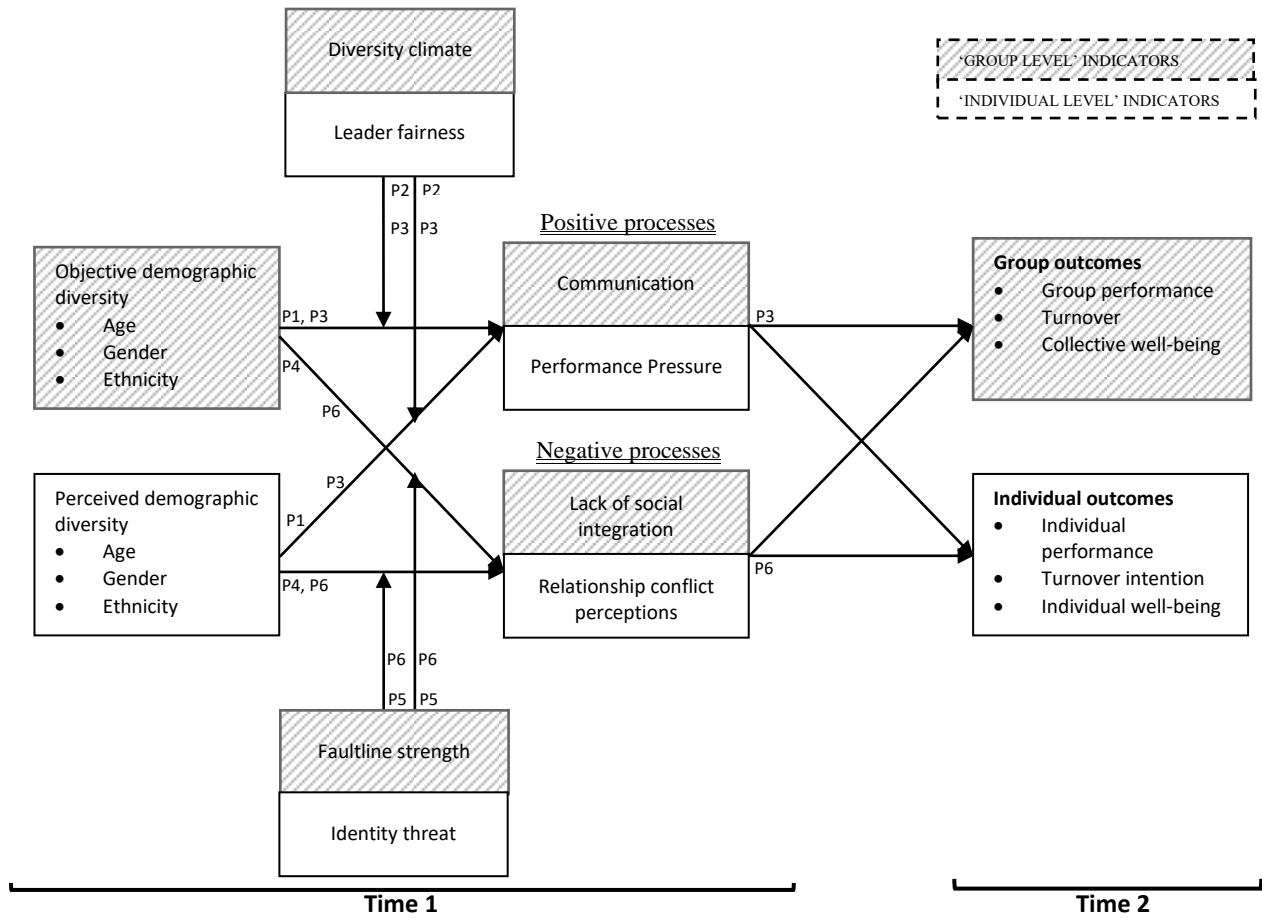
Figure 4.1 *Multilevel framework on demographic diversity*

Theoretical lenses

This section provides a brief overview of the three theoretical lenses underlying the integrated framework. These theories have been used by past empirical studies and predict positive and negative processes and outcomes, which aligns with the purpose of this review.

Information elaboration theory. IET proposes that diversity among group members can have a positive influence on groups through enhanced abilities, skills, information and knowledge of the diversified workforce (Schneid*et al.*, 2016; Williams and O'Reilly III, 1998).

Demographically heterogeneous groups are expected to encompass a diverse range of knowledge and experiences compared to homogeneous groups (Ancona and Caldwell, 1992; Williams and O'Reilly III, 1998), offering a large pool of resources along with increased abilities for better decision-making (van Knippenberg *et al*., 2004). A few studies reported that gender and ethnic diversity can have a positive influence on group processes (e.g., Kent and McGrath, 1969; Kirchmeyer and Cohen, 1992). Diaz-Garcia *et al*. (2013) found a positive influence of gender diversity on radical innovation rather than incremental innovation, while Kearney *et al*. (2009) reported a positive relationship between age diversity and team performance if the team's need for cognition was high.

*Social categorisation theory and social identity theory.*SCT was first introduced by Turner *et al*. (1987), depicting that individuals perceive others as similar or dissimilar to themselves, leading to in-group and out-group dynamics (Haslam, 1997). SCT has a strong focus on intragroup processes (Turner *et al*., 1987), and encompasses distinguishing an individual's identity at human, social and personal levels (Hornsey, 2008). Individuals tend to make one level more salient than the others and try to distinguish themselves from others. They also tend to classify themselves and others into social categories, including organisational membership, age, gender and ethnicity (Tajfel, 1974). On the grounds of SCT, demographic diversity has been considered as the cause of categorisation or separation among group members and has been principally linked to negative outcomes (Kirkman *et al*., 2004; Timmerman, 2000). A lack of cohesion and increased conflict have been repeatedly studied as processes negatively influencing the outcomes of diverse groups (e.g., DiTomaso *et al.*, 2007; Herring, 2009; Jackson *et al.*, 2003; Mannix and Neale, 2005; Milliken and Martins, 1996; Van Knippenberg *et al.*, 2004; Van Knippenberg and Schippers, 2007; Williams and O'Reilly III, 1998).

Social identity is "that part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership" (Tajfel, 1978, p. 63). SIT is based on three assumptions (Turner and Brown, 1978). First, individuals categorise themselves into social groups. Second, an individual's positive social identity is linked with the status of his/her group. Third, the status of a group is relative to other groups. SIT suggests that people like to perceive their identity positively (Tajfel and Turner, 1986). The tendency to see one's own group as better than other groups promotes psychological division and social comparison between the in-group and the out-group. Further, social comparison between the in-group and the out-group generates affective, cognitive, and behavioural biases (Moreland, 1985), favouritism toward in-group members (Allen and Wilder, 1975; Billig and Tajfel, 1973; Turner, 1978), discrimination toward out-group members (Tajfel *et al.,* 1971), and social competition between them (Turner and Brown, 1978). These in-group out-group dynamics may result in decreased communication and increased stereotyping (Stephan and Stephan, 1985), and increased conflict between groups (Sherif, 1966).

Propositions

Testable propositions derived from the multilevel framework are provided below. For a link between these propositions and the studies included in this review, please refer to the table 4.1.

Demographic diversity and positive group processes. Based on IET, demographic diversity can initiate positive communication and performance pressure group processes (Schneid*et al*., 2016; Williams and O'Reilly III, 1998). Diverse individuals can offer unique approaches, creativity and new ideas as they represent their specific broader group within society

or the organisation (Gibson and Vermeulen, 2003; Williams and O'Reilly III, 1998). Group members from various age brackets and different ethnicities can expand the number of experiences and information on hand. Similarly, the presence of both genders can help promote each gender's perspectives. This large pool of information may require groups to develop better communication and to be open and receptive to others' viewpoints (Harrison and Klein, 2007). Van Knippenberg *et al*. (2004) reported that the diversity's positive effects are accentuated by information elaboration, primarily through enhanced communication among group members.

Diversity among individuals within workgroups may also help to achieve better ways to perform tasks (Williams and O'Reilly III, 1998), which can help individuals to reduce performance lags by using their distinctive abilities (Eisenberger and Aselage, 2009) and enhance positive performance pressure across all group members. Employees do this by expending maximum energy and effort, increasing their own performance and that of the group. The more demographically diverse the group (either objective or perceived), the more pressure there will be on minority members to perform better. A review by Riordan (2000) reports the presence of performance pressure due to demographic diversity among group members. Considering the IET perspective and Harrison and Klein's (2007) typology, groups with increased demographic diversity may feel more performance pressure as individuals try to maximise their efforts to gain a stronger position within the group and to build a stronger rapport within the larger social group. Thus, it is proposed:

Proposition 1: Objective demographic diversity and perceived demographic diversity are likely to enhance communication and lead to positive performance pressure.

Table 4.1 Studies Reviewed

S. No.	Study	Form of Diversity a=age, g=gender, e=ethnicity	Perceived (P), Objective (O)/ Both (B)	Main Theories	Level of Analysis I=Individual G=Group M=Multilevel	Findings P=Positive N=Negative M=Mixed	Link to Propositions
1	Amini *et al*., 2017	g	O	-	G	M	P1-P3
2	Avery *et al*., 2013	g	O	Other	M*	P	P1-P3
3	Avery *et al*., 2007	a	P	SCT, SIT	I	P	P1-P3, P7
4	Bauman *et al*., 2014	e	B	SIT	I	P	P1-P3, P7, P8
5	Brodbeck *et al*., 2011	e	O	SCT, IET	M$^+$	M	P1-P6
6	Chatman and Flynn, 2001	a, g, e	O	SCT	G	M	P4-P6
7	Chattopadhyay, 2003	g, e	O	SCT, SIT	I	M	P1-P7
8	Chattopadhyay, George, and Shulman (2008)	g	O	SCT, SIT	G	M	P1-P6
9	Choi, 2007	a, g	O	SCT, SIT, IET	M*	M	P4-P6
10	Choi and Rainey, 2010	a, g, e	O	SCT, SIT	M**	M	P4-P6
11	Choi, 2013	g, e	O	Other	M**	M	P1-P3
12	Curseu, 2013	a	O	Other	G	N	P1-P6
13	Diaz-Garcia *et al*., 2013	g	O	-	G	M	P1-P3
14	Drach-Zahavy and Trogan, 2013	a, g, e	O	Other	M*	M	P1-P3
15	Gates and Mark, 2012	a, g, e	O	SIT	M**	P	P4-P6
16	Goldberg *et al*., 2010	a, g, e	P	SIT	G	P	P1-P3
17	Goncalo et al., 2014	g	O	Other	G	P	P1-P3

18	Gonzalez and Denisi, 2009	g, e	O	SIT	M**	N	P4-P6
19	Greer *et al.*, 2012	e	O	SCT	G	M	P1-P6
20	Hentschel *et al.*, 2013	a, g	B	SCT, IET	G	M	P1-P6, P7
21	Kearney and Gebert (2009)	a	O	Other	G	M	P1-P3
22	Kearney *et al.*, 2009	a	O	Other	G	P	P1-P3
23	Kirkman *et al.*, 2004	a, g, e	O	SIT	G	N	P4-P6
24	Kooij-de Bode, van Knippenberg, and van Ginkel (2008)	e	O	-	G	M	P1-P3
25	Lauring and Villeséche, 2019	g	O	Other	G	P	P1-P3
26	Lee and Farh, 2004	g	O	-	G	P	P1-P3
27	Lehmann-Willenbrock *et al.*, 2012	a	O	SCT, SIT	I	P	P1-P3, P7
28	Leslie, 2014	e	O	SCT, SIT	M***	N	P4-P6
29	Leslie and Gelfand, 2008	g	O	-	M**	M	P4-P6
30	Liebermann *et al.*, 2013	a	P	SI	M*	M	P4-P6
31	Linnehan *et al.*, 2006	e	O	Other	M*	P	P1-P3
32	Martinez *et al.*, 2017	g	O	Other	G	N	P1-P3
33	McKay *et al.*, 2008	e	O	Other	I	M	P1-P3, P7
34	McKay *et al.*, 2007	e	O	Other	I	N	P4-P6, P7, P8
35	Meyer and Schermuly, 2011	a, g	O	SCT, IET	G	P	P4-P6

36	Meyer *et al.*, 2015	a, g	O	SCT	M*	N	P1-P3
37	Mohammed and Angell, 2004	g, e	O	SCT, SIT	G	N	P1-P3
38	Molleman, 2005	a, g	O	SCT, SIT	G	N	P1-P6
39	Mor Barak et al. 1998	g, e	O	SIT, IET	M**	N	P4-P6
40	Nishii, 2013	g	O	Other	G	P	P4-P6
41	Pelled *et al.*, 2001	a, g	O	SCT	I	M	P1-P6, P7
42	Sacco and Schmitt, 2005	a, g, e	O	Other	M**	N	P4-P6
43	Schippers *et al.*, 2003	a, g	O	-	G	P	P1-P3
44	Seong and Hong, 2013	g	O	SCT, SIT	G	M	P4-P6
45	Singh *et al.*, 2013	e	O	Other	I	P	P1-P3, P7
46	Stewart and Johnson, 2009	g	O	-	G	M	P1-P3
47	Thatcher *et al.*, 2003	a, g, e	O	Other	G	M	P1-P6
48	Timmerman, 2000	a, e	O	-	G	M	P1-P3
49	Van Dick *et al.*, 2008	a, g, e	B	SCT, IET	G	P	P1-P3
50	Volpone *et al.*, 2012	g, e	O	Other	I	P	P1-P3, P7, P8
51	Wegge, et al., 2008	a, g	O	SIT, IET	G	P	P1-P3

SCT=Social categorisation theory, SIT= Social identity theory, IET= Information elaboration theory
*Individual and group levels, **Individual and organization, ***Group and community levels, +individual, group and societal levels

Moderators of demographic diversity and positive processes. The framework in figure 4.1 suggests that the strength of the relationships of positive processes of demographic diversity derived from IET are contingent on *diversity climate* and *leader fairness*. Diversity climate refers to employees' shared perceptions of a diversity-supportive environment (Mor Barak *et al.,* 1998). Perceptions about diversity climate evolve as employees fetch and interpret information from their working environment (Schneider, 1975). Diversity climate has been primarily studied as an organisational-level variable, but it is incorporated as a group level variable in the proposed framework. This is because shared and supportive environments usually develop where employees have the opportunity to interact and work on common goals; that is, in their immediate work groups. Therefore, it is reasonable to search for supportive diversity climates within identifiable groups who frequently interact at work and have common attainable goals (Anderson and West, 1998). Individuals within a workgroup share their patterns of understanding and identify themselves within that workgroup (Campion *et al.,* 1993), allowing themselves to develop perceptions of a diversity climate. A workgroup's diversity climate plays an important role in shaping employee behaviours. If group members sufficiently retrieve and share positive information about diversity, a supportive diversity climate can emerge (Boehm *et al.,* 2014), leading to enhanced communication levels and positive performance pressure among employees.

Perceived leader fairness has an important influence on employees' attitudes and behaviours (Thibaut and Walker, 1975). The fair treatment and outcomes delivered by leaders are of primary concern to followers (De Cremer and van Knippenberg, 2003), as the fairer the leadership – in terms of procedures, outcomes and interpersonal treatment – the more easily it

can engender favourable employee behaviours. These favourable behaviours include enhanced cooperation, responsibility to undertake positive performance pressure and increased sharing of knowledge and skills to achieve the best possible outcomes (van Knippenberg *et al.,* 2007). Few studies have considered the influence of a leader's demographic similarity or dissimilarity on negative performance feedback (e.g., Konrad *et al.,* 2010). This framework supports the notion of a favourable diversity climate and positive perceptions of leader fairness as the means to strengthen the relationship between demographic diversity and information elaboration processes. Employees with supportive diversity climate perceptions and strong, positive leader fairness perceptions will expend maximum effort to achieve the best possible outcomes. Therefore, it is proposed:

Proposition 2: Objective demographic diversity and perceived demographic diversity are likely to engender stronger positive processes if groups have a supportive diversity climate and positive perceptions of leader fairness.

Demographic diversity, information elaboration and multilevel outcomes. The positive processes of information elaboration, moderated by diversity climate and leader fairness, influence outcomes at the individual and group levels. Groups with a supportive diversity climate and positive perceptions of leader fairness will experience increased communication and positive performance pressure (e.g., Sias and Jablin, 1995). These positive processes can lead to enhanced individual and group performances (e.g., Roberts and O'Reilly III, 1979), lower group-level turnover and individual turnover intentions (e.g., Mor Barak *et al.*, 2001), and improved group-level and individual well-being (e.g., van Dierendonck *et al.*, 2004).For example, Roberts and O'Reilly III (1979) report that individuals with increased communication tend to perform better

than those with less communication, as they have better information and guidance. Investigations into the relationship between communication, information and performance suggest that employees' ability to obtain information through communication has a direct link with individual and group performance (O'Reilly, 1977).

The influence of communication on performance has wide empirical support within the literature (e.g., Ebadi and Utterback, 1984; Harrison *et al*., 2002) but has not been incorporated into diversity frameworks (e.g., Guillaume *et al*., 2017; van Knippenberg *et al*., 2004). Good communication levels among group members foster creativity and idea generation, with improved problem-solving (Ebadi and Utterback, 1984), while a lack of communication decreases the exchange of ideas and questions essential for effective teamwork (Williams and O'Reilly III, 1998). Similarly, individuals experiencing high performance pressure tend to monitor their performance lags and utilise their best abilities and skills to perform better (Eisenberger and Aselage, 2009), ultimately improving individual and group outcomes. As such, it is proposed that:

Proposition 3: Objective demographic diversity and perceived demographic diversity are likely to engender stronger positive information-elaboration processes and positive individual and group outcomes where groups have a supportive diversity climate and perceptions of positive leader fairness.

