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Impact of Mastery Climate on Project Performance with the Mediating Role of Collaboration in team and Moderating Role of Prosocial Behavior

by

Neelam Rauf

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I want to dedicate this thesis to my parents, respected teachers, friends and siblings for their love, support and care.

CERTIFICATE OF APPROVAL

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Then which of the Blessings of your Lord will you deny.

Surah Ar-Rehman

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Abstract

The current study on the contextual situation of Pakistan focuses on the situation which contributes toward the project performance as it gains attention in recent years. In the literature of project management scare information about the climate/environment available for the project team and its impact on project performance. The effect of mastery climate on project performance has been studied in this study. Data of 280 respondents were analyzed which is collected from project-based organizations of Pakistan. The statistical analysis of the obtained data shows that mastery climate has a significant positive impact on project performance. The collaboration in team is considered as a potential mediator between mastery climate and project performance, the analysis reported the significant and positive impact of mediator between the independent and dependent variables. The moderator prosocial behavior between mastery climate and collaboration in the team, instead of strengthening, it has an insignificant result. The result does not provide full justification for model but this study contributes toward the area of research specifically in the literature of project management and toward the projectized organizations of Pakistan.

Keywords: Mastery Climate; Collaboration in Team; Prosocial Behavior; Project Performance.

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Abbreviations

CIT	Collaboration in Team
DV	Dependent Variable
IV	Independent Variable
LLCI	Lower Level Confidence Interval
MC	Mastery Climate
PP	Project Performance
PSB	Prosocial Behavior
ULCI	Upper Level Confidence Interval

Chapter 1

Introduction

1.1 Background of the Study

The projects significance and implementation in industry are becoming popular as it is an effective and reasonable way to bring change in the working environment (Ika, 2009) but sometimes it does not deliver the expected performance (Bosch-Rekveldt, Jongkind, Mooi, Bakker, & Verbraeck, 2011), due to their increasing complexity therefore project require the team members with knowledge, capabilities and their socialization which help to deliver the expected project performance (Zhu & Mostafavi, 2017). In term of Project, Motivation is important in determining the innovative work by team, which comes from the work environment (Hülsheger, Anderson, & Salgado, 2009) the contextual environment in which project operate influence the team to shape their behavior and motivational climate is one to predict the performance, creativity and turn over intentions (Birkeland & Nerstad, 2016).

In the past, a lot of research has been done on collaboration in team during project performance but the motivational climate factor has been ignored (Lai, Hsu, & Li, 2018). The motivational climate is developed through plans, rules, and regulations, work performed which result in opinion regarding success and failure (Nerstad, Dysvik, Kuvaas, & Buch, 2018). A motivational climate reflects the goal

attainment concerning the environment in which the project takes place. The motivational climate has two main domains performance and mastery (Černe, Nerstad, Dysvik, & Škerlavaj, 2014). Mastery climate focus on helping others, team effort, teamwork, and team or individual development (Newton, Duda, & Yin, 2000). In performance, climate team members focus on their performance, skills, capabilities, outcomes of the project and they create competition among themselves and want to be rewarded for the best performance by creating differentiation (Nerstad, Roberts, & Richardsen, 2013). The main difference is, in mastery climate team members focus on their own without making any reference criteria whereas in performance climate team members create others reference point or standards such as being superior as compare to the others which will fosterer the environment of differentiation.

Further in project management literature, various studies found the relationship between the process performance and its link with planning, procurement, design and execution, all are outcome-oriented indicators are required to make project performance successful (Menches, Hanna, Nordheim, & Russell, 2008). The past study shows the relationship of project performance with respect to triple constraints of time, cost and quality thus relies on timely procurement, sharing of important facts, constantly observing the result to reduce errors (Gustavsson & Hallin, 2014).

Controlling activities and all other practices performed for project performance may not be satisfactory (Koppenjan, Veeneman, Van der Voort, Ten Heuvelhof, & Leijten, 2011) but these practices applied to affect the performance of the project (Joslin & Müller, 2016). Most of the project-based organizations rely on their teams and their socialization process by which they share knowledge, skills, work behavior among themselves (Wanberg, 2012) which reduces the probability of loss like delays of project performance and quality issues (Kammeyer-Mueller & Wanberg, 2003).