Demographic diversity and negative group processes. Based on SCT and SIT, demographic diversity can initiate negative social integration group processes and increase perceptions of relationship conflict. Social integration is a multifaceted phenomenon that explains the degree to which individuals within groups are attracted towards each other, feel

satisfied with each other, socially interact, and are psychologically linked (Polzer *et al*., 2002). The term 'social integration' has also been used interchangeably with the measure of cohesion (the extent to which group members are attracted towards one another). Shaw (1981) uses the term 'cohesiveness' to measure the degree of attraction among group members through stated attraction, the morale of group members and the degree of coordinating efforts. Individuals within homogeneous groups fulfil their desires for self-esteem and perceive their in-group members as more trustworthy, honest and cooperative (Tajfel, 1982), which increases their social interaction with in-group members. Therefore, it is generally believed that homogenous groups have higher levels of social interaction compared to heterogeneous groups (van Knippenberg *et al*., 2004). Molleman (2005) reported that demographically diverse groups with more-prominent subgroups have reduced cohesion. Harrison *et al*. (2002) also identified the negative effect of perceived diversity on social integration. Social integration is also frequently reported through the lens of similarity attraction theory (Byrne, 1971). This theory presumes that individuals, while interacting with others, select those similar to themselves (Williams and O'Reilly III, 1998) to better reinforce their own values, attitudes and beliefs (Riordan, 2000).

Categorisation helps individuals to predict and control their surroundings (Zimbardo and Leippe, 1991) and develop opinions about in-group and out-group members, resulting in different behaviours for distancing, stereotyping and disparaging out-group members (Tajfel, 1982). Potential hostile interactions constitute a relationship conflict (Pelled *et al*., 1999). The components of demographic diversity (such as age, gender and ethnicity) are the most easily identified attributes; this makes them cognitively accessible in individuals' minds (van Knippenberg *et al*., 2004), increasing the potential for inter-category clashes (Pelled *et al*., 1999) and resulting in relationship conflict among group members. Based on SCT and SIT, it is

predicted that the more demographically diverse the team, the less positive individual team members' attitudes will be towards each other, which may result in conflict and dissent among team members (Mohammed and Angell, 2004). Pelled *et al.* (2001) reported a positive relationship between age dissimilarity and relationship conflict. Therefore, it is proposed that:

Proposition 4: Objective demographic diversity and perceived demographic diversity are likely to decrease social integration and increase relationship conflict.

Moderators of demographic diversity and negative processes. The framework in figure 4.1 suggests that the strength of negative processes of demographic diversity, derived from SCT and SIT, are contingent on *faultlines strength* and *identity threat*. Alignment of different demographic characteristics in diversified groups creates hypothetical dividing lines called 'faultlines' (Lau and Murnighan, 1998). For instance, two subgroups that have formed along the lines of age and gender (e.g., aged and men in one subgroup versus young and women in the other subgroup) will demonstrate higher faultline strength compared to two subgroups formed mainly along the lines of gender (e.g., men of various ages versus women of various ages) (Lau and Murnighan, 1998). The more salient the categorisation among group members because of faultlines formation, the higher the comparative fit, making it difficult to refute differences (van Knippenberg *et al*., 2004). These intense subgroups and associated negative dynamics reduce social integration and increase relationship conflict (Molleman, 2005). The stronger the faultline, the greater is diversity's negative impact on group members' social integration and relationship conflict.

People fulfil their self-enhancement and self-esteem needs by maintaining and achieving a positive and supportive social identity. An individual's social identity is related and

comparative (Tajfel, 1974), and allows the individual to compare themselves with others and feel comfortable with those who have more similarities, encouraging continuity of identity (Steele, 1988). Individuals join groups with members who have similar identities and feel positive about them while, at the same time, disregarding those who are different. This 'identity threat' in a heterogeneous group, where individuals perceive out-group members as less trustworthy, cooperative or honest, can decrease cohesion (social integration) and self-esteem among group members (Taylor and Brown, 1988). Questioning individuals' sense of self arouses feelings of an 'identity threat'. If individuals are treated differently on a demographic basis, they may resist the situation by decreasing their interaction with such group members (Branscombe *et al*., 1999). The literature lacks a focus on the influence of an 'identity threat' on demographic diversity and its impact on social integration and relationship conflict. One study discussing antisocial behaviour and identity threat explains that individuals striving to maintain their social identity can engage in antisocial behaviours (Aquino and Douglas, 2003), such that ethnic minorities in a group may receive harsh criticism (Bies, 2001). As such, it is proposed that:

Proposition 5: Objective demographic diversity and perceived demographic diversity are likely to engender stronger negative processes if groups have strong faultlines and experience identity threat.

Demographic diversity, social categorisation and multilevel outcomes. The negative processes of social categorisation, moderated by faultlines strength and identity threat, influence the outcomes at the individual and group levels. Groups with strong faultlines and identity threat will experience a lack of social integration and increased conflict (e.g., Jehn *et al*., 1999; Pelled *et al*., 1999; Riordan, 2000; van Knippenberg *et al*., 2004). These negative processes can lead to

inferior individual and group performances (e.g., Jehn, 1994; Jehn *et al*., 1999; van Knippenberg *et al*., 2004), higher group-level turnover and individual turnover intentions (Wagner *et al*., 1984), and lower group-level and individual well-being. Pelled *et al*. (1999) reported that groups with increased relationship conflicts tend to spend most of their time defending against personal attacks and clashes (Jehn, 1994), which decrease individual and group well-being and performance, along with their intention to stay. The strength of faultlines and the identity threat tends to strengthen this relationship by increasing conflict and decreasing integration, influencing individual and group outcomes (e.g., Lau and Murnighan, 1998). Sheridan (1985) argues that a critical factor influencing turnover or turnover intention is the attraction among group members or social integration. Similarly, cohesion is frequently reported to be associated with employees' intentions to stay or leave (e.g., Krackhardt and Porter, 1986). Thus, it is proposed:

Proposition 6: Objective demographic diversity and perceived demographic diversity are likely to engender stronger negative processes and, therefore, individual and group outcomes if groups have strong faultlines and experience identity threat.

Objective versus perceived demographic diversity. Diversity within a workgroup refers to aspects of objective and subjective differences among group members (van Knippenberg *et al*., 2004). Hentschel *et al*. (2013) state that objective and perceived diversity are two separate constructs that may sometimes, but not always, align. Objective diversity is defined as the actual difference among individuals or teams, while perceived diversity is the members' beliefs or perceptions about differences between each other (Hentschel *et al*., 2013). Perceived diversity is also defined as individuals' perceptions of dissimilarity compared to others on the grounds of readily detectable attributes or characteristics (Shrivastava and Gregory, 2009) or the extent to

which individuals perceive themselves as similar or different to others (Huang and Iun, 2006). Research has mainly focused on objective diversity among workgroups, with much less attention paid to perceived demographic diversity (e.g., Harrison *et al*., 2002; Hentschel *et al*., 2013; Mansoor and Ali, 2018; Salloum *et al*., 2019; Shemla *et al*., 2016). However, individuals' behaviours are driven by their perceptions of diversity (e.g., Hobman *et al*., 2003). Harrison and Klein (2007) suggest that perceived diversity has more proximal descriptive power than objective diversity. Thus, it is proposed:

Proposition 7: Relative to objective demographic diversity, perceived demographic diversity is likely to engender stronger processes within workgroups.

Objective and perceived demographic diversity. Studies related to objective diversity are inconclusive (van Knippenberg and Schippers, 2007). Shemla *et al*. (2016) reported that objective diversity studies have been unable to discern the variety of meanings that individuals attribute to contrasting arrangements. Studies have reported that objective diversity in teams usually has an indirect influence on group outcomes (e.g., Harrison *et al*., 2002). Riordan (2000) states the variance accounted for by objective demographic diversity in workgroups is quite small, and studies of both objective and perceived demographic diversity attributes may explain additional variance in work outcomes, such as work attitudes and performance ratings. Therefore, it is important to study objective and perceived attributes of demographic diversity collectively. As such, it is proposed:

Proposition 8: Collectively, objective demographic diversity and perceived demographic diversity attributes can explain a large variance in individual and group outcomes.

Conclusion

This review contributes to the existing knowledge and understanding of demographic diversity literature by proposing an integrated multilevel demographic diversity framework and eight testable propositions through the lenses of IET, SCT and SIT. Supporting the notion that individuals are nested in groups, the multilevel framework identifies multiple mediating processes and contextual variables leading to multilevel (individual- and group-level) outcomes, not sufficiently addressed in the extant literature on demographic diversity. This presents several research directions and practical implications.

Research directions

This multilevel framework offers several research directions. First, an important inquiry concerns minimising negative effects of demographic diversity in workgroups (Mohammed and Angell, 2004). This review proposes that these negative effects may be minimised by fostering information elaboration processes among group members. Thus, our framework helps to shift the focus of demographic diversity literature from social categorisation to information elaboration. Second, the literature currently lacks a focus on multilevel studies of demographically diverse workgroups. Given that individuals are nested in workgroups (Peccei and Van De Voorde, 2016) and that the rigorous findings of individual and group outcomes (e.g., Chattopadhyay, 2003; Nishii, 2013; Salloum *et al*., 2019) are dependent on multilevel analysis, the above-mentioned propositions identify several processes to effectively analyse the multilevel impact of demographically diverse groups on both individual and group outcomes.

Third, demographic diversity research needs to shift its focus from an independent effect approach to an interactive effect approach (van Knippenberg *et al.*, 2004). The authors propose to collectively study three dimensions of diversity (age, gender and ethnicity), along with the objective and perceived variability of difference. The consideration of objective and perceived dimensions of demographic diversity will also help researchers to identify and explain additional variance in outcome variables (Riordan, 2000). Fourth, although individuals need to categorise themselves to seek optimal balances of similarity and uniqueness, the readily observable demographic diversity may force them into subgroup formation (Kanter, 1977). In such situations, individuals try to separate themselves from others (van Prooijen and van Knippenberg, 2000), which influences their performance, satisfaction and well-being within the group, and increases their turnover intentions (e.g., Greer *et al.*, 2012; Kearney and Gebert, 2009). Researchers need to identify and test contextual factors, in addition to the four proposed in this framework, influencing the main relationships, such as leadership styles, team reflexivity and the need for cognition (e.g., Greer *et al.*, 2012; Meyer and Schermuly, 2011; Seong and Hong, 2013). This will also help to resolve the inconsistent findings in the literature. Finally, considering other dimensions of demographic diversity (Brodbeck *et al.*, 2011) along the lines of the proposed framework may help determine the effectiveness of demographic diversity in workgroups.

Practical implications

The continuous increase in diversity in our society requires firms to increase and manage demographic diversity in their workgroups, especially in terms of age, gender and ethnicity. Past research has shown that increases in demographic diversity can mainly lead to negative

consequences, such as conflict or a lack of cohesion (Nakui *et al*., 2011), dissatisfaction, turnover (Jackson *et al*., 1991; Wagner *et al*., 1984), lower commitment (Riordan and Shore, 1997), and a lack of cohesion and lower performance (Leslie, 2014). The evidence available to managers pertains to studies at only one level of analysis, such as the individual (Flynn *et al.*, 2001; Maranto and Griffin, 2011; McKay *et al.*, 2007; Sliter *et al.*, 2014; Volpone *et al.*, 2012) or group (Boehm *et al.*, 2014; Fay *et al.*, 2006; Hoever *et al.*, 2012; Rico *et al.*, 2007) level. The demographic diversity framework proposed in this paper will help organisations to identify ways to attain positive outcomes from workgroup diversity at both the individual and group level.

Demographic diversity within workgroups, if not managed effectively, can easily lead to separation and categorisation among group members (e.g., Ibarra *et al*., 2010). The current framework suggests that managers should focus on creating conditions that can strengthen information elaboration processes and weaken social categorisation processes. The proposed conditions comprise a supportive diversity climate, perceptions of leader fairness, weak faultlines and weak identity threat. These conditions can help organisations to obtain maximum benefits from diverse workgroups while minimising diversity's harms (e.g., Molleman, 2005; Roberts and O'Reilly III, 1979; van Knippenberg *et al*., 2004). This effective management of diversity will strengthen the organisation's positive image, developing an advantage over the competition.

Limitations

The limitations of this review include a focus on age, gender and ethnic diversity. As the most easily identifiable forms of demographic diversity, these dimensions can quickly initiate

processes and affect various outcomes. Future reviews can include other forms of diversity (e.g., cultural, linguistic and tenure) to develop a comprehensive framework. The authors did not include an organisational level of analysis in the review. Adding studies at the organisational level of analysis to propose a three-level framework will provide invaluable insights into how effects at one level translate to the two other levels. In addition, this review did not consider non-indexed journals, dissertations, books or in-press articles. Future reviews should undergo extensive searches that can augment the findings of the current proposed framework.

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Chapter 5.   Submitted Paper – A Multilevel Study of Gender Diversity, Processes and Outcomes

This chapter presents the second manuscript of the study, comprising the empirical investigation of the multilevel influence of gender diversity on individual performance, through two mediating processes of communication and relationship conflict. The paper is under review in the "Review of Managerial Science" and was also presented in the "British Academy of Management Conference 2020" (BAM 2020) held online from 2-4 September 2020.

This study offers several contributions to gender diversity scholarship. First, it recognises and investigates the multilevel influence of gender diversity. Second, this study simultaneously considers both objective and perceived dimensions of gender diversity. Third, this study integrates two competing theoretical perspectives to propose and test both positive and negative influences of gender diversity. Specifically, it draws on the information-elaboration perspective to propose that diverse group composition can have a positive influence on the group. On the other hand, it draws on the social identity perspective to propose that increased diversity triggers categorisation processes and initiates negative perceptions for out-group members ultimately exacerbating the outcomes.

5.1   Credentials of Selected Journal

Journal Name: Review of Managerial Science

Publisher: Springer Verlag

Scimago journal ranking: Business, Management and Accounting (miscellaneous) (Quartile 1)

Statement of Contribution of Co-Authors for Thesis by Published Paper

The authors listed below have certified that:

1. they meet the criteria for authorship and that they have participated in the conception, execution, or interpretation, of at least that part of the publication in their field of expertise;
2. they take public responsibility for their part of the publication, except for the responsible author who accepts overall responsibility for the publication;
3. there are no other authors of the publication according to these criteria;
4. potential conflicts of interest have been disclosed to (a) granting bodies, (b) the editor or publisher of journals or other publications, and (c) the head of the responsible academic unit, and
5. they agree to the use of the publication in the student's thesis and its publication on the QUT's ePrints site consistent with any limitations set by publisher requirements.

In the case of this chapter:

Title: A Multilevel Study of Gender Diversity, Processes and Outcomes
Publication Journal: Review of Managerial Science (Submitted and under review)

Contributor	Statement of contribution*
Sadia Mansoor Signature: *Sadia Mansoor* 21/12/2020	Study design, data collection and analysis, interpretation of findings, wrote the manuscript
Dr. Muhammad Ali	Help in conceptual framing of paper and writing manuscript
Associate Professor Erica French	Help in conceptualizing and reviewing the paper

Principal Supervisor Confirmation

I have sighted email or other correspondence from all Co-authors confirming their certifying authorship. (If the Co-authors are not able to sign the form please forward their email or other correspondence confirming the certifying authorship to the GRC).

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5.2   **Submitted Manuscript**

A Multilevel Study of Gender Diversity, Processes and Outcomes

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Gender diversity is gaining increasing attention in organisations. This study investigates the processes and outcomes of objective group gender diversity and perceived gender diversity derived from two perspectives: information-elaboration and social identity. Data were collected through two rounds of employee surveys at two banks in Pakistan, with a time lag of three months. Seventy-eight groups comprising 305 members participated in both surveys. Multilevel analyses in Mplus indicate that objective group gender diversity has a negative relationship with communication, whereas perceived gender diversity shows a positive influence on communication. Both objective group gender diversity and perceived gender diversity enhance relationship conflict. Relationship conflict and well-being sequentially mediate the relationship between gender diversity and individual performance. The study contributes to the literature by simultaneously studying objective and perceived dimensions of gender diversity, highlighting the positive processes of gender diversity, and providing empirical support for the multilevel influence of gender diversity.

Keywords: Objective group gender diversity; perceived gender diversity; communication; relationship conflict; individual well-being; performance; multilevel

Introduction

Organisations are paying increasing attention to gender diversity within workgroups (IFC, 2018). Gender, in this manuscript, refers to the biological male and female dichotomy (Williams & Meân, 2004). Gender diversity within a workgroup refers to both *objective group gender diversity* (OGD; actual differences conceptualised at the group level) and *perceived gender diversity* (PGD; perceptions of individual employees; Van Knippenberg, De Dreu, & Homan, 2004). The findings of the extant group gender diversity literature are inconsistent and inconclusive (Chattopadhyay, 2003; Nishii, 2013). Most empirical studies report negative outcomes of gender diversity. For example, Hentschel, Shemla, Wegge, and Kearney (2013) reported a positive association between PGD and relationship conflict. Similarly, a study by Martinez, Zouaghi, and Garcia Marco (2017) found that gender diversity in cognitively diverse teams might be a negative characteristic for the group. A few studies have also reported no effect of gender diversity (e.g. Amini, Ekström, Ellingsen, Johannesson, and Strömsten, 2017). Moreover, PGD has not attracted much attention, while the focus remains on OGD using the social identity perspective (Van Knippenberg & Schippers, 2007). The mixed evidence along with thin evidence in some areas has made it difficult for practitioners to undertake evidence-based gender diversity management (Ali, 2016).

The nesting of individuals within groups might be a contributing factor toward inconsistent findings of past research (Peccei & Van De Voorde, 2019). Gender diversity at any one level can affect the processes and outcomes at multiple levels (Mansoor, French, & Ali, 2019). Only a few gender diversity studies have involved multiple levels, but their results also diverge: negative outcomes through the social identity perspective (e.g. Avery, Wang, Volpone,

& Zhou, 2013; Chatman & Flynn, 2001) and positive outcomes only when the gender proportions of male and female employees are equal (Choi & Rainey, 2010). The current study addresses this research gap by studying the positive and negative influences of gender diversity at multiple levels – that is, at the group level (objective) and individual level (perceived) – under the theoretical underpinnings of the information-elaboration (Ancona & Caldwell, 1992; Tziner & Eden, 1985) and social identity (Tajfel, 1978; Turner & Brown, 1978) perspectives simultaneously. To our knowledge, the integration of two perspectives has not yet been empirically investigated for group gender diversity.

This study offers several contributions to gender diversity scholarship. First, it recognises and investigates the multilevel influence of gender diversity. As individuals are nested in groups, it is important to study both OGD and PGD (Peccei & Van De Voorde, 2019). At the group level, it identifies communication as an important process of gender diversity. Communication is defined as the range of activities, such as simple chatting to in-depth discussions, among a group of three or more people (Fielding, 2006). Gender diversity is believed to enhance communication levels among workgroup members, theorised by the information-elaboration perspective, which states a primary mechanism for gaining the benefits of diversity is information exchange (Gruenfeld, Mannix, Williams, & Neale, 1996). At the individual level, gender diversity is proposed to positively influence the perceptions of *relationship conflict,* characterised as the perception of interpersonal incompatibility and typical tension among group members (Jehn, 1994); in turn, this negatively influences *employee well-being* (quality of individuals' experiences and functioning at work; Warr, 1987). This relationship is theorised by the social identity perspective.

Second, this study simultaneously considers both objective and perceived dimensions of gender diversity. Past evidence of the effects of objective diversity is mixed, and evidence of the effects of perceived diversity is scarce (Van Knippenberg & Schippers, 2007). However, individuals' behaviours are guided by their perceptions of reality rather than the reality itself (Hobman, Bordia, & Gallois, 2003), and the variance accounted by OGD is quite small (Riordan, 2000). Therefore, it is important to investigate OGD and PGD simultaneously. Third, this study integrates two competing theoretical perspectives to propose and test both positive and negative influences of gender diversity. Specifically, it draws on the information-elaboration perspective to propose that diverse group composition can have a positive influence on the group because of enhanced availability of skills, experiences, knowledge, and information (Ancona & Caldwell, 1992; Tziner & Eden, 1985). Therefore, the study proposes that OGD (level-2 predictor) and PGD (level-1 predictor) can enhance communication (level-2 mediator) among group members, which will resultantly improve individual performance (level-1 outcome). It draws on the social identity perspective to propose that increased diversity triggers categorisation processes and initiates negative perceptions for out-group members (e.g. Turner, 1982), which leads to negative processes (relationship conflict), ultimately exacerbating the outcomes (individual well-being and performance) (Jehn, Northcraft, & Neale, 1999). Therefore, relationship conflict (level-1 mediator) and individual well-being (level-1 mediator) serve as the key mechanisms to transfer the negative effects of OGD (level-2 predictor) and PGD (level-1 predictor) on individual performance (level-1 outcome; see figure 5.1).
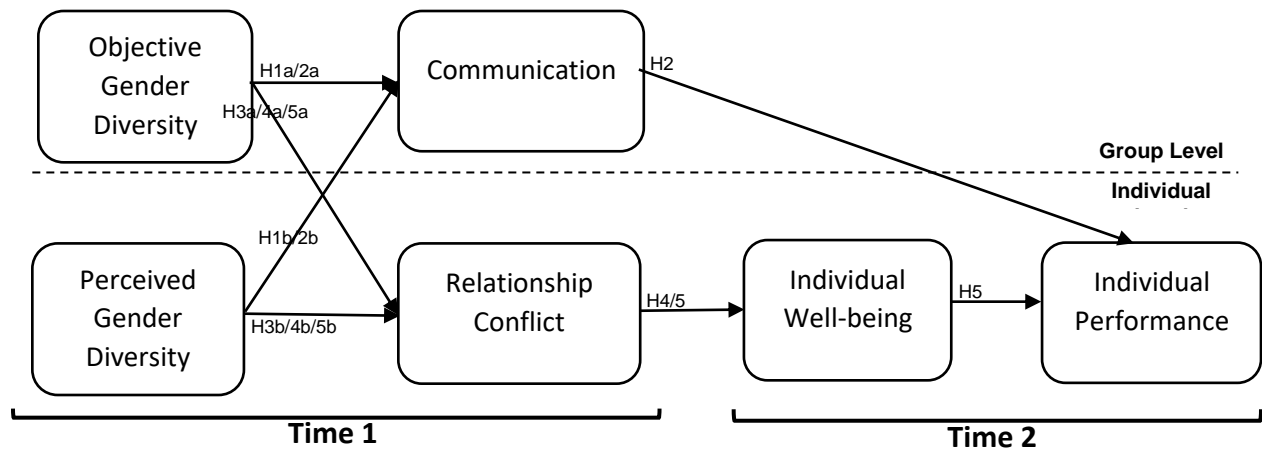
Figure 5.1Proposed Theoretical Model

Theoretical Underpinnings and Hypotheses

Theoretical Lenses

Principally, two theoretical perspectives have directed most of the diversity research for decades: the information-elaboration (Mannix & Neale, 2005; Williams & O'Reilly III, 1998)and social identity (Hornsey, 2008; Tajfel, 1981)perspectives. Recently, both perspectives were integrated into a multilevel framework on demographic diversity (Mansoor et al., 2019), proposing that demographic diversity attributes (e.g. gender) simultaneously aid positive information-elaboration and negative social categorisation processes, ultimately influencing individual and group outcomes.

Information-elaboration perspective

The information-elaboration perspective holds an optimistic view in which diversity creates an environment for enhanced performance. It proposes that variance in group composition can have a positive influence because of increased skills, abilities, networks, knowledge, experiences and information that the diverse group members bring (Ancona & Caldwell, 1992; Mannix & Neale,

2005; Tziner & Eden, 1985). Demographic characteristics (like gender) may have positive effects on group processes (communication) by broadening the number of perspectives and alternatives considered (McLeod & Lobel, 1992). These added alternatives and expertise provide more approaches to problem-solving, and hence improve outcomes.

Thus, the information-elaboration perspective focuses on the benefits that diversity brings to the group. A primary mechanism for gaining the benefits of diversity is information exchange (communication; Gruenfeld et al., 1996). Diverse group members engaged in interpersonal problem-solving and experiencing cognitive conflict respond with novel insights by revising their elementary assumptions (Mannix & Neale, 2005), leading to enhanced problem-solving (Perret-Clermont, Perret, & Bell, 1991) and ultimately improving employee performance. Therefore, the present study suggests gender diversity enhances communication among group members, eventually embellishing individual performance.

Social identity perspective

The social identity perspective alludes to both self-categorisation theory (SCT) and social identity theory (SIT). SCT and SIT share most assumptions but with different foci and emphases (Hornsey, 2008). SCT has a strong focus on intragroup processes (Turner,Hogg, Oakes, Reicher, & Wetherell, 1987) and assists with characterising identity at three levels of inclusiveness: human, social, and personal (Hornsey, 2008). Individuals use similarities and differences to categorise themselves into different groups and to ensure the categorisation distinguishes them from one or more out-groups. This makes them favour in-group members over out-group members (Turner et al., 1987). On the other hand, SIT has a strong focus on intergroup relations based on social contexts (Hornsey, 2008). Social identity is "that part of an individual's self-

concept which derives from his knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership" (Tajfel, 1978: 63). SIT is based on three assumptions: (1) individuals tend to categorise themselves into groups (e.g. gender); (2) they associate their positive social identity with the group's status; and (3) they compare their group's status with other groups (Turner & Brown, 1978). SIT advocates that people like to perceive their social group as superior, promoting the psychological divide and social comparison between the in-group and out-groups (Turner & Tajfel, 1986). Further, social comparisons generate biases, favouritism, discrimination, and social competition (e.g. Moreland, 1985; Turner & Brown, 1978), leading to increased conflict between groups (Sherif & Predicament, 1966).

The categorisation process triggers increased diversity within the workgroup, resulting in an increased tendency for negative perceptions for other subgroups (e.g. Turner, 1982). Increased homogeneity among group members tends to enhance the positive outcomes (individual performance), whereas the augmentation of heterogeneity within the workgroup leads to negative influences (relationship conflict), exacerbating the negative outcomes (individual well-being, performance) (Jehn et al., 1999). Based on the social identity perspective, demographic diversity is believed to cause categorisation among group members and has been predominantly linked to negative outcomes (Kirkman, Tesluk, & Rosen, 2004; Martinez et al., 2017). Therefore, the present study construes that gender diversity aggravates relationship conflict, eliciting negative emotions (slacken well-being) and outcomes (lower performance).

Objective and perceived gender diversity

Diversity within a workgroup refers to both objective and perceived differences (Van Knippenberg et al., 2004). Both types of differences need to be considered as separate constructs that may or may not always align (Hentschel et al., 2013). OGD depends on the actual number of male and female group members, whereas PGD is the member's perception of differences among group members. Prior research has mainly concentrated on OGD (Hentschel et al., 2013; Shemla, Meyer, Greer, & Jehn, 2016). However, Shemla et al. (2016) report that objective diversity studies have not succeeded in explaining the variety of meaning that employees attribute to diverse arrangements. Therefore, the present study considers the objective (group-level) and perceived (individual-level) aspects of gender diversity simultaneously, as called for by Riordan (2000).

Hypotheses Development

Gender diversity and communication

Based on the information-elaboration perspective, the present study argues that gender diversity can initiate positive communication within the group. Communication involves a range of activities such as simple chatting to in-depth discussions for devising policies and practices among a group of three or more people (Fielding, 2006). There is a little evidence of the positive influence of gender diversity on enhancing communication in workgroups. For example, Lauring and Selmer (2012) reported the positive association between gender diversity with personal knowledge (defined as informal information regarding non-work-related issues, developed by interacting with individuals). Moreover, recently, Mansoor et al. (2019) proposed that

demographic attributes of diversity (gender) can also initiate positive communication based on the categorisation-elaboration model by Van Knippenberg et al. (2004), as groups exposed to minority views are believed to exert more cognitive effort to converge to a common point. In information-elaboration terms, gender diversity contributes to enhancing information-elaboration among group members, where the approach of elaboration closely aligns with the measure of communication (Van Knippenberg & Schippers, 2007).

As the presence of both genders can help promote each gender's perspectives, Kochan et al. (2003) reported a positive association between gender diversity and organisational communication, whereas the concept fails to gain attention at the workgroup level. Broadly, scholars have argued that diversity tends to enhance problem-solving by having divergent viewpoints (Levine, Resnick, & Higgins, 1993). Lack of conformity in a heterogeneous group leads members to express alternative perspectives that can lead to novel insights and solutions (Nemeth, 1986). This large pool of information may require groups to develop better communication and to be open and receptive to others' viewpoints (Harrison & Klein, 2007). Prior research ignores the fact that involving different genders within the workgroup can enhance positive communication. Thus, we hypothesise:

H1a: Objective group gender diversity is positively related to communication.
H1b: Perceived gender diversity is positively related to communication.

Gender diversity, communication, and individual performance

Based on the information-elaboration perspective, Van Knippenberg et al. (2004) proposed that elaborating and sharing task-relevant information are basic processes to acquire the underlying

positive benefits of diversity on performance. Groups with better elaboration processes (i.e. communication) usually outperform homogenous groups. It is also believed that the introduction of minority members' opinions within the group tends to enhance divergent thinking, resulting in a debate (Nemeth, Mosier, & Chiles, 1992). Majority members also tend to respond with increased cognitive flexibility and investigate their perspectives more deeply, leading to recognition of hidden aspects of problems (Nemeth, 1986). Divergent thinking, debate, and deep investigation of problems within the group tend to enhance individual performance (e.g. Roberts & O'Reilly III, 1979).

The influence of communication on performance has wide empirical support (e.g. Ebadi & Utterback, 1984; Harrison,Price, Gavin, & Florey, 2002; Williams & O'Reilly III, 1998) but lacks a focus on diversity frameworks (Mansoor et al., 2019). Groups with enhanced communication levels foster idea-generation, problem-solving, cognitive flexibility, divergent thinking, creativity and continuous improvement and learning (Ebadi & Utterback, 1984). On the other hand, lack of communication abates the exchange of ideas, fundamental for effective team functioning (Williams & O'Reilly III, 1998). Individuals with healthier two-way communication are believed to perform well because of the decent amount of information and guidance (Roberts & O'Reilly III, 1979) and positive employee relations (Guest, 2017). Investigations have suggested that employees' ability to obtain information through communication has a direct link with individual performance (O'Reilly & Roberts, 1977; O'Reilly III, 1977).

In sum, based on the information-elaboration perspective, the present study proposes that OGD and PGD are likely to enhance communication among workgroup members. Group communication, in turn, elicits higher individual performance levels. Thus, we hypothesise:

H2a: Communication mediates the relationship between objective group gender diversity and individual performance.

H2b: Communication mediates the relationship between perceived gender diversity and individual performance.

Gender diversity and relationship conflict

Despite the benefits of gender diversity, its negative influences cannot be ignored (Chatman & Flynn, 2001). Gender diversity is among the most easily identified dimensions of diversity attributes, which makes it cognitively accessible in the minds of employees (Van Knippenberg et al., 2004), increasing inter-category clashes (Pelled, Eisenhardt, & Xin, 1999) and resulting in relationship conflict among heterogeneous group members. Relationship conflict can be conceptualised at both individual level and group level. While individual level relationship conflict is the perception of social incompatibility, tension, hostility, and irritation among group members (Jehn, 1994), the group-level relationship conflict is usually measured as the group members' degree of agreeableness (West, Patera, & Carsten, 2009). A group member may experience high degree of group-level conflict even when he/she does not experience relationship conflict with other group members (Lee, Kwon, Shin, Kim, & Park, 2018). The present study focuses on the individual level relationship conflict.

Based on the social identity perspective, the present study argues that gender diversity may compel individual level relationship conflict among group members. Central to SIT and SCT is the assumption that individuals tend to categorise themselves into groups and perceive their group superior, which makes them favour in-group members over out-group members (Turner et al., 1987; Turner & Tajfel, 1986). This comparison generates favouritism, social

competition (Turner & Brown, 1978), stereotyping, distancing, disparaging (Tajfel, 1982), and discrimination (Tajfel et al., 1971), leading to enhanced relationship conflict (Sherif &Predicament, 1966). Empirical research has established the relationships of gender diversity and relationship conflict at both individual and group levels (e.g. Jehn, Chadwick, & Thatcher, 1997; Pelled et al., 1999). Therefore, based on the above assumption of the social identity perspective, we predict that members of a gender-diverse group will have a less positive attitude toward each other, which may result in conflict and dissent among group members (Mohammed & Angell, 2004). Thus, we hypothesise:

H3a: Objective group gender diversity is positively related to individual level relationship conflict.

H3b: Perceived gender diversity is positively related to individual level relationship conflict.

Gender diversity, relationship conflict, and individual well-being

Based on the social identity perspective, the present study asserts that OGD and PGD will negatively influence individual well-being in the presence of relationship conflict among group members. Anticipating or experiencing conflict is stressful and can easily influence an individual's well-being (De Dreu & Weingart, 2003). Individual well-being at work can be defined as the quality of individuals' experiences and functioning at work (Warr, 1987). Prior literature establishes a moderate strength in the relationship between conflict and well-being, despite the fact that it is considered among the dynamic stressors in organisational life (De Dreu & Weingart, 2003).

Workplace conflict has often been considered as a threat to individual well-being and satisfaction (Dijkstra, van Dierendonck, Evers, & De Dreu, 2005). Researchers have mainly focused on the negative impact of conflict on well-being. Groups with enhanced relationship conflict tend to spend most of their efforts defending against personal clashes and attacks (Pelled et al., 1999), decreasing their well-being. Relationship conflict is also reported to be negatively associated with individual well-being, as poor employee relationships delineated by low supportiveness, trust, and interest confronted by group members within the group may reduce individual well-being (De Dreu & Weingart, 2003).

Hentschel et al. (2013) argue that PGD intimidates relationship conflict among group members. Relationship conflict has also been believed to be a major risk of gender diversity (Moreland, Levine, & Wingert, 1996). Previous research strongly supports this finding (e.g. Hentschel et al., 2013; Hobman et al., 2003; Pelled et al., 1999). Furthermore, relationship conflict is considered a threat to a person's self-esteem and identity (Dreu, Dierendonck, & Dijkstra, 2004), hence deteriorating individual well-being. For example, Sonnentag, Unger, and Nägel (2013) reported that relationship conflict leads to poor employee well-being. Thus, we hypothesise:

H4a: Relationship conflict mediates the positive relationship between objective group gender diversity and individual well-being.

H4b: Relationship conflict mediates the positive relationship between perceived gender diversity and individual well-being.

Sequential mediation

Individual performance can be defined as the output of employees' activities and accomplishments at work (Anitha, 2014). Past literature broadly recognises that well-being is positively associated with employees' (De Dreu & Weingart, 2003) and organisations' (Van De Voorde, Paauwe, & Van Veldhoven, 2012) task performance. Well-being at work will certainly add to an individual's sense of happiness that will be displayed in their behaviour and performance (Peccei, 2004). Employees who have positive relationships with group members tend to give their maximum at work by reducing their use of time and effort in defending themselves against clashes and attacks, which enhances their performance (e.g. Pelled et al., 1999). Tehrani, Humpage, Willmott, and Haslam (2007) suggest that individuals still have the same basic needs of social support, health, physical safety, and the ability to cope with life. Fulfilment of these needs enhances employees' well-being and, ultimately, performance (e.g. Schuster, McGlynn, & Brook, 1998). In sum, gender diversity can influence employee performance, and this relationship can be mediated by relationship conflict and individual well-being, as predicted above. No past research tests these serial mediations. Thus, we hypothesise:

H5a: Relationship conflict and individual well-being sequentially mediate the positive relationship between objective group gender diversity and individual performance.

H5b: Relationship conflict and individual well-being sequentially mediate the positive relationship between perceived gender diversity and individual performance.

Method

A time-lagged research design was used for data collection, with two rounds of employee surveys at several branches of two banks in Pakistan, South Asia.

Research Setting and Procedures

The population for this research comprised workgroups in Pakistan's banking industry. Each bank branch was considered as one group, undergoing frequent, daily interactions. To gain access, we approached the central human resources departments of five large banks. Two banks granted permission for data collection.

In January 2019 (Time 1), an invitation letter, ethics approval letter, consent form, research information sheet, return envelope, and the survey were sent to the banks' branch employees. Two reminder calls were made to the branch managers, one two weeks and the other four weeks after the initial survey. This was followed by a second phase of data collection in April 2019 (Time 2). A total of 250 banking groups, with 1,250 group members, were approached initially at Time 1. At Time 2, 85 groups (350 group members) were approached who had participated in the Time-1 survey. After eliminating surveys with a large percentage of missing responses, and groups with less than or equal to two members, the final sample comprised 78 groups with 305 group members (for a response rate of 32%). At Time 1, the survey respondents reported on gender, organisational tenure, branch tenure, PGD, perceived relationship conflict, and communication with group members. At Time 2, group members were asked to report their well-being and performance. Respondents reported their gender, date of

birth, marital status, and branch name during both phases to match survey respondents from the Time 1 and Time 2 surveys.