Rather than planning, procurement, design and controlling activities the other way through which project performance enhance is through a Motivational climate. The motivational climate was studied in past with relation to physical activities

environment like sports which focus the impact of leader, trainer, parents, and fellows on the motivational pattern of team members (Ntoumanis & Biddle, 1999). They found when mastery climate is more dominant team members involved, have a more flexible attitude toward learning and thinking. Ames (1992) considered motivational climate as a Psychological environment, which will be created during the training of players to motivate them. This will increase the level of interest and their involvement in the game (Alvarez, Balaguer, Castillo, & Duda, 2012).

Nerstad et al. (2018) Studied the impact of Perceived mastery climate on knowledge sharing with the mediating role of felt trust. They studied the positive impact of perceived mastery climate on knowledge sharing at the individual level and collective level. They studied this effect in five different organizations like profit, nonprofit, architecture, offshore and administration. They find this relation positively related in the presence of felt trust. This results in a feeling of responsibility because of mastery climate which promotes the feeling of helping others and entrusting the supervisor. Their finding shows employees value the success criteria based on personal growth and collaboration.

One of the studies shows that creativity will be enhancing when knowledge is shared among team members to make project performance successful while hiding the knowledge result in a decrease in performance and disbelief among team members. Knowledge hiding behavior is enhanced in performance climate while sharing of knowledge is promoted in mastery climate have a good impact on the creativity of team members, increased quality of work, team efforts and reduce turnover rate (Černe et al., 2014).

Later on Nerstad et al. (2018) studies the interaction of Motivational climate with perceived employee development practices (PEDP) concerning work performance. Nerstad and colleagues found team members who perceive a high mastery climate, PEDP will be positively related to work performance in presence of low-performance climate. Performance approach is discouraging because of its maladaptive behavior, which can cause non-productivity and challenge avoidance as compared to mastery approach (Brophy, 2005). Therefore, a mastery approach is considered more appropriate to bring benefits (Hulleman & Senko, 2010).

Project success is indicated through its performance which included numbers of factors like cost, quality, time, stakeholder involved, team working on a project, satisfaction level of the team involved (Takim, Akintoye, & Kelly, 2003), project complexity, skills, capabilities, abilities of the team involved and their relationship with stakeholders and their collaboration is important (Luna-Villareal, Pellicer, & García-Rodríguez, 2017). Wit, Van't Hof, and Brande (1988) also defines project performance criteria on the bases of its scope, cost, and quality. But the project performance can be measured by other domains that are strategic to organizations including teamwork, sharing knowledge, team knowledge and helping others for the future and if these can be exploited properly it will help to achieve success (Lawler, 2001).

The project outcome depends upon the motivational factors of the team which is the main focus of most of the project-based organization working on projects but study on this prospect is narrow (Dwivedula, Bredillet, & Müller, 2016). As the outcome depends on the team work of the project team (Sandvik, Croucher, Espedal, & Selart, 2018), so team member's behavior within team is important to predicts the attainment and disaster of the project (Roberts, 2012). The efficiency of team members depends upon their perception about the factors of motivational climate (Al-Yaaribi & Kavussanu, 2018). Past research shows the compatibility and incompatibility among these two motivational climate factor depends upon prosocial behavior which has an impact on collaboration in team members, which affect the project performance (Al-Yaaribi & Kavussanu, 2018).

Further past study on the dimensions of motivational climate show the mixed outcome like performance climate encourage to focus own personal recognition by performing outstanding therefore team member hide information and knowledge from each other for personal gain which results in negative outcome, inadequate behavior like low motivation, increase turn over and poor result low collaboration (Beersma, Greer, Dalenberg, & De Dreu, 2016; Černe et al., 2014). literature, the team members with mastery climate focus on self-development (Bunderson & Sutcliffe, 2003) also consider as beneficial because it encourages challenges (Hulleman & Senko, 2010). Mastery climate exhibit positive climate, coordinate with each

other share knowledge to enhance the skills, develop trust on each other, efforts that increase intrinsic motivation (Harwood, Keegan, Smith, & Raine, 2015) which result in collaborative performance (Kuntz, Connell, & Näswall, 2017).