The average group size was four employees, as recommended by past researchers (e.g. Mawritz, Dust, & Resick, 2014; Priesemuth, Schminke, Ambrose, & Folger, 2014). The mean organisational tenure and mean branch (group) tenure were 6.58 years and 2.3 years, respectively. Overall, 63.5% of the respondents were male (*n*=195), whereas 36.5% were female (*n*=112).

Self-reporting of data can lead to common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). To control for common method bias, we took four corrective measures: a) independent and dependent variables were temporally separated with a time-lag of three months; b) respondents were repeatedly assured that their data would be kept highly confidential, with no one except the researcher being able to access it; c) the survey was kept anonymous by not asking for respondents' names; and d) return envelopes were provided to respondents to avoid contact with branch managers (Podsakoff et al., 2003).

Measures – Time 1

Independent variables

OGD was measured using data on gender reported by respondents. OGD of each group was calculated through Blau's index of heterogeneity for categorical variables (Blau, 1977). According to Blau's index, heterogeneity equals 1- $\sum pi^2$ (pi = fraction of the population in each category). Blau's index is a continuous scale (Buckingham & Saunders, 2004) ranging from 0–

0.5. The value increases as the representation of both genders in the workgroup becomes equal. Zero represents complete homogeneity (0/100 gender proportions), whereas .5 represents complete heterogeneity (50/50 gender proportions).

PGD was measured on the 1-item adapted from Harrison, Price, and Bell (1998). The item was 'In your opinion, how diverse is your group with respect to their gender?' Answers were recorded on a 5-point Likert scale from 1=very similar to 5=very diverse.

Mediating variables

Communication among group members was measured using a shorter version of the scale developed by Watson and Michaelsen (1988), comprising 51 items with a reliability of .73. The scale was reduced to 15 items by Roberts, Cheney, and Sweeney (2002). A representative item is 'Everyone has a chance to express their opinions' ($\alpha = .77$). The concept is operationalised at the group level, with aggregated scores of group members. Responses to these items were collected on a 5-point Likert scale (1 = to very little extent to 5 = to very great extent).

Relationship conflict was measured using De Dreu and Van Vianen (2001)5-item relationship conflict scale with a reported reliability of .91. Group members were asked to rate how often they perceived tension and frustration about interpersonal style, attitude, political preferences, norms and values, personality, and sense of humour of their group members. Group members rated each item on a 5-point Likert scale (1= almost never to 5 = very often; $\alpha = .82$). The variable was operationalised at the individual level.

Outcome Measures – Time 2

Outcome measures were evaluated at Time 2, three months after the first phase of data collection. Both scales were rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Individual performance was measured using Williams and Anderson (1991) seven-item scale to analyse the employee performance on the job, with the reported reliability of .91. A sample item is 'I fulfil responsibilities specified in my job description' (α = .71).

Individual well-being of employees was evaluated through Rosenberg (1965) 10-item self-esteem scale, with a reliability of .77 - .88 for different samples (see Blascovich & Tomaka, 1991). A sample item from the scale is 'I feel that I have several good qualities.' The alpha coefficient for this scale is .75.

Controls

The study controlled for organisational and branch tenure as tenure is found to influence employee performance and perceptions (e.g. Huckman, Staats, & Upton, 2009).

Aggregation Test

Communication scores were aggregated from individual group member's ratings to the group level. To check for the existence of perceptual similarity among group members' perceptions of group communication and to justify the aggregation of communication scores at the group level, a within-group agreement ($r_{wg(J)}$) statistic was computed following the guidelines in previous

research (e.g. Khan, 2020; LeBreton & Senter, 2008). At the same time, between-group variability was assessed via intraclass correlation coefficients (ICC1 and ICC2). The average ($r_{WG(J)}$) was .80, which meets the .70 criterion (Lance, 2006), and shows a high level of within-group agreement for group communication (Bliese, 2000; Bliese, Halverson, & Schriesheim, 2002). Additional support for aggregation was found in inter-rater reliability indices (ICC1=.75 and ICC2=.76), thereby justifying the application of multilevel analysis.

Analytic Strategy

The presented theoretical model has a two-level design: employees (level 1, individual) nested within groups (level 2, groups). To take the hierarchical data structure into account, data were analysed via a multilevel modelling design. This involves decomposition of the variance of Level-1 variables into within-level and between-level components, allowing independent and simultaneous modelling at both levels, leading to an accurate examination of indirect effects.

We analysed the model in Mplus version 8 (Muthén & Muthén, 1998-2017) using Bayes estimation. Specifically, the procedures explained in Preacher, Zyphur, and Zhang (2010) were followed to test the complete model in one syntax. We simultaneously estimated: (1) the within-level relationship between PGD and individual performance, sequentially mediated through relationship conflict and individual well-being; (2) OGD and a between-level component of individual performance, sequentially mediated through between-level components of relationship conflict and individual well-being (2-1-1-1 model); (3) between-level components of PGD and individual performance mediated by communication (1-2-1 model); and (4) OGD and a between-level component of individual performance mediated by communication (2-2-1 model).

Moreover, random intercepts and fixed slopes were specified in the model because the model does not include any cross-level moderation effect.

Results

Preliminary Analysis

Table 5.1 presents the means, standard deviations, and correlations. Consistent with previous multilevel literature (e.g. Khan, 2020; Mawritz et al., 2014), all the individual- and group-level variables are combined in one correlation matrix to display differences. The high standard deviation of 5.45 for organisational tenure is because employees from the public banks stay with the same organisation for long service benefits whereas employees from private sector banks move to other banks for higher salaries. This created a huge variability in the organisational tenures of employees from the two participating banks.

Table 5.1 Means, standard deviations and correlations

	Mean	S.D.	1	2	3	4	5	6	7
Time 1									
1. Org. Tenure	6.58	5.45							
2. Branch Tenure	2.28	1.51	.19**						
3. OGD	.13	.19	-.06	.09					
4. PGD	2.73	1.24	-.05	.02	.32**				
5. Communication	3.12	.80	.01	-.01	.01	-.15**			
6. Relationship Conflict	2.57	.86	-.05	-.05	.05	-.09	-.09		
Time 2									
7. Individual Well-Being	3.87	.57	-.09	.04	-.07	.02	.12*	-.07	
8. Individual Performance	4.11	.61	-.061	.01	-.14*	-.03	.09	-.06	.45**

Note: $N = 305$ for both Time 1 and Time 2 variables. Gender diversity is calculated with Blau's index.
$^{*}p < 0.05.$ $^{**}p < 0.01.$

Validity of Constructs

Confirmatory factor analysis was performed to test the discriminant and convergent validity of the constructs using Mplus version 8 (Muthén & Muthén, 1998-2017). A six-factor model was specified by loading items on respective latent variables using Bayes estimation (Asparouhov & Muthén, 2010). All the items loaded significantly on their respective construct, with factor loadings above .4 (Rahn, 2014). Afterward, the one-factor model was tested by loading all items on one single factor. All the factor loadings for the one-factor model were below .1, showing a very bad fit. Therefore, the confirmatory factor analysis showed support for the proposed theoretical model over the one-factor model. Moreover, the distinctiveness of the constructs is also ensured as no factor covaries with another. All the estimates for covariation among constructs are less than .15.

Hypotheses Tests

H1a predicts that OGD is positively related to employees' communication. Results (table 5.2) show that OGD has a negatively significant relationship with communication (β=-.264, α<.05). Therefore, we did not find direct support for H1a. H1b anticipates the positive relationship between PGD and communication. PGD has a significant positive relationship with communication (β=1.51, α<.001), supporting H1b. H2a and H2b depict the positive association of OGD and PGD with relationship conflict, respectively. As predicted, OGD (β=1.29, α<.05) and PGD (β=.46, α<.001) have a significant positive association with relationship conflict. Hence, H2a and H2b are supported.

Table 5.2 Standardised regression coefficients reported: direct effects

	COM	RC	IWB	IP
Level-2 (BETWEEN)				
Org. Tenure	.093**	-.452**	-.057	.019
Branch Tenure	-1.085**	3.43***	.221	.116
OGD	-.264**	1.299**	-.071	-.127*
PGD	1.511***			.099
COM				-.079
RC			.055**	
IWB				.789***
Level-1 (WITHIN)				
PGD		.462***	.049	.133**
RC			.130**	.068
IWB				.348***
Intercepts	-2.70	-5.23	2.88	1.06
R^2 (Within level)		.225***	.152**	.136***
R^2 (Between level)	.961***	.668**	.217*	.868**

*p < 0.10, **$p < 0.05$. ***$p < 0.001$.

COM=communication, RC=relationship conflict, IWB=individual well-being, IP=individual
performance, OGD=Objective gender diversity, PGD=perceived gender diversity

Also, our model includes the testing of three mediation effects (H3, H4, and H5). To
measure the mediating effects, Bayesian estimation was used as maximum likelihood estimation
does not allow for the calculation of confidence intervals for multilevel analysis in
Mplus(Muthén & Muthén, 1998-2017). Results do not show any support for H3a and H3b (see
table 5.3). H4a and H4b hypothesised the significant effect of OGD and PGD on individual well-
being, mediated by relationship conflict. The indirect effects of OGD (β=.07, α<.05) and PGD
(β=.05, α<.05) on individual well-being through relationship conflict were significant. The direct
relationships for OGD and individual well-being, and PGD and individual well-being, were

insignificant, therefore supporting full mediation. The mediation effects suggested by H4 were fully confirmed (refer to table 5.3).

Lastly, the two-stage mediation was tested between OGD and individual performance via relationship conflict and individual well-being (.06, 95% CI = .004 to .145), hypothesised in H5a, and PGD and individual performance via relationship conflict and individual well-being (.02, 95% CI = .000 to .053), predicted in H5b. As shown in the results (table 5.3), the indirect effects are significantly positive, and the 95% confidence interval does not include zero; hence, H5 is supported. In aggregation, these findings reveal that OGD and PGD significantly affect relationship conflict, which further enhances well-being feelings and subsequently leads to increased individual performance.

Table 5.3 Mediating effects

Variables	ESTIMATE	95% CI	Mediation
Level – 2			
OGD-COM-IP (2-2-1)	.02	-.019 to .044	No Mediation
PGD-COM-IP (1-2-1)	-.12	-.013 to .109	No Mediation
OGD-RC-IWB (2-1-1)	.07**	.028 to .183	Full Mediation
OGD-RC-IWB-IP (2-1-1-1)	.06**	.004 to .145	Partial Mediation
Level – 1			
PGD-RC-IWB (1-1-1)	.05**	.003 to .125	Full Mediation
PGD-RC-IWB-IP (1-1-1-1)	.02**	.000 to .053	Partial Mediation

**$p < 0.05$. ***$p < 0.001$.

COM=communication, IWB=individual well-being, RC=relationship conflict, IP=individual performance

Discussion

The predominant objective of this study was to examine the multilevel mechanism of gender diversity. First, it investigated the association of OGD (level-2 predictor) and PGD (level-1

predictor) with communication (level-2 mediator; positive process). Second, it tested the association of OGD and PGD with relationship conflict (level-1 mediator; negative process). Third, it tested communication as the mediator in the relationship of OGD/PGD and individual performance (level-1 outcome); and relationship conflict and individual well-being (level-1 mediator) as the sequential mediators in the relationship between OGD/PGD and individual performance. The results support the negative relationship between OGD and communication, whereas PGD shows a positive influence on communication. OGD and PGD were found to enhance relationship conflict. The mediating influence of communication was not supported for both above-stated relationships. However, the sequential mediation of relationship conflict and individual well-being supports the positive influence of OGD/PGD on individual performance.

The findings identified the new arenas and extend the business case for the multilevel influence of gender diversity through information elaboration and social identity perspectives. Support for the multilevel effects of OGD and PGD is important for gender diversity literature as the area has not yet been explored. The positive influence of PGD on communication has also not previously been studied; however, other forms of diversity do find literary support for their positive impact on group communication levels (e.g. Roberge & van Dick, 2010). No prior study has analysed the objective and perceived dimensions of gender diversity simultaneously; however, their combined effect has been proposed by researchers (Mansoor et al., 2019; Riordan, 2000). The positive influence of relationship conflict on individual well-being is also an exceptional finding for the consequences of gender diversity, extending the previous literature in a different direction. The enhancement of relationship conflict develops a sense of superiority among the group members that forces them to concentrate deeply on the task and come up with the innovative and creative solutions. This sense of superiority and deeper understanding of job

enhance individual well-being and performance. Literature provides some evidence for the positive outcomes of individual-level conflict (e.g. Deutsch, 1973). However, this needs to be further investigated in future research.

Theoretical and Research Contributions

This study makes strong theoretical contributions. Our findings provide support for information-elaboration and social identity perspectives (Hornsey, 2008). At the group level, the study focuses on the positive process of *communication* of gender-diverse group members through the information-elaboration perspective (see figure 5.1). Gender-diverse group members are believed to be involved in divergent thinking, resulting in debate (Nemeth et al., 1992). This lack of conformity and debate forces group members to propose alternative perspectives with novel insights and solutions to the task at hand (Nemeth, 1986), involving them in information exchange and thus enhancing communication among group members (Harrison & Klein, 2007). Enhanced communication further leads to better performance (Van Knippenberg et al., 2004). At the individual level, the negative process of *relationship conflict* among gender-diverse group members is considered through the social identity perspective. Categorisation of individuals classifies them into groups based on gender (Turner & Tajfel, 1986), which can enhance relationship conflict (Pelled et al., 1999; Sherif & Predicament, 1966) as it makes them favour in-group members over out-group members (Turner et al., 1987; Turner & Tajfel, 1986).

Furthermore, the current multilevel study has laid the foundation for the integration of two competing theoretical perspectives of information elaboration and social identity, in the gender diversity literature. Analysis of gender diversity literature reveals an absolute focus on the social identity perspective (e.g. Chattopadhyay, 2003). Therefore, the current study helps

reconcile inconsistent findings of past literature. As extant literature mainly reports negative or no effects of group gender diversity (Kirkman et al., 2004; Mohammed & Angell, 2004), or reports a positive influence only in the presence of moderating variables (e.g. Nishii, 2013; Van Dick, Van Knippenberg, Hägele, Guillaume, & Brodbeck, 2008). This creates the need to identify the positive and negative processes of gender diversity simultaneously. The significant positive effect of PGD on group communication supports the belief that gender diversity can also lead to positive outcomes, and the two theories can be integrated for demographic diversity attributes like gender diversity, as proposed by Van Knippenberg et al. (2004). This finding will open the arena for further identifying the positive processes of gender diversity and, more broadly, for identifying surface-level diversity attributes. Moreover, our findings refine information-elaboration and social identity perspectives (Hornsey, 2008). Multilevel testing of the enhancement of relationship conflict (at the individual level) through OGD (at the group level) and PGD (at the individual level) has a positive impact on individual well-being (at the individual level). This is a unique finding and reveals that well-being can also be enhanced with increased relationship conflict.

OGD had also remained the focus of individual-level, group-level, and multilevel studies (Avery et al., 2013; Chatman & Flynn, 2001). Only a couple of studies have analysed PGD (e.g. Hentschel et al., 2013; Van Dick et al., 2008). Also, to our knowledge, the simultaneous influence of OGD and PGD has not previously been examined. Therefore, the current study analysed OGD and PGD simultaneously among banking groups, following the directions given by Mansoor et al. (2019) and Riordan (2000). The multilevel and simultaneous test for objective and perceived dimensions of gender diversity at the group and individual levels triggers different mediating processes, leading to a differential impact on employee performance.

Practical Implications

The findings of the present study have implications for organisations, managers, and policy-makers. Managing increasing workgroup diversity is a challenge for organisations (Van Knippenberg & Schippers, 2007), enhancing the need for appropriate measures to sustain employees' performance. The results acquaint organisations and managers with the notion that it is crucial to look for the multilevel impact of gender diversity (Jackson & Joshi, 2004). The positive influence of an individual's PGD on group communication and the impact of OGD on relationship conflict show that managers need to understand the nesting phenomenon. Individuals nested within a group are dependent on each other and affect each others' behaviour and performance, driven by gender diversity. Consideration of the fact that gender diversity can have multilevel effects requires managers to undertake a more focused evaluation of gender diversity and its ongoing processes within the group. A clear articulation can help to achieve high levels of employee well-being and performance. To address this issue, managers need to focus on strengthening positive group communication and employees' relationships.

Second, PGD is found to enhance group communication (Kochan et al., 2003), whereas OGD negatively influences group communication. Therefore, diversity training efforts need to focus on PGD to capitalise on its benefits while weakening the negative outcomes of OGD. Managers must demonstrate serious efforts to establish positive communication among workgroup members – failing to do so could have serious effects on employee well-being and performance, leading to adverse effects on organisational performance (Marlow, Lacerenza, Paoletti, Burke, & Salas, 2018). Third, increasing OGD and PGD can kindle relationship conflict among group members. In order to eradicate conflict among group members, managers need to

focus on building positive relationships and diversity training. The positive impact of diversity training is evident in past literature (e.g. Luu, Rowley, & Vo, 2019).

Finally, our findings indicating an increase in individual well-being and performance through the escalation of relationship conflict need distinct attention. Our data were collected from a male-dominated society where gender roles are evident. Increasing gender diversity at the workplace enhances relationship conflict among sub-groups, resultantly developing a sense of superiority that improves individual well-being and performance. This extended evidence can help managers focus on minimising the influence of categorisation within groups. More focused management of subgroups can help achieve enhanced individual well-being and performance.

Limitations and Future Research Directions

While the study features methodological strengths – specifically its time-lagged dataset (to avoid CMV) with multilevel analysis – consistent with other studies, several limitations need to be considered. First, the study focused on gender diversity and did not consider other demographic diversity attributes. Previous research has identified the influence of a broad spectrum of demographic diversity types on outcomes (e.g. Bell, Villado, Lukasik, Belau, & Briggs, 2011). Future research can analyse a wider range of processes by analysing different attributes of demographic diversity simultaneously. This is an important step in understanding the positive and negative processes caused by demographic diversity within organisations (Van Knippenberg et al., 2004). At the same time, research in this direction can benefit groups and organisations by maximising positive outputs. `

Second, processes and outcomes of diversity have been identified in past research (e.g. Riordan, 2000; Van Knippenberg et al., 2004). The information-elaboration perspective focuses on a number of other positive outcomes from diversity (Ancona & Caldwell, 1992; Tziner & Eden, 1985). This study strongly recommends the investigation of these processes and outcomes in compliance with negative processes and outcomes. Also, the type of group, task, or activity performed by the groups under examination can also be important for future research.