As it is difficult for individual to cope up with project it requires joint efforts so the collaboration in team plays an important role to achieve an innovative project outcome (Walker, Davis, & Stevenson, 2017). For effective collaboration in team members working on the project, it is necessary to understand the factor which motivates the team members and enhances the collaboration in members of the team (Caniëls, Chiocchio, & van Loon, 2019). The Mastery climate also has a link with the moral behaviour of an individual (Zhu & Mostafavi, 2017) 2012) which will help to collaborate in team (Kavussanu & Stanger, 2017).

In relation to different factors leadership, controlling activities (Zhu & Mostafavi, 2017), Prosocial behavior also gains the attention of the researcher in the recent past (Kavussanu & Stanger, 2017) and its impact on team member's behavior to determine their reaction (Kavussanu & Stanger, 2017). Prosocial behavior means helping others without any personal gain or intentions. The prosocial behavior of team members has a positive impact like increased motivational level within mastery climate which increases the performance level of a team member, as a result, the output increases (Kavussanu, Stamp, Slade, & Ring, 2009). Past study shows that prosocial behavior is related to the performance of team members which is positively related to their enjoyment and productivity. The performance increases when the mastery climate's presences increases (Cerasoli, Nicklin, & Ford, 2014), thereafter, contributing toward the effective project performance.

1.2   Research Gap

Mastery climate and its impact on Goal orientation has been studied in different athlete's team like Dutch team, with mediating role of collaboration in team, but the impact of mastery climate has not been studied in term of project performance at team level (Ryan & Deci, 2017; Caniëls et al., 2019). The past research conducted on individual level collaboration and mastery climate is in the context of

the Dutch team. The Dutch societies are considered as open in giving opinions but not much research has been done in our context of Pakistan.

The literature found the combined effect of mastery climate and performance climate, when both are high, the outcome is beneficial like helping each other, comparing results with each other (Linnenbrink, 2005) but in divergence to combined effect the recent past research on military cadets shows when a high level of mastery climate is fosterer, it results in high level of intrinsic motivation (Buch, Nerstad, & Säfvenbom, 2017). The project itself is a system it has to face several challenges, motivation is one of them, the way team members behave or perform their everyday task depends upon their motivational level provided by climate and the opportunities provided for them to increase their performance (Aguinis & Kraiger, 2009).

Although the study about the project performance has been done with different criteria of success but it has never been addressed in term of mastery climate. Therefore the purpose of this research is to study the impact of mastery climate on project performance with respect to collaboration in team and prosocial behavior since the mastery climate has an impact on performance of team because it is related to their behavior while working in a team. Mastery climate develops a sense of achievement to show members skills and ability (Ames, 1992).

Therefore second purpose of the study is to extend the literature work because as per my awareness there is not a single study that shows the interplay of mastery climate during the project performance. As per previously developed view, mastery climate promotes employee's efforts, collaboration, learning, recognition, personnel-development, and teamwork (Brown & Treviño, 2006; Gok et al., 2017). Mastery climate also promotes the mutual benefit in terms of skill development while working as a team (Černe et al., 2014) and past studies show in knowledge management literature that it has a significant impact on organizational performance and is considered to be a strong indicator of performance (Adam, 2017; Ahmad, Lodhi, Zaman, & Naseem, 2017).

Most of the studies related to project management literature has been done in developed countries (Wei & Miraglia, 2017). This study explores the relationship

between mastery climate and project performance, which is neglected in the existing literature, and mediating role of collaboration in team and moderating role of prosocial behavior. Prosocial behavior is used as moderator because it relates to team work (J. Hu & Liden, 2015) and how it affects the other team members (Brandes, Dharwadkar, & Wheatley, 2004).

1.3   Problem Statement

Researcher have tested both theoretically and practically and most of the project management literature shows concern about critical factors. In these factors, one of the important factors to identify success and failure is to analyze the project performance. Different factors affect the performance of the project including its team, members' social link, competences, skills, knowledge, behavior, triple constraints and environment which may cause dynamic changes at any stage of the project due to the uncertainty factor present in projects.