Third, the study examines OGD at the group level and PGD at the individual level; it does not consider organisational-level perceptions of gender diversity. Perceptions prevailing at the organisational level can have a strong trickle-down effect (e.g. McFarlane, 2010). Future studies can consider the organisational level along with the group and individual levels. Fourth, the generalisability of findings needs to be carefully considered. The study was conducted in a developing country. Previous research has identified the influence of culture on communication, conflict, and outcomes (e.g. Sanchez-Burks et al., 2008). A comparative study of the multilevel influence of OGD and PGD may provide valuable insights. Future research can also benefit from including moderators such as perception of leader fairness and diversity climate. A comparative study on larger groups will also be helpful in understanding the multilevel phenomenon.

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Chapter 6. Submitted Paper – The Multilevel Impact of Age Diversity on Group and Individual Outcomes: Role of Social Integration

This chapter presents the third manuscript of the study, comprising of empirical investigation of the multilevel influence of age diversity on group performance, well-being and turnover intention. The mediating variable of social integration is also analysed at the individual level. The paper is under review in the "International Journal of Human Resource Management".

This current study offers several contributions to objective and perceived age diversity literature. First, the study investigates objective and perceived age diversity through the lens of information-elaboration theory. Second, it pioneers in theorising and testing the mediating variable of social integration as the process of perceived age diversity and providing empirical support for the multilevel influence of age diversity. Lastly, the empirical evidence for the positive influence of OGAD on well-being and PAD on group performance gives a new direction to researchers in understanding age diversity and its outcomes.

6.1 Credentials of Selected Journal

Journal Name: International Journal of Human Resource Management (IJHRM)

Publisher: Routledge

Scimago journal ranking: Organisational behaviour and human resource management (Quartile 1)

Statement of Contribution of Co-Authors for Thesis by Published Paper

The authors listed below have certified that:

1. they meet the criteria for authorship and that they have participated in the conception, execution, or interpretation, of at least that part of the publication in their field of expertise;
2. they take public responsibility for their part of the publication, except for the responsible author who accepts overall responsibility for the publication;
3. there are no other authors of the publication according to these criteria;
4. potential conflicts of interest have been disclosed to (a) granting bodies, (b) the editor or publisher of journals or other publications, and (c) the head of the responsible academic unit, and
5. they agree to the use of the publication in the student's thesis and its publication on the QUT's ePrints site consistent with any limitations set by publisher requirements.

In the case of this chapter:

Title: The Multilevel Impact of Age Diversity on Group and Individual Outcomes: Role of Social Integration
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Contributor	Statement of contribution*
Sadia Mansoor Signature: *Sadia Mansoor* 21/12/2020	Study design, data collection and analysis, interpretation of findings, wrote the manuscript
Dr. Muhammad Ali	Help in conceptual framing of paper and writing manuscript
Associate Professor Erica French	Help in conceptualizing and reviewing the paper

Principal Supervisor Confirmation

I have sighted email or other correspondence from all Co-authors confirming their certifying authorship.
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CRICOS No. 00213J

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6.2 **Submitted Manuscript**

The Multilevel Impact of Age Diversity on Group and Individual Outcomes: Role of Social Integration

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Abstract

Workgroups are increasingly becoming more diverse. The terms like 'age quake' describe an important challenge for organisations. This study investigates the multilevel process and outcomes of objective and perceived age diversity via information-elaboration theory and social exchange theory. Data were collected from employees and their immediate supervisors through time-lagged surveys at two banks in Pakistan. Seventy-eight groups comprising 305 group members participated in both surveys, with 78 group leaders participating in the second survey. Multilevel analysis in Mplus indicates that objective group age diversity has positive association with well-being and perceived age diversity has a positive relationship with group performance at the group level, whereas, at the individual level, perceived age diversity is found to reduce social integration which in turn enhances employee turnover intention. This study contributes to the literature by studying objective and perceived age diversity through the lens of information-elaboration theory, pioneering the theorising and testing of social integration as the process of perceived age diversity and providing empirical support for the multilevel influence of age diversity. The results have several theoretical, research and practical implications for an effective management of ageing workforce.

Keywords: Objective age diversity; perceived age diversity; social integration; group performance; turnover intention; multilevel

Introduction

Managing increasing workplace age diversity is a challenge facing organisations in several countries, including Australia and Pakistan (Burke, Cooper, & Field, 2013; Petery, Andrei, & Parker, 2019; Phillips & Siu, 2012). As organisations are increasingly relying on workgroups, high organisational age diversity is reflected in high workgroup age diversity (Blustein, 2013). The shrinking birth rates, improved health conditions, increased financial demands have presented a major challenge for the organisations. The term like 'age quake' describes the situation (Wallace, 2010). At the workgroup level, *objective group age diversity* (OGAD) refers to group age composition measured at the group level (Shemla, Meyer, Greer, & Jehn, 2016; Shrivastava & Gregory, 2009), while perceived age diversity (PAD) is group members' perceptions of similarities or dissimilarities (Huang & Iun, 2006). OGAD and PAD can impact processes and outcomes (Goldberg, Riordan, & Schaffer, 2010; Riordan, 2000). However, perceptions are a stronger predictor of processes and outcomes than objective realities (Riordan, 2000). Despite the importance of perceptions, the extant age diversity literature at the group and multilevel (including group level) mainly focuses on OGAD and various moderating variables (e.g. Kearney & Gebert, 2009; Jungmann, Wegge, Liebermann, Ries, & Schmidt, 2020).

A review of relevant age diversity literature indicates some important gaps causing a lack of evidence-based age diversity management. For instance, the extant age diversity literature has mainly focused on OGAD via social identity theory and social categorisation theory (e.g. Curşeu, 2013; Jungmann et al., 2020; Kirkman, Tesluk, & Rosen, 2004). Only a few studies have considered PAD as a source of separation and introduced moderating variables to minimise its negative consequences. Lehmann-Willenbrock, Lei, and Kauffeld (2012) state that the

appreciation of age diversity impels group members to view each other beyond the surface-level attributes like age reduces the prevailing categorisation effect. Moreover, only a few studies have investigated *how* age diversity impacts outcomes *via* mediating variables. For instance, Schippers, Den Hartog, Koopman, and Wienk (2003) analysed the interaction effect of OGAD and outcome interdependence on team outcomes (satisfaction and performance), mediated by reflexivity. Only one multilevel study has focused on cooperative norms and perceptions of cooperative norms as processes in the OGAD and performance outcomes relationship (Chatman and Flynn, 2001). At the individual level, no previous studies have considered the mediating variables. Furthermore, past literature on age diversity is mainly concentrated on group-level studies (e.g. Kim, 2017; Scheuer & Loughlin, 2019). The multilevel studies considering individual and group levels focus on OGAD, with the exception of only one study by Liebermann, Wegge, Jungmann, and Schmidt (2013). Their findings indicate no effects of PAD for middle-aged employees and negative effects for young and old employees.

This current study offers several contributions to objective and perceived age diversity scholarship. First, the study investigates objective and perceived age diversity through the lens of information-elaboration theory (Mannix & Neale, 2005; Williams & O'Reilly III, 1998). Age diversity has previously been mainly studied through the social identity perspective (e.g. Kirkman et al., 2004; Seong & Hong, 2018). It is important to consider a range of diversified life, work and organisational experiences brought in by diversified age group members (Kunze, Boehm, & Bruch, 2011), providing extra information and efficiency when dealing with the tasks at hand (Kearney, Gebert, & Voelpel, 2009). Second, it pioneers in theorising and testing the mediating variable of social integration. Social integration is the degree to which individuals within the group are attracted to the group, feel satisfied with each other, socially interact and are

psychologically linked (Katz & Kahn, 1978). Given its relevance to diversity processes, it is important to study the mediating role of social integration (Harrison, Price, Gavin, & Florey, 2002).

Third, this study investigates the multilevel influence of PAD. As individuals are nested in groups (Peccei & Van De Voorde, 2019), it is important to study the processes and outcomes of PAD at the individual and group levels. Past evidence of age diversity mainly pertains to OGAD (e.g. Schippers et al. 2003; Seong& Hong, 2018), leading to little knowledge of perceived age diversity. Multilevel effects of individuals' PAD on group performance, well-being and turnover intention are theorised. At the group level, OGAD and PAD are proposed to enhance group performance and well-being, as age-diverse groups have access to group members with accumulated diverse life, work and organisational experiences (Kunze et al., 2011), providing resources to deal with task-relevant perspectives and efficiency in problem-solving (see figure 6.1). At the individual level, PAD enhances social integration among workgroup members (Gruenfeld, Mannix, Williams, & Neale, 1996). In turn, social integration reduces employees' turnover intention, which is a reflection of the probability of an individual's desire to switch jobs within a specified time period (Sousa-Poza & Henneberger, 2002) (see figure 6.1). This study focuses on two renowned and established banks of Pakistan, where age diversity is an important phenomenon (Antoniou, Burke, & Cooper, 2016; Idrees, Abbasi, & Waqas, 2013).
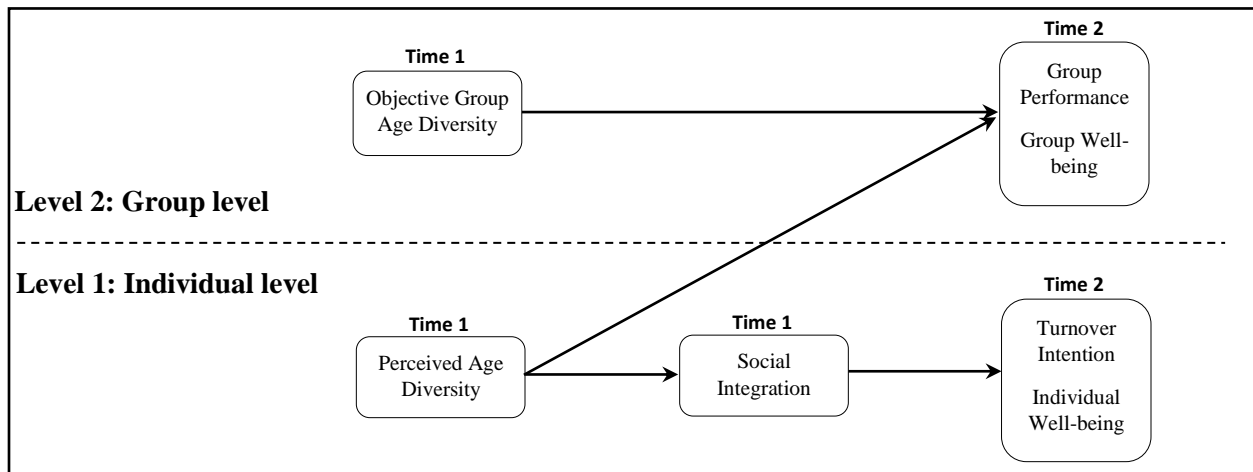
Figure 6.1 *Proposed Theoretical Model*

Theoretical underpinnings and hypotheses

Theoretical lens

Information-elaboration theory

Information elaboration (Mannix & Neale, 2005; Williams & O'Reilly III, 1998), self-categorisation and social identity (Hornsey, 2008; Tajfel, 1981; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) theories are frequently used in the diversity literature. However, the demographic diversity literature (e.g. age, gender) generally considers diversity as a source of separation among group members (e.g. Harrison & Klein, 2007), drawing mainly on the theories of self-categorisation and social identity (Van Knippenberg, De Dreu, & Homan, 2004). Notwithstanding this literature, the present study holds the viewpoint that information elaboration among demographically diverse group members may have a positive influence on individual and group outcomes, as suggested by Van Knippenberg et al. (2004) in their

categorisation-elaboration model and recently further extended by Mansoor, French, and Ali (2019) in a multilevel framework for demographic diversity.

The information-elaboration perspective carries an optimistic view where diversity enhances performance by creating a positive environment. It proposes a mechanism that allows diverse group members to engage in sharing unique knowledge and perspectives (Harvey, 2015). The information-elaboration perspective states that variance in group formation can have positive outcomes because of the increased abilities, knowledge, skills, experiences and information of diverse group members (Ancona & Caldwell, 1992; Mannix & Neale, 2005; Winquist & Larson Jr, 1998). These added alternatives and expertise can make the demographically diverse group more effective. Thus, the information-elaboration perspective focuses on the benefits that diversity brings to the group. Diverse group members immerse in mutual problem-solving, experience intellectual conflict and respond with unique insights by improving their elementary assumptions (Mannix & Neale, 2005), eventually enhancing the group's problem-solving abilities (Perret-Clermont, Perret, & Bell, 1991) and performance.

Social exchange theory

Social exchange theory suggests that employees reciprocate behaviours and attitudes (Blau, 1964; Homans, 1958). The favourable behaviour of one employee towards another obliges him/her to return it in the form of good conduct under the norm of reciprocity (Gouldner, 1960). This can be characterised as the interactions aroused because of actions initiated by group members who allegedly develop a sense of obligation to return such gestures of goodwill in order to balance the exchange (Cropanzano & Mitchell, 2005). Homans (1958) identified social and economic aspects of the exchange, whereas Blau (1964) emphasised the importance of the

social element in this exchange process. To the extent that group members apply the reciprocity norm in their dealings and relationships, favourable conduct by any group member will be reciprocated, leading to beneficial outcomes (Rhoades & Eisenberger, 2002).

Hypotheses development

Objective/perceived age diversity and outcomes

Based on the information-elaboration perspective, the present study proposes that OGAD/PAD can enhance group performance and well-being. The primary source underlying the positive effects of age diversity is the elaboration of task-relevant information that involves expression, discussion, knowledge, integration of ideas and perspectives relevant to the team's tasks (Van Knippenberg et al., 2004). Age-diverse groups have access to group members with accumulated diverse life, work and organisational experiences (Kunze et al., 2011), providing extra information and variance when dealing with task-relevant perspectives and efficiency in problem-solving (Kearney et al., 2009). The sharing and integration of divergent viewpoints and knowledge would lead to more critical discussions regarding task accomplishment, thus stimulating problem-solving (De Dreu, 2006), and eventually enhancing group performance and well-being at both the group and individual levels.

Some evidence is available from past empirical research for the relationship of OGAD/PAD with group performance, whereas little is known about employee well-being. For instance, Scheuer and Loughlin (2019) reported a positive relationship between PAD and group performance in the presence of status congruity and cognition-based trust. However, objective age diversity literature has considerable empirical evidence for the positive relationship of age diversity and group performance (e.g. Kearney et al., 2009; Seong & Hong, 2018). For example,

age diversity is reported to have a positive effect on the elaboration of task-relevant information when the need for cognition is high (Kearney et al., 2009), and with group performance where complex decision-making tasks are involved (Wegge, Roth, Neubach, Schmidt, & Kanfer, 2008). Phiri (2019) has reported the moderating role of age diversity in the relationship of diversity climate and well-being. Thus, we hypothesise:

H1a: Objective group age diversity is positively related to group performance.

H1b: Perceived age diversity is positively related to group performance.

H1c: Objective group age diversity is positively related to well-being.

H1d: Perceived age diversity is positively related to the well-being.

Perceived age diversity and social integration

Drawing on the information-elaboration perspective, we argue that PAD can enhance social integration at the individual level. Information elaboration plays a role among demographically diverse workgroups (e.g. Harrison et al., 2002; Van Knippenberg et al., 2004). As the extensive knowledge, skills, abilities, experiences and vision of diversified group members help them to conquer the categorisation effects (Fay, Borrill, Amir, Haward, & West, 2006), they start to look at each other with respect and as a source of guidance to perform tasks (Roberts & O'Reilly III, 1979). This allows them to develop a sense of belonging and attraction towards each other. Age-diverse groups eventually improve their communication over time as group members tend to learn more about each other (Harrison et al., 2002) through enhanced social integration.

The relationship between PAD and social integration has not been studied in past literature. To our knowledge, only one study has reported no effect of PAD on workgroup

cohesiveness, which is a primary dimension of social integration (Goldberg et al., 2010; Gully, Devine, & Whitney, 1995). Similarly, multilevel literature also lacks focus on the proposed relationship. However, the benefits of enhanced communication and the elaboration of task-relevant information have been studied repeatedly in the objective age diversity literature (e.g. Kearney & Gebert, 2009; Kearney et al., 2009). Thus, we hypothesise:

H2: perceived age diversity is positively associated with social integration.

Social integration and outcomes

Based on social exchange theory (Blau, 1964), the present study argues that enhanced social integration among group members will enhance employee well-being and reduce turnover intention among group members. Social integration has been generally conceptualised as the function of attachment, satisfaction and quality of social relations within the given group (e.g. Harrison, Price, & Bell, 1998; Harrison et al., 2002; O'Reilly III, Caldwell, & Barnett, 1989). In this paper, we focus on the quality of social relations with other group members, referring to employees' perceptions of the status of their social relations with other group members (Asendorpf & Wilpers, 1998). Mossholder, Settoon, and Henagan (2005) argue that high-quality relations (social integration) with other actors enhance the likelihood that an employee will remain with the organisation. Similarly, high social integration among group members increases the possibility that group members will not leave the group. This is consistent with the reciprocity norm explained through social exchange theory (Blau, 1964). The enhanced social integration creates feelings of loyalty, comfort, obligation and care towards other group members (e.g. Meyer & Allen, 1997; Mowday, Porter, & Steers, 1982), which may lead to reduced turnover intention and enhanced well-being.

Empirical research supports the argument that social integration is positively associated with employee well-being and negatively associated with turnover intention. For instance, Sheridan (1985) argues that the critical factor influencing turnover or turnover intention is the attraction among group members or social integration. Similarly, cohesion (a primary dimension of social integration: Gully et al., 1995) – is frequently reported to be associated with employees' intentions to stay or leave (e.g. Griffeth, Hom, & Gaertner, 2000; Krackhardt & Porter, 1986). Social integration helps overcome the detrimental effects of differences among group members (Nwobia & Aljohani, 2017), thus helping employees develop better relations, interactions and communication that enhances their well-being and reduces turnover intentions (O'Reilly & Bothfeld, 2002). Thus, we hypothesise:

H3a: Social integration is negatively associated with an individual's turnover intention.
H3b: Social integration is positively associated with individual's well-being.

Perceived age diversity, social integration and outcomes

Integrating information-elaboration theory with social exchange theory, we propose that social integration will mediate the negative relationship between PAD and turnover intention/ individuals' well-being. Past empirical research has not tested this relationship. However, some empirical research supports the argument that age diversity enhances team outcomes. For example, Sacco and Schmitt (2005) studied the impact of objective age diversity on turnover. The findings support the argument that the negative effect of age diversity fades or reverses over time (Sacco & Schmitt, 2005). Thus, we hypothesise:

H4a: Social integration mediates the negative relationship between perceived age diversity and turnover intention.

H4b: Social integration mediates the positive relationship between perceived age diversity and individual's well-being.

Method

A three-month time-lagged research design was adopted for data collection, involving two rounds of employee and leader surveys at two banks in Pakistan, South Asia.

Research setting and procedures

Workgroups in Pakistan's banking industry were considered as the population of this research. Each bank branch, undergoing frequent daily interaction, is treated as one group. We approached the central human resource departments of five large banks to gain access to banking employees; only two banks agreed to participate.

At Time 1 (January 2019), a package containing an invitation letter, consent form, ethics approval letter, return envelope, research information sheet, and the survey was sent to bank employees. Later, two reminder calls (one at two weeks and the other at four weeks after the initial survey) were made to the branch managers. A total of 250 banking groups (1,250 group members) were approached in this round. Final completed surveys during this round totalled 350 from 85 groups. Respondents were asked about age, organisational and branch tenure, nature of their contract, gender, PAD, and social integration.

At Time 2 (April 2019), one survey with a return envelope was sent to all the employees and another was sent to the branch managers of 85 groups (350 group members). After eliminating surveys with incomplete and missing responses, and those with less than three group members, the final sample comprised 78 groups with 305 group members. The response rate was

32%. Group members reported on turnover intention, whereas group leaders reported on group performance. Date of birth, gender, marital status and branch name were asked to match survey respondents from both rounds.

Consistent with previous literature, the average group size was four employees (e.g. Farh & Chen, 2014; Mawritz, Dust, & Resick, 2014; Priesemuth, Schminke, Ambrose, & Folger, 2014). The mean age was 34 years, whereas the mean organisational and branch tenure was 6.58 years and 2.3 years, respectively. Overall, 84.4% of the respondents were employed on a permanent contractual basis, while 15.2% had temporary contracts. A total of 195 respondents were male (63.5%), whereas 112 were female (36.5%).

Self-reporting of data can increase the chances of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Therefore, four corrective measures were taken for this study: a) a time-lagged research design was used where independent and dependent variables were temporally separated; b) data were collected from two sources, namely branch managers (group leader) and branch employees (group members); c) respondents were assured of the anonymity of the data as the surveys did not contain any identifiable information (e.g. names); and d) confidentiality of the data was established by providing return envelopes to each respondent (Podsakoff et al., 2003).

Measures – Time 1

Independent variables

OGAD – Age was self-reported by respondents in both surveys at Time 1 and Time 2. Age diversity for each workgroup was assessed by calculating the variance of group member's age.

PAD was measured via the 1-item scale adapted from Harrison et al. (1998). The item was 'In your opinion, how diverse is your group with respect to their age?' Answers were recorded on a 5-point Likert scale from 1 (*very similar*) to 5 (*very diverse*). As age is a surface-level demographic characteristic and is easily observable, group members should be able to readily determine the composition of their group and make accurate assessments of diversity. For this reason, we assume that the use of a single-item measure is appropriate. Moreover, the scale was aggregated at the group level to measure cross-level effects. Before aggregating, we calculated interrater agreement (r_{wg}) scores (James, Demaree, & Wolf, 1984)The r_{wg} score for PAD was .90, within the cut-off value specified by scholars (James et al., 1984), indicating high appropriateness of aggregation for the construct (Glick, 1985; LeBreton & Senter, 2008).

Mediating variable

Social integration was measured using Seashore (1954) four-item scale, with a reported reliability of .91. A sample item is 'How willing are they to help each other.' Respondents used a 5-point Likert scale of 1 (*not very good*) to 5 (*great, couldn't be better*), $\alpha = .80$.

Outcome Measures – Time 2

Data on outcome variables were collected at Time 2, three months after the first round of data collection. *Group performance* was measured using Liden, Erdogan, Wayne, and Sparrowe (2006) five performance dimensions: quality of work, quantity of work, overall group performance, completing work on time, and responding quickly to problems. Group leaders were asked to rate the overall output of their work team on these performance dimensions on a 5-point Likert scale from 1 (*much worse*) to 5 (*much better*). The reported reliability of the scale ranges from .78 to .94. For the current study, the Cronbach's alpha value is .70, which is within the accepted range stated by Nunnally (1994).

Turnover intention was measured using individual employees on a three-item scale developed by Sparr and Sonnentag (2008), with a reported reliability of .89. A sample item from the scale is 'I often think of quitting this work team.' The alpha coefficient for this study is .84. Group members rated each item on a 5-point Likert scale from 1 (*very unlikely*) to 5 (*very likely*).

Well-being of employees was evaluated through Rosenberg (1965) ten-item self-esteem scale, with a reliability of .77-.88 for different samples (see Blascovich & Tomaka, 1991; Rosenberg, 1986). A sample item from the scale is 'I feel that I have several good qualities.' The alpha coefficient for this scale is .73. For an aggregation of the construct at the group level, the r_{wg}, ICC(1) and ICC(2) values were calculated. The r_{wg} value was .90, ICC(1) was .713 and ICC(2) was .718, indicating an adequate fit to justify aggregation of the construct (Glick, 1985; James et al., 1984; LeBreton & Senter, 2008).

Controls

The study controlled for perceived gender diversity, perceived ethnic diversity, organisational and branch tenure, and nature of the contract. Age diversity was found to be highly interrelated with these variables, and they were found to influence employee perceptions and performance (e.g. Boehm, Kunze, & Bruch, 2014; Huckman, Staats, & Upton, 2009). Perceived gender diversity and perceived ethnic diversity were each measured on a 1-item scale developed by Harrison et al. (1998). The items were 'In your opinion, how different is your group with respect to their gender?' and 'In your opinion, how different is your group with respect to their ethnicity?' respectively.

Analytic Strategy

The hypothesised theoretical model has a two-level design: employees (level 1) and groups (level 2). The variance of the Level-1 variables has been decomposed into within-level and between-level components to allow for the simultaneous modelling at both levels.

The study analysed the model in Mplus version 8 (Muthén & Muthén, 1998-2017). The steps explained by Preacher, Zyphur, and Zhang (2010) were followed to analyse the complete model in one syntax. The model simultaneously estimated: (1) the within-level relationship between PAD and turnover intention, mediated by social integration; (2) the within-level relationship of PAD and individuals' well-being, mediated by social integration; (3) the relationship of OGAD/PAD and group performance; and (4) the relationship of OGAD/*PAD* and well-being. Furthermore, the random intercepts and fixed slopes were specified because there were no cross-level moderation effects.

Results

Preliminary analysis

Table 6.1 presents the means, standard deviations and correlations. Consistent with prior multilevel literature (e.g. Farh & Chen, 2014; Khan, 2020; Mawritz et al., 2014), all individual- and group-level variables are presented simultaneously in one correlation matrix to display the differences (see table 6.1).

Validity of the constructs

Discriminant and convergent validity of the constructs was ensured through confirmatory factor analysis using Mplus version 8 (Muthén & Muthén, 1998-2017). All items were loaded on their respective latent variable and tested using maximum likelihood estimation. A three-factor model was tested by loading items on their respective constructs. All items loaded significantly, with factor loadings above .4 (Rahn, 2014). The root mean square error of approximation (RMSEA) value for the confirmatory factor analysis was .08, with comparative fit index (CFI) and Tucker Lewis index (TLI) values of .80 and .84, respectively. The standardised root mean square residual (SRMR) value for the within-model was .04, whereas for the between-model it was .05. The values represent a good-fit (Asparouhov, & Muthén, 2010). Afterwards, the one-factor model was tested, where the total variance explained was only 21.41%. The model-fit values for the one-factor model were as follows: RMSEA = .137, CFI = .668, TLI = .552, SRMR for the within-model = .181 and SRMR for the between-model = .288; representing a bad fit. Therefore, the proposed theoretical model is supported over the one-factor model. Moreover, the distinctiveness of the constructs was ensured by covariation among the constructs.

Table 6.1 Means, standard deviations and correlations

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
Time 1												
1. Org. tenure	6.58	5.43										
2. Branch tenure	2.28	1.51	.19**									
3. Nature of contract	0.16	0.37	-.08	-.04								
4. Perceived gender diversity	2.73	1.25	-.05	.02	.11							
5. Perceived ethnic diversity	2.76	1.10	-.09	.02	.01	.34**						
6. Objective group age diversity	0.48	0.63	.27**	-.02	-.09	-.24**	-.15**					
7. Perceived age diversity	3.54	1.00	.06	-.06	-.07	-.00	.15**	.16**				
8. Social integration	3.34	0.85	-.05	.01	.01	-.05	-.02	-.08	-.15**			
Time 2												
9. Group performance	4.01	0.51	.09	-.05	-.08	-.07	-.14*	.07	.18**	.02		
10. Turnover intention	2.62	1.03	-.07	.02	.03	-.01	.03	-.11*	-.12*	-.13*	-.05	
11. Individuals' well-being	3.87	0.57	-.09	.05	-.03	.03	.12*	.05	.05	.08	-.04	-.28**

Note: N = 305 for both Time 1 and Time 2 variables.

*$p < 0.05$. **$p < 0.01$.

Hypotheses Tests

Maximum likelihood estimation was first used to test the proposed theoretical model in Mplus. The RMSEA value is less than .05, with CFI = .997 and TLI = 1.00. The SRMR value for the within-model is .004 and for the between-model is .005, representing the model fit for the study.

H1a and H1b predict a positive relationship between OGAD/PAD and group performance, respectively. H1a does not find support, however, as anticipated, the relationship between PAD and group performance is supported for the current data (β=.381, α<.05). Hence, H1b is supported. H1c and H1d propose positive association between OGAD/PAD and well-being. The predicted relationship in H1c is significant (β=.296, α<.05), although H1d is not

backed by the empirical findings (see table 6.2). H2 anticipates that PAD is positively related to social integration at the individual level of analysis. The results in table 6.2 show that PAD is negatively associated with social integration at the individual level (β=-.181, α<.01). Therefore, H2 does not find direct support, and the relationship is negatively significant. H3a and H3b depict association between social integration and turnover intention/individuals' well-being at the individual levels. The H3a is accepted (β=-.184, α<.05), however H3b is rejected (see table 6.2).

In addition, the hypothesised model includes the testing of mediation effects. H4a states that social integration mediates the negative relationship between PAD and turnover intention at the individual level of analysis. The mediating relationship between PAD-SI-TI is significant with an opposite direction, such that social integration mediates the positively significant relationship between PAD and turnover intention (.033, 90% CI= .003 to .063). The direct effect for PAD on turnover intention was non-significant; therefore, full mediation is supported. H4b states that social integration mediates the positive relationship between PAD and individual well-being. H4b does not find support.

Table 6.2 Standardised regression coefficients reported: direct effects

Level-2 (GROUP)	SI	TI	IWB	GP
Org. Tenure			-.104	.023
Contract nature			.076	.415
PGD			-.067	.151
PED			.225*	-.319**
OGAD			.296*	-.129
PAD			-.004	.381
Level-1 (INDIVIDUAL)				
Org. Tenure	-.002	-.007	-.005	
Branch tenure	-.011	.015	.011	
Contract nature	.116	.062	-.026	
PGD	-.109*	-.114	.028	
PED	-.058	-.045	.014	
PAD		-.030	.043	
SI		-.184**	.037	
Intercepts				
R^2 (Within-level)	.062	.032	.013	
R^2 (Between-level)			.687*	.268*

*p < 0.10, **p < 0.05. ***p < 0.001.

PGD=perceived gender diversity, PED=perceived ethnic diversity, OGAD=objective group age diversity, PAD= perceived age diversity, SI=social integration, TI=turnover intention, GP=group performance, IWB=individual well-being

Table 6.3 Mediating effects

Variables	ESTIMATE	90% CI	Mediation
Level – 1			
PAD-SI-TI	.033*	.003 to .063	Full Mediation
PAD-SI-IWB	-.007	-.020 to .006	No Mediation

*$p < 0.10$.

PAD=perceived age diversity, SI=social integration, TI=turnover intention, IWB=individual well-being

Discussion

The predominant objective of this study was to examine the multilevel mechanism for objective and perceived age diversity. First, it investigated the association of OGAD (level-2 predictor) and PAD (level-1 predictor; conceptualised at both levels) with group performance (level-2 outcome) and well-being (level-1 outcome; conceptualised at both levels). Second, it investigated the association of PAD with social integration (level-1 mediator) at the individual level. Third, it tested the association of social integration and turnover intention/individual's well-being at the individual level. Fourth, it tested social integration as the mediator in the relationship of PAD and turnover intention/individuals' well-being. The results support the positive relationship between OGAD-well-being and PAD-group performance, whereas PAD shows a negative influence on social integration at the individual level. Furthermore, social integration was found to negatively influence turnover intention, as proposed. The mediating relationship of PAD–social integration–turnover intention is significant at the individual level.

The findings determine the new arenas and widen the business case for the multilevel influence of objective and perceived age diversity. Support for the multilevel effects of perceived age diversity is important for age diversity literature as the area has not yet been explored. The positive influence of PAD on group performance is a new finding, as literature mainly indicates it has a negative or no effect (e.g. Gerpott, Lehmann-Willenbrock, Wenzel & Voelpel, 2019; Kearney & Gebert, 2009; Meyer, Shemla, & Schermuly, 2011). Gerpott et al. (2019) reported the negative influence of perceived age diversity on learning outcomes, due to lack of knowledge sharing, whereas psychological safety can act as a buffer to avoid the negative effects. A multilevel analysis of perceived age diversity also needs emphasis, as only one prior study has

considered its influence on employee health (Liebermann et al., 2013). Similarly, combined influence of objective and perceived age diversity needs to be explored as previously suggested by researchers (e.g. Riordan, 2000).

Theoretical and research contributions

The study makes strong theoretical and research contributions. First, our findings support information-elaboration theory (Mannix & Neale, 2005; Williams & O'Reilly III, 1998). At the group level, the study focuses on the positive influence of OGAD on well-being and PAD on group performance through the information-elaboration perspective. Age-diverse group members have extensive knowledge, experiences, vision, skills and abilities (Kunze et al., 2011) that facilitate their involvement in divergent thinking with the extensive elaboration of task-relevant information involving discussion, expression and integration of perspectives and ideas relevant to the task at hand (van Knippenberg et al., 2004). This develops efficiency in problem-solving (Kearney et al., 2009), resultantly enhancing group performance and well-being. Second, the study extends information-elaboration theory (Mannix & Neale, 2005; Williams & O'Reilly III, 1998) to propose multilevel and mediation effects. A multilevel test of PAD and the mediating process of social integration at the individual level reveal how PAD influences social integration, which, in turn, influences the turnover intentions of group members.

Third, the results provide some support for social exchange theory (Blau, 1964; Emerson, 1976). The findings suggest that the enhanced *social integration* helps develop feelings of comfort, care, loyalty and obligation towards the group members that reduce employees' *turnover intentions* (e.g. Meyer & Allen, 1997; Mowday et al., 1982). This is consistent with the norm of reciprocity explained in social exchange theory (Blau, 1964; Emerson, 1976). Fourth,

the current multilevel study has laid the foundation for testing the influence of objective and perceived age diversity via information-elaboration theory. Analysis of age diversity literature at the individual and group level reveals an absolute focus on a social identity perspective and moderating variables (e.g. Kirkman et al., 2004; Seong & Hong, 2018). Therefore, the current study extends the literature by analysing the mediating process of PAD – that is, social integration. Additionally, the multilevel literature has focused on OGAD, with only one study analysing PAD through social identity theory (Liebermann et al., 2013). Lastly, the empirical evidence for the positive influence of OGAD on well-being and PAD on group performance gives a new direction to researchers in understanding age diversity and its outcomes.

Practical implications

This study has several important implications for organisations and managers. Developing and implementing appropriate measures to manage increasing diversity is a challenge for organisations (Dick, 2004). Organisations are increasing investments and efforts for the successful implementation of diversity programs (e.g. Australian Maritime Safety Authority, 2014-2017; Safe Work Australia, 2016-2019). The results of the present study enlighten the need for multilevel evaluation of objective and perceived age diversity (Peccei & Van De Voorde, 2019). The positive influence of OGAD on well-being and PAD on group performance at the group level has emphasised the need for understanding the nesting phenomenon as individuals nested within the group affect each other's performance and behaviour. A clear articulation of the perceptions of individuals regarding age diversity at multiple levels can help understand ongoing processes within the group and achieve high levels of group performance and employees' well-being within the group and organisation. Managers can also strive for the right

level of age diversity to manage perceptions (Ali, Ng, & Kulik, 2014). Second, perceptions prevailing among workgroup members about workgroup age diversity are found to enhance group performance. This result shows the positive influence of PAD at the group level. Therefore, organisations can focus on training efforts to capitalise on the benefits of perceived age diversity while weakening the negative effects at the individual level. Managers must make serious efforts to overcome the negative effects of PAD at the individual level – failing to do so could have serious effects on group performance.

Third, PAD is found to reduce social integration among group members at the individual level. Considering the fact that age diversity among the group is a reality and organisations are facing an ageing workforce possibly due to longevity and decreasing fertility (Burke et al., 2013; Phillips & Siu, 2012), managers need to pay attention to a reduction in social integration. More focused management of employee perceptions and intentionally increasing social integration opportunities by managers can help reduce employee turnover intention, ultimately enhancing employee well-being and group performance (Griffeth et al., 2000; Nwobia & Aljohani, 2017). In particular, the literature provides evidence of diversity training being helpful in reducing the detrimental effects of PAD on social integration (Luu, Rowley, & Vo, 2019).

Limitations and future research

Although this study has multiple methodological strengths – namely a time-lagged research design with a multisource dataset and multilevel analysis – its few limitations are worth noting. First, the study focused only on one dimension of demographic diversity, that is, age diversity and did not consider other forms of diversity. This will help achieve a significant and deeper understanding of the relative strength of processes initiated by demographic diversity within

workgroups and organisations (Gonzalez, 2010; Timmerman, 2000; Van Knippenberg et al., 2004).

Second, past research has outlined a number of processes and outcomes of demographic diversity (e.g. Guillaume, Dawson, Otaye-Ebede, Woods, & West, 2017; Riordan, 2000; Van Knippenberg et al., 2004). The information-elaboration perspective focuses on a number of positive outcomes of diversity (Ancona & Caldwell, 1992; Mannix & Neale, 2005; Winquist & Larson Jr, 1998). Future research can benefit the literature by investigating these positive outcomes of demographic diversity along with negative processes and outcomes. Third, the study considers the age diversity at the group and individual levels, whereas the organisational level was not considered. Perceptions developing at the organisational level can have strong consequences (e.g. McFarlane, 2010; Wilderom, van den Berg, & Wiersma, 2012); therefore, future researchers can consider all three levels together. Fourth, the findings of the study need to be carefully generalised, as the study was conducted in a developing country. Previous diversity literature has identified a significant influence of culture on group performance outcomes (e.g. Hajro, Gibson, & Pudelko, 2017; Jeong & Harrison, 2017). A comparative multilevel study of OGAD and PAD in different cultural settings may provide valuable insights. Moreover, comparative studies among larger groups can also be helpful in understanding the multilevel effects of perceived age diversity.

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Chapter 7.   Discussion and Conclusion

This dissertation contributes to the existing knowledge and understanding of demographic diversity by proposing an integrated multilevel demographic diversity framework through the lenses of information elaboration theory (IET), self-categorisation theory (SCT) and social identity theory (SIT) (see chapter 4) after an extensive literature review (presented in chapter 2). Supporting the notion that individuals are nested in groups, within organisations the multilevel framework identifies multiple mediating processes and contextual variables leading to multilevel (individual and group level) outcomes, not sufficiently addressed in the extant literature on demographic diversity. Demographic diversity attributes including age, gender and ethnicity are considered the most easily accessible and identifiable attributes of diversity that can quickly initiate processes and can affect various outcomes. Despite extensive research, the field lacks a focus on the combined influence of objective and perceived dimensions of demographic diversity and any positive outcomes thereof.

A time-lagged research design was adopted to explore the relationship between objective/perceived demographic diversity and individual/group level outcomes, via several processes and moderating variables. This thesis primarily has three main objectives: first, to accumulate and review all individual and group level studies on age, gender and ethnic diversity; second, to provide empirical evidence while developing a business case for the multilevel influence and positive processes and outcomes of demographic diversity; and third, to identify the variance of the combined influence of objective and perceived dimensions of demographic diversity on outcomes.

This chapter outlines the key findings of the study, and the theoretical contributions, the research and practical implications for researchers and practitioners, respectively. Limitations and future research directions are also presented.

7.1 Summary of Key Findings

7.1.1 Diversity has a multilevel influence

This dissertation and its journal publications provide the first multilevel framework on demographic diversity, identifying potential positive and negative processes of engagement between different individuals and the moderating variables that influence outcomes for these individuals and their groups. To the best of the researcher's knowledge, no multilevel framework has been previously developed to study both the objective and perceived dimensions of demographic diversity simultaneously, through the integration of an information-elaboration perspective and a social identity perspective rather than solely social constructionist lens.

The findings identified eight testable propositions (presented in chapter 4). A number of these propositions linked through the multilevel framework were investigated through a survey where data were collected through two rounds of employee questionnaires at two banks in Pakistan, with a time lag of three months. Seventy-eight groups comprising 305 members participated in both surveys. This multilevel framework offers several new research directions. An important inquiry concerns the minimising of any negative effects of demographic diversity in workgroups (Mohammed and Angell, 2004). The framework proposes that negative effects may be minimised by fostering information elaboration processes among group members. Thus, the framework helps to shift the focus of demographic diversity from merely using the lenses of

social categorisation alone, to include the lens of information elaboration. The literature currently lacks a focus on multilevel studies of demographically diverse workgroups. Given that individuals are nested in workgroups (Peccei and Van De Voorde, 2019) and that the rigorous findings of individual and group outcomes (e.g., Chattopadhyay, 2003; Nishii, 2013; Salloum, Jabbour and Mercier-Suissa, 2019) are dependent on multilevel analysis, the framework and the propositions identify several processes to effectively analyse the multilevel impact of demographically diverse groups on both individual and group outcomes.

Demographic diversity research needs to shift its focus from an independent effect approach to an interactive effect approach (Van Knippenberg, De Dreu and Homan, 2004). This framework proposes the collective study of three primary dimensions of diversity namely: age, gender and ethnicity, along with the objective and perceived variability of any difference. The consideration of objective and perceived dimensions of demographic diversity helps to identify and explain additional outcome variables (Riordan, 2000). Researchers need to identify and test contextual factors, in addition to the four proposed in this framework, influencing the main relationships, such as leadership styles, team reflexivity and the need for cognition (e.g., Greer *et al.*, 2012; Meyer and Schermuly, 2012; Seong and Hong, 2013). This will also help to resolve the inconsistent findings in the literature. Finally, considering other dimensions of demographic diversity (Brodbeck, Guillaume and Lee, 2011) along the lines of the proposed framework may help determine the effectiveness of demographic diversity in workgroups.

The continuous increase in diversity in our society requires individuals and their organisations to increase and manage demographic diversity. Past research has shown that increases in demographic diversity mainly lead to negative consequences, such as conflict or a

lack of cohesion (Nakui, Paulus and Van der Zee, 2011), dissatisfaction, turnover (Jackson *et al.*, 1991; Wagner, Pfeffer and O'Reilly III, 1984), lower commitment (Riordan and Shore, 1997), and a lack of cohesion and lower performance (Leslie, 2017). However, the evidence available to managers pertains to studies using only one level of analysis, such as the individual (Maranto and Griffin, 2011; McKay *et al.*, 2007; Sliter *et al.*, 2014; Volpone, Avery and McKay, 2012) or group (Boehm, Kunze and Bruch, 2014; Hoever *et al.*, 2012; Rico *et al.*, 2007) level. The demographic diversity framework proposed in this study offers researchers and organisations the means to identify ways of attaining positive outcomes from workgroup diversity at both the individual and group level.

Research shows that demographic diversity within workgroups, if not managed effectively, can easily lead to separation and categorisation among group members (e.g., Ibarra, Carter and Silva, 2010). This original and multilevel framework suggests that managers should focus on creating conditions that can strengthen the information elaboration processes and weaken social categorisation processes. The proposed conditions comprise a supportive diversity climate, perceptions of leader fairness, weak faultlines and a weak identity threat. These conditions can help organisations to obtain maximum benefits from diverse workgroups while minimising diversity's harms (e.g., Molleman, 2005; Roberts and O'Reilly III, 1979; Van Knippenberg, De Dreu and Homan, 2004). This effective management of diversity will strengthen the organisation's positive image, developing an advantage over the competition.

7.1.2   *Multilevel Influence of Gender Diversity on Communication and Relationship Conflict*

This study hypothesised that objective and perceived gender diversity would be associated with the processes of communication and relationship conflict and these processes

would mediate the individual and group outcomes; individual well-being and individual performance in the workplace. Objective group gender diversity has a negative relationship with communication, whereas perceived gender diversity has a positive influence on communication. However, both objective gender diversity and perceived gender diversity also enhance relationship conflict. Relationship conflict and well-being were also found to sequentially mediate the relationship between gender diversity and individual performance. Support for the multilevel effects of objective gender diversity (OGD) and perceived gender diversity (PGD) is important and so far has remained underexplored. The positive influence of PGD on communication has not previously been studied or valued. No prior study has analysed the objective and perceived dimensions of gender diversity simultaneously; however, their combined effect has been proposed by researchers (Mansoor, French and Ali, 2019; Riordan, 2000). The positive influence of relationship conflict on individual well-being is also an exceptional finding for the consequences of gender diversity, extending the previous literature in a different direction.

The findings of this study have multiple implications for organisations, managers, and policy-makers. Managing increasing workgroup diversity is a challenge for organisations (Maturo, Migliori and Paolone, 2019; Van Knippenberg and Schippers, 2007), in enhancing the need for appropriate measures to sustain employees' performance. The results suggest organisations and managers need to look for the multilevel impact of gender diversity (Peccei and Van De Voorde, 2019). The positive influence of an individual's PGD on group communication and the impact of OGD on relationship conflict shows that managers need to understand the nesting phenomenon. Individuals nested within a group are dependent on each other and affect each others' behaviour and performance. Consideration of the fact that gender

diversity can have multilevel effects requires managers to undertake a more focused evaluation of gender diversity and its ongoing processes within the group. A clear articulation can help to achieve high levels of employee well-being and performance. To address this issue, managers need to focus on strengthening positive group communication and employees' relationships.

PGD is found to enhance group communication (Kochan *et al.*, 2003), whereas OGD negatively influences group communication. Therefore, diversity training efforts need to focus on PGD to capitalise on its benefits while weakening the negative outcomes of OGD. Managers need to demonstrate serious efforts to establish positive communication among workgroup members-failing to do so could have serious effects on employee well-being and performance, leading to adverse effects on organisational performance (Marlow *et al.*, 2018). Increasing OGD and PGD may kindle relationship conflict among group members. In order to eradicate conflict among group members, managers need to focus on building positive relationships and diversity training. The positive impact of diversity training is evident in past literature (e.g., Luu, Rowley and Vo, 2019).

The findings indicate an increase in individual well-being and performance through the escalation of relationship conflict which needs distinct attention. These data were collected from a male-dominated society where gender roles are evident. Increasing gender diversity at the workplace enhances relationship conflict among sub-groups. This evidence may help managers focus on minimising the influence of individual categorisation within groups. More focused management of subgroups may help achieve enhanced individual well-being and performance.

7.1.3   Multilevel Influence of Age Diversity on individual and group outcomes

This study hypothesised that objective age diversity (OGAD) and perceived age diversity (PAD) influence group performance and well-being at the group level.   Social integration is also proposed to mediate the relationship between perceived age diversity and individual level outcomes of turnover intention and individual's well-being. OGAD is found to enhance individual's well-being with other group members, whereas PAD has a positive relationship with group performance. However, social integration is found to mediate the negative relationship between PAD and turnover intention. To the best of our knowledge, no prior study has analysed social integration as the process of perceived age diversity. Moreover, the positive influence of objective age diversity on well-being and perceived age diversity on group performance is a unique finding that strengthens the information-elaboration perspective in demographically diverse groups.

The findings determine the new arenas and widen the business case for the multilevel influence of objective and perceived age diversity. Support for the multilevel effects of perceived age diversity is important for age diversity literature as the area has not yet been explored. The positive influence of PAD on group performance is a new finding, as literature mainly indicates it has a negative or no effect (e.g., Kearney and Gebert, 2009; Meyer, Shemla and Schermuly, 2011). Gerpott *et al.* (2019) reported the negative influence of perceived age diversity on learning outcomes, due to lack of knowledge sharing, whereas psychological safety can act as a buffer to avoid the negative effects. A multilevel analysis of perceived age diversity also needs emphasis, as only one prior study has considered its influence on employee health (Liebermann*et*

al., 2013), similarly, the combined influence of objective and perceived age diversity needs to be explored as previously suggested by researchers (e.g., Riordan, 2000).

This study has several important implications for organisations and managers. Developing and implementing appropriate measures to manage increasing diversity is a challenge for organisations (Dick, 2004). Organisations are increasing investments and efforts for the successful implementation of diversity programs (e.g., Australian Maritime Safety Authority, 2014-2017; Safe Work Australia, 2016-2019). The results of the present study enlighten the need for multilevel evaluation of objective and perceived age diversity (Peccei & Van De Voorde, 2019). The positive influence of OGAD on well-being and PAD on group performance at the group level has emphasized the need for understanding the nesting phenomenon as individuals nested within the group affect each other's performance and behaviour. A clear articulation of the perceptions of individuals regarding age diversity at multiple levels can help understand ongoing processes within the group and achieve high levels of group performance and employees' well-being within the group and organisation. Managers can also strive for the right level of age diversity to manage perceptions (Ali, Ng and Kulik, 2014).

Furthermore, perceptions prevailing among workgroup members about workgroup age diversity are found to enhance group performance. This result shows the positive influence of PAD at the group level. Therefore, organisations can focus on training efforts to capitalise on the benefits of perceived age diversity while weakening the negative effects at the individual level. Managers must make serious efforts to overcome the negative effects of PAD at the individual level – failing to do so could have serious effects on group performance.

PAD is found to reduce social integration among group members at the individual level. Considering the fact that age diversity among the group is a reality and organisations are facing an ageing workforce possibly due to longevity and decreasing fertility (Burke, Cooper and Field, 2013; Phillips and Siu, 2012), managers need to pay attention to a reduction in social integration. More focused management of employee perceptions and intentionally increasing social integration opportunities by managers can help reduce employee turnover intention, ultimately enhancing employee well-being and group performance (Griffeth, Hom and Gaertner, 2000; Nwobia and Aljohani, 2017). In particular, the literature provides evidence of diversity training being helpful in reducing the detrimental effects of PAD on social integration (Luu, Rowley and Vo, 2019).

7.2   Limitations

While the study features methodological strengths – specifically its time-lagged dataset with multilevel analysis – consistent with other studies, several limitations need to be considered. Chapters 4, 5 and 6 present the limitations and future research directions of individual studies, however, this chapter encapsulates them collectively.

First, the present study focused on age, gender and ethnic diversity. As the most easily identifiable forms of demographic diversity, these dimensions can quickly initiate processes and affect various outcomes. This will also help achieve a significant and deeper understanding of the relative strength of processes initiated by these demographic diversity attributes within workgroups (Gonzalez, 2010; Timmerman, 2000; Van Knippenberg, De Dreu and Homan, 2004). Future researchers can include other forms of diversity (e.g., cultural, linguistic and tenure) to develop a comprehensive framework. Also, one diversity facet can influence other

diversity attributes which makes it important to study them collectively (e.g., Bär, Niessen-Ruenzi and Ruenzi, 2007). Furthermore, previous research has identified the influence of a broad spectrum of demographic diversity types on outcomes (e.g., Bell *et al.*, 2011; Pelled, 1996). Future research can analyse a wider range of processes by analysing different attributes of demographic diversity simultaneously. This is an important step in understanding the positive and negative processes caused by demographic diversity within organisations (Gonzalez, 2010; Timmerman, 2000; Van Knippenberg, De Dreu and Homan, 2004). At the same time, research in this direction can benefit groups and organisations by maximising positive outputs.

Second, past research has outlined a number of processes and outcomes of demographic diversity (e.g., Guillaume *et al.*, 2017; Riordan, 2000; Van Knippenberg, De Dreu and Homan, 2004). The information-elaboration perspective focuses on a number of other positive outcomes from diversity (Ancona and Caldwell, 1992; Mannix and Neale, 2005; Tziner and Eden, 1985; Winquist and Larson Jr, 1998). Future research can benefit the literature by investigating these positive outcomes of demographic diversity along with negative processes and outcomes.

Third, the current multilevel analysis includes only individual and group levels of analysis. The authors did not include an organisational level in the study. The hierarchical levels in the organisation represent a chain of command, where orders flow from upper to lower levels. Perceptions developing at the organisational level can have strong consequences (e.g., McFarlane, 2010; Wilderom, van den Berg and Wiersma, 2012). As this study contends that employees are nested in groups, similarly, groups are nested in organisations. Therefore, there is a need to study all three levels together. Future studies can propose a three-level framework to provide invaluable insights into how effects at one level trickle-down to the lower levels (see

Brodbeck, Guillaume and Lee, 2011; Sacco and Schmitt, 2005). This will help identify the influence of organisational level demographic diversity on the processes and outcomes at all levels.

Fourth, the generalisability of findings needs to be carefully considered. The study was conducted in a developing country and the banking sector only. Previous research has identified the influence of culture on communication, conflict, group performance and other outcomes (e.g., Guerra *et al.*, 2005; Hajro, Gibson and Pudelko, 2017; Jeong and Harrison, 2017; Sanchez-Burks*et al.*, 2008). A comparative study in the developed country and in other sectors of the multilevel influence of demographic diversity may provide valuable insights. Future research can also benefit from including moderators such as perception of leader fairness and diversity climate.

7.3   **Conclusion**

This research has emphasised the importance of analysing multilevel influence of demographic diversity attributes of age, gender and ethnicity, believing employees are nested in groups. The study also highlights the possible positive processes and outcomes in addition to negative processes and outcomes that are widely studied in literature. The research is now shifting its focus from studying negative outcomes of objective demographic diversity towards the evaluation of employee perceptions and their possible advantages. In line with this shift, the study has incorporated objective and perceived dimensions of demographic diversity simultaneously, via information-elaboration perspective and social identity perspective. After the review of extant literature, a multilevel framework for demographic diversity including multiple processes, moderators and outcome variables at the individual and group levels has been

formulated and empirically investigated. The findings of this thesis may convince practitioners and researchers to focus on the importance of employee perceptions and the consequences of nesting of individuals within groups.

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Appendices

Demographic Diversity and Outcomes: A Multilevel Study
Group Member Survey – Time 1

Date:

Dear participant,

My name is Sadia Mansoor and I am a PhD candidate at Queensland University of Technology, Brisbane, Australia. As a part of my thesis, I am exploring the influences of demographic diversity within workgroups and their ultimate impact on group and individual level outcomes. Because you are a member of a work team, I am inviting you to participate in this research study by completing the attached survey.

The following questionnaire will require approximately 30-40 minutes to complete. There is no known risk associated with this survey completion. To ensure that all information will remain confidential please do not include your name. If you choose to participate in this project, please answer all questions as honestly as possible and return the completed questionnaires promptly to the researcher. Participation is strictly voluntary, and you may refuse to participate at any time.

Thank you for taking the time to assist me in my educational endeavors. The data collected will provide useful information regarding demographic diversity management and maximising outputs for individuals and organisations. Completion and return of the questionnaire will indicate your willingness to participate in this study. If you require additional information or have questions, please contact me via the e-mail address noted below.

If you are not satisfied with the way this study is being conducted, you may report (anonymously if you so choose) any complaints to the Research Ethics Advisory Team of Queensland University of Technology on +61 7 3138 5123 or email humanethics@qut.edu.au.

Sincerely

Ms. Sadia Mansoor

QUT Business School

Queensland University of Technology

Brisbane, Australia

sadia.mansoor@hdr.qut.edu.au

Overview

This study investigates how diverse teams establish positive group processes resulting in effective team and individual outcomes. The aim is to inform and guide HR managers and organizations on effective management of diverse teams to

strengthen positive group processes, for example, communication; and weaken negative processes, for example relationship conflict, ultimately maximizing performance.

Instructions and Information

Please answer all the questions. The survey is divided into sections based on types of questions and response choices. The relevant instructions are provided in the beginning of each section.

The term 'work team' in this survey refers to the group of people with whom you interact for day to day work activities, on regular basis.

Section 1: DEMOGRAPHIC DIVERSITY

The following questions are about demographic differences among you and your work team. Please circle one of the five choices for each question, where 1 indicates to all similar members within the work team while '5' indicates all different members within the work team.

	Very similar	*Similar*	*Neutral*	*Diverse*	*Very diverse*
1. How diverse do you think your work team is in general?	1	2	3	4	5
2. In your opinion, how diverse is your team with respect to their age?	1	2	3	4	5
3. In your opinion, how diverse is your team with respect to their gender?	1	2	3	4	5
4. In your opinion, how diverse is your team with respect to their provincial background?	1	2	3	4	5

The following questions are about you and your work. Please circle one of the given options or provide answers where required.

1. Gender	Male		Female		Other
2. Which province do you belong to?	Punjab	Sindh	KPK	Balochistan	Gilgit Baltistan	Kashmir
3. Which city/village do you belong to?	_____
4. Date of Birth (dd/mm/yyyy)	_____
5. No. of Team members	_____

Section 2: GROUP PROCESSES

Keeping in mind your group members and work-related activities within the team, please circle one of the five choices for each statement.

Communication	*To very little extent*	*To some extent*	*To moderate extent*	*To great extent*	*To very great extent*
1. Some members respond only when asked	1	2	3	4	5
2. Arguments carry on too long	1	2	3	4	5
3. Everyone has a chance to express their opinion	1	2	3	4	5
4. We listen to input from all group members.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5.	In our discussions, we drift off the point	1	2	3	4	5
6.	Someone always makes sure that quieter group members get a chance to express their ideas	1	2	3	4	5
7.	Members feel free to make positive and negative comments	1	2	3	4	5
8.	One of our members is very good at getting less confident members to voice their opinions	1	2	3	4	5
9.	Some members appear to hide their queries	1	2	3	4	5
10.	Some members interrupt when another is speaking	1	2	3	4	5
11.	We organize our communication according to available time	1	2	3	4	5
12.	We maintain a high exchange of ideas	1	2	3	4	5
13.	Encouragement is given to hesitant members to express their opinions	1	2	3	4	5
14.	Sometimes people with good ideas don't seem to speak up	1	2	3	4	5
15.	One or two members tend to dominate the discussion	1	2	3	4	5

Performance Pressure		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	At work, I feel pressured to do my job well	1	2	3	4	5
2.	On the job, I feel I have to perform well	1	2	3	4	5
3.	I felt forced to do a perfect job	1	2	3	4	5
4.	I felt driven to do a good job	1	2	3	4	5
5.	I felt pushed to perform at a high level	1	2	3	4	5

Relationship Conflict

The following questions are about the relationships among work team members. Please circle one of the five options.

		Almost never	sometimes	Neutral	Often	Very often
1.	How often you perceived tension and frustration about your team members' interpersonal style?	1	2	3	4	5
	What level of tension and frustration do you feel:	*Very mild*	*Mild*	*Normal*	*Intense*	*Very Intense*
2.	How often you perceived tension and frustration about your team members' attitudes and political preferences?	1	2	3	4	5
	What level of tension and frustration do you feel:	*Very mild*	*Mild*	*Normal*	*Intense*	*Very Intense*
3.	How often you perceived tension and frustration about your team members' norms and values?	1	2	3	4	5
	What level of tension and frustration do you feel:	*Very*	*Mild*	*Normal*	*Intense*	*Very*

		mild				Intense
4.	How often you perceived tension and frustration about your team members' personality?	1	2	3	4	5
What level of tension and frustration do you feel:		*Very mild*	*Mild*	*Normal*	*Intense*	*Very Intense*
5.	How often you perceived tension and frustration about your team members' sense of humor?	1	2	3	4	5
What level of tension and frustration do you feel:		*Very mild*	*Mild*	*Normal*	*Intense*	*Very Intense*

Social Integration

Please circle one of the five options. "They" in the following statements refers to your work team members.

		Not very good	*Good*	*Neutral*	*Better*	*Great, couldn't be better*
1.	How willing they are to defend one another from criticism	1	2	3	4	5
2.	How well they help each other	1	2	3	4	5
3.	How well they get along	1	2	3	4	5
4.	The extent to which they stick together	1	2	3	4	5
5.	How many times you had socialized with other team members off the job during the last month?	_____				

Think of your work team members, how well does each of the following words or phrases describe these people? In the blank beside each word or phrase below, write:

        Y --------------for "Yes" if it describes the people with whom you work

        N ------------for "No" if it does not describe them

        ? -------------for "?" if you cannot decide

1. _____ Stimulating
2. _____ Boring
3. _____ Slow
4. _____ Helpful
5. _____ Stupid
6. _____ Responsible
7. _____ Likeable
8. _____ Intelligent
9. _____ Short tempered
10. _____ Rude
11. _____ Smart
12. _____ Lazy
13. _____ Unpleasant

14.	_____	Supportive
15.	_____	Active
16.	_____	Narrow minded
17.	_____	Frustrating
18.	_____	Stubborn

Section 3: WORK CONTEXT

Please circle one of the five choices for each statement.

Diversity Climate

The term 'diversity' refers to dissimilarities among individuals on any attribute that may lead to the perception that the other person is different from us, while 'diversity climate' is defined as the shared perception of the way things are carried out.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	I trust my team members to treat me fairly	1	2	3	4	5
2.	My team members maintain a diversity friendly work environment	1	2	3	4	5
3.	My team members respect the views of people like me	1	2	3	4	5
4.	My team leader demonstrates a visible commitment to diversity	1	2	3	4	5

Perception of Leader Fairness

Think of your immediate supervisor, involved in assigning duties and responsibilities and is responsible to provide you with feedback and solving your queries.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	My supervisor considers my point of view	1	2	3	4	5
2.	My supervisor can stop personal biases	1	2	3	4	5
3.	My supervisor provides me with timely feedback about the decision and its implications	1	2	3	4	5
4.	My supervisor treats me with kindness, respect and consideration	1	2	3	4	5
5.	My supervisor showed concern for my rights as an employee	1	2	3	4	5
6.	My supervisor took steps to deal with me in a truthful manner	1	2	3	4	5
7.	My supervisor rewards me fairly considering my responsibilities	1	2	3	4	5
8.	My supervisor rewards me fairly in view of the amount of experience I have	1	2	3	4	5
9.	My supervisor rewards me fairly for effort I put in my work	1	2	3	4	5

10. My supervisor rewards me fairly for the work I have done well	1	2	3	4	5
11. My supervisor rewards me fairly for the stresses and strains of my job	1	2	3	4	5
12. My supervisor has designed procedures to collect accurate information necessary for making decisions	1	2	3	4	5
13. My supervisor has designed procedures to provide opportunities to appeal or challenge the decision	1	2	3	4	5
14. My supervisor has designed procedures to have all sides affected by the decision represented	1	2	3	4	5
15. My supervisor has designed procedures to generate standards so that decisions could be made with consistency	1	2	3	4	5
16. My supervisor has designed procedures to hear the concerns of all those affected by the decision	1	2	3	4	5
17. My supervisor has designed procedures to provide useful feedback regarding the decision and its implementation	1	2	3	4	5
18. My supervisor has designed procedures to allow for requests for clarification or additional information about the decision	1	2	3	4	5

Identity Threat

Keep in mind your attachment and membership with your current work team and answer the following statements.

	Very unlikely	*Unlikely*	*Neutral*	*Likely*	*Very Likely*
1. It weakens my sense of self-worth	1	2	3	4	5
2. It makes me feel less competent	1	2	3	4	5
3. I would have to change who I am	1	2	3	4	5
4. It makes me feel less unique as a person	1	2	3	4	5

RESPONDENT PROFILE

Please provide the following demographic information so that we can describe the group of people who participated in our survey.

5.	Job Title	_____
6.	Education	_____
7.	Total years of Experience	_____
8.	Years/months of experience with this organisation	_____
9.	Years/months of experience with current work team	_____
10.	Marital Status	_____
11.	No. of dependents	_____

12.	Organisation Name	_____		
13.	Branch Name	_____		
14.	Nature of job contract	Permanent	Temporary	Other

COMMENTS

If you would like to comment on the topic of the research or any of the questions in the survey, please do so in the space provided below.

Thank you very much for taking the time to complete this survey. **Please return the survey in the provided sealable envelope.**

If you have any questions, please contact:
Ms. Sadia Mansoor
QUT Business School
Queensland University of Technology
Brisbane 4000 Australia
sadia.mansoor@hdr.qut.edu.au

Appendix B: Group Member Survey – Time 2

Demographic Diversity and Outcomes: A Multilevel Study

Group Member Survey – Time 2

Date:

Dear participant,

My name is Sadia Mansoor and I am a PhD candidate at Queensland University of Technology, Brisbane, Australia. As a part of my thesis, I am exploring the influences of demographic diversity within workgroups and their ultimate impact on group and individual level outcomes. Because you are a member of a work team, I am inviting you to participate in this research study by completing the attached survey.

The following questionnaire will take maximum 10 minutes to complete. There is no known risk associated with this survey completion. To ensure that all information will remain confidential please do not include your name. If you choose to participate in this project, please answer all questions as honestly as possible and return the completed questionnaires promptly to the researcher. Participation is strictly voluntary, and you may refuse to participate at any time.

Thank you for taking the time to assist me in my educational endeavors. The data collected will provide useful information regarding demographic diversity management and maximising outputs for individuals and organisations. Completion and return of the questionnaire will indicate your willingness to participate in this study. If you require additional information or have questions, please contact me via the e-mail address noted below.

If you are not satisfied with the way this study is being conducted, you may report (anonymously if you so choose) any complaints to the Research Ethics Advisory Team of Queensland University of Technology on +61 7 3138 5123 or email humanethics@qut.edu.au.

Sincerely

Ms. Sadia Mansoor

QUT Business School

Queensland University of Technology

Brisbane, Australia

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Overview

This study investigates how diverse teams establish positive group processes resulting in effective team and individual outcomes. The aim is to inform and guide HR managers and organizations on effective management of diverse teams to strengthen positive group processes, for example, communication; and weaken negative processes, for example relationship conflict, ultimately maximizing performance.

Instructions and Information

Please answer all the questions. The survey is divided into sections based on types of questions and response choices. The relevant instructions are provided in the beginning of each section.

The term 'work team' in this survey refers to the group of people with whom you interact for day to day work activities, on regular basis.

Outcomes					
Think about your own attachment with the current work team and circle one the five choices given below, for the following sections.					
Turnover Intention	*Very unlikely*	*Unlikely*	*Neutral*	*Likely*	*Very Likely*
1. I often think of quitting this work team	1	2	3	4	5
2. I have already looked around for another job	1	2	3	4	5
3. I will quit my job voluntarily during the next 12 months	1	2	3	4	5
Individual Well-being	*Strongly Disagree*	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
1. Overall, I am satisfied with myself	1	2	3	4	5
2. At times I think I am no good at all	1	2	3	4	5
3. I feel that I have several good qualities	1	2	3	4	5
4. I can do everything as most other people do	1	2	3	4	5
5. I feel I do not have much to be proud of	1	2	3	4	5
6. I certainly feel useless at times	1	2	3	4	5
7. I feel that I am a person of worth/value	1	2	3	4	5
8. I wish I could have more respect for myself	1	2	3	4	5
9. All in all, I feel I am a failure	1	2	3	4	5
10. I feel positive about myself	1	2	3	4	5
Collective Well-being	*Strongly Disagree*	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
1. I am an important member of the work team I belong to	1	2	3	4	5
2. I feel I don't have much to offer to the work team I belong to	1	2	3	4	5
3. I am a cooperative participant of the work team I belong to	1	2	3	4	5
4. I often feel I am a useless member of my work team	1	2	3	4	5
5. I often regret that I belong to this work team	1	2	3	4	5
6. In general, I am glad to be a member of the work team I belong to	1	2	3	4	5
7. Overall, I often feel that my belongingness to the work team is not beneficial for me	1	2	3	4	5
8. I feel good about the work team I belong to	1	2	3	4	5
Individual Performance					

The following questions are about your work performance. Think of your work-related duties and responsibilities and circle one of the five choices given below.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	I adequately complete assigned duties	1	2	3	4	5
2.	I fulfil responsibilities specified in my job description	1	2	3	4	5
3.	I perform all the tasks that are expected of me	1	2	3	4	5
4.	I meet formal performance requirements of the job	1	2	3	4	5
5.	I engage in activities that will directly affect my performance	1	2	3	4	5
6.	I sometimes neglect some aspects of my job	1	2	3	4	5
7.	I sometimes cannot perform essential duties	1	2	3	4	5

RESPONDENT PROFILE

Please provide the following demographic information so that we can describe the group of people who participated in our survey.

1.	Job Title	_____
2.	Education	_____
3.	No. of dependents	_____
4.	Organisation Name	_____
5.	Date of Birth (dd/mm/yyyy)	_____
6.	Branch Name	_____

7.	Gender	Male		Female		Other

8.	Which province do you belong to?	Punjab	Sindh	KPK	Balochistan	Gilgit Baltistan	Kashmir

COMMENTS

If you would like to comment on the topic of the research or any of the questions in the survey, please do so in the space provided below.

Thank you very much for taking the time to complete this survey.

Please return the survey in the provided sealable envelope.

If you have any questions, please contact:
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sadia.mansoor@hdr.qut.edu.au

Appendix C: Team Leader Survey – Time 2

Demographic Diversity and Outcomes: A Multilevel Study
Team Leader Survey – Time 2

Date:

Dear participant,

My name is Sadia Mansoor and I am a PhD candidate at Queensland University of Technology, Brisbane, Australia. As a part of my thesis, I am exploring the influences of demographic diversity within workgroups and their ultimate impact on group and individual level outcomes. Because you are a team leader of a work team, I am inviting you to participate in this research study by completing the attached survey.

The following questionnaire will require maximum 5 minutes to complete. There is no known risk associated with this survey completion. To ensure that all information will remain confidential please do not include your name. If you choose to participate in this project, please answer all questions as honestly as possible and return the completed questionnaires promptly to the researcher. Participation is strictly voluntary, and you may refuse to participate at any time.

Thank you for taking the time to assist me in my educational endeavors. The data collected will provide useful information regarding demographic diversity management and maximising outputs for individuals and organisations. Completion and return of the questionnaire will indicate your willingness to participate in this study. If you require additional information or have questions, please contact me via the e-mail address noted below.

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Overview

This study investigates how diverse teams establish positive group processes resulting in effective team and individual outcomes. The aim is to inform and guide HR managers and organizations on effective management of diverse teams to strengthen positive group processes, for example, communication; and weaken negative processes, for example relationship conflict, ultimately maximizing performance.

Instructions and Information

Please answer all the questions. The survey is divided into sections based on types of questions and response choices. The relevant instructions are provided in the beginning of each section.

The term 'work team' in this survey refers to the group of people with whom you interact for day to day work activities, on regular basis.

Outcomes

Turnover

The following questions are about your team members who left the work team within last 3 months.

1.	What is the number of team members who left the team in past 3 months?	_____		
2.	What was the reason for leaving the work team?	Employee 1	Personal	Professional
		Employee 2	Personal	Professional
		Employee 3	Personal	Professional
3.	Are they still in the organization or not?	Employee 1	Yes No	I don't know
		Employee 2	Yes No	I don't know
		Employee 3	Yes No	I don't know

Team performance

Think of your work team and rate the overall output of your work team on the following performance dimensions:

	Much worse	Somewhat worse	Neither better Nor Worse	Somewhat Better	Much Better
1. Quality of work	1	2	3	4	5
2. Quantity of work	1	2	3	4	5
3. Overall group performance	1	2	3	4	5
4. Completing work on time	1	2	3	4	5
5. Responding quickly to problems	1	2	3	4	5

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RESPONDENT PROFILE

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Please provide the following demographic information so that we can describe the group of people who participated in our survey.

1.	Job Title	_____
2.	Organisation Name	_____
3.	Branch Name	_____
4.	No. of Team Members	_____

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COMMENTS

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If you would like to comment on the topic of the research or any of the questions in the survey, please do so in the space provided below.

Thank you very much for taking the time to complete this survey.

Please return the survey in the provided sealable envelope.

If you have any questions, please contact:
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QUT	**CONSENT FORM FOR QUT RESEARCH PROJECT** **– Survey –**

Demographic Diversity and outcomes for Groups and Individuals: A Multilevel Study

QUT Ethics Approval Number 1800001013

RESEARCH TEAM

Ms Sadia Mansoor   sadia.mansoor@hdr.qut.edu.au

Dr. Muhammad Ali   m3.ali@qut.edu.au

Dr. Erica French   e.french@qut.edu.au

STATEMENT OF CONSENT

By signing below, you are indicating that you:

- Have read and understood the information document regarding this research project.
- Have had any questions answered to your satisfaction.
- Understand that if you have any additional questions you can contact the research team.
- Understand that you are free to withdraw without comment or penalty.
- I understand that all information provided in the questionnaire will be kept confidential by the researchers.
- I understand that I will not be identified in any publications resulting from this research.
- I understand that all data will be kept for 5 years after the last publication.
- Understand that if you have concerns about the ethical conduct of the research project you can contact the Research Ethics Advisory Team on +61 7 3138 5123 or email humanethics@qut.edu.au.
- Regarding the summary of findings after 3 months of data collection phase 2, please tick one box.
  - ❒ I wish to receive the summary of findings and my email address is below.
  - ❒ I do not wish to receive the summary of findings.
- I have read and agreed to the information provided on participant information sheet.

Name   _____

Email Address   _____

Signature   _____

Date   _____

PLEASE RETURN THE SIGNED CONSENT FORM TO THE RESEARCHER.