Climate which fosters motivation in team is considered as one of the emerging factor of projects due to its unique nature. Motivational climate has two dimensions but the current study focus on mastery climate aspect that encounters the specific project proportions. Most of the project failure occurs due to lack of motivational climate, which foster innovation and learning, therefore the dimension of motivational climate, mastery climate needs to be explored. Many of the projects within Pakistan are delayed due to environment provided to team members, hence mastery climate needs to be explored with reference to Pakistan.

It is important to maintain the mastery climate among the team members to influence them positively and it will provide favorable conditions to team members to collaborate. As the knowledge of single person is not enough to complete the task effectively and efficiently so collaboration in team is important and needed in order to complete the task and to disseminate the information required in project. The human factor of project plays major role in project success and collaboration in team is one of the tool to manage mastery climate. With rapid technological changes, the innovative project needs team efforts that need collaboration to

produce a positive outcome. Therefore, the project requires such an environment (mastery climate) in which collaboration in team is encouraged to make project performance successful.

Prosocial behavior which affects mastery climate provided for project team, its transformation and impact over project performance will help the project to perform better.

The variables mentioned in the literature were studied independently, but modeled together in a single framework, the current study provides high utility in project based organizations.

1.4   Research Questions

As per the problem statement the study focus on the following questions.

Research Question 1

Does Mastery climate have an impact on Project performance?

Research Question 2

Does Collaboration in team mediate the relationship between Mastery climate and Project performance?

Research Question 3

Does Prosocial behavior moderate the relationship between Mastery climate and Collaboration in team, in such a way that it strengthens the relationship?

1.5   Research Objectives

The objective of this study is to check and test the predicted model and to find out the link between Mastery climate, Collaboration in team and project performance.

Additionally, Prosocial behavior is added as a moderator to add value to the purposed research model of MC, CIT, and PP.

The precise objectives of the study are stated below;

Research objective 1

To examine the relationship between mastery climate and Project performance.

Research objective 2

To examine the mediating effect of CIT between MC and PP.

Research objective 3

To examine the moderating effect of Prosocial behavior between MC and CIT.

Research objective 4

To examine the indirect effect of mastery climate on PP.

1.6   Significance of the Study

With the rapid change in environment and competition within the organization and outside the project play a significant role. As most of the organization moves toward the project-based work results in structural change and cultural change which result in problems in adopting changes, intra team competition, negative outcomes, and low performance. This shift of organizations demands for further research in the field. There are many projects undergoing in our country and every project team is provided with relatively different environment. Therefore, to make the project performance successful it needs an environment that supports the project performance because the motivational environment provided to team members can lift and worsen the project performance.

There is scare availability of research on mastery climate; therefore, this research is new contribution in literature both theoretically and practically. As mastery climate is one of the factors which supports efforts, focus on self and skills development, individual prefer to adopt achievement approaches (Ntoumanis & Biddle, 1999) but the literature shows a lot of projects fail due to improper skills and still emphasis on tangible aspects of project like quality and procurement (Yun, Choi, de Oliveira, & Mulva, 2016). In this aspect, importance of mastery climate is important and suggested to create this climate within setting the schoolrooms

and outdoor games (Van Yperen, Hamstra, & van der Klauw, 2011; Roberts, 2012)). This study provides an opportunity to find the direct association between mastery climate's impacts on project performance and indirect impact is also novel contribution theoretically and has significant input in project management literature.

To check the value addition in any project, project performance is checked and which factors enhance the performance (De Bakker, Boonstra, & Wortmann, 2010). Adding prosocial behavior is also significant contribution and it will help management to carry out tasks and improve performance because prosocial behavior encourages to help others in difficult situation and project have to face many uncertain changes which require more efforts and involvement of other team members.

This study also provides direction to the project-based organizations in Pakistan and exploring how to adopt or create such a climate (Mastery) which can be used to improve project performance. Moreover, the present study emphases on the mediating effect of collaboration in team and the moderating effect of prosocial behavior in relation to mastery climate and project performance. Project performance will improve when provided with such a climate that fosters learning and development. As there are many new upcoming projects so it is important to consider the climate impact on performance in context of Pakistan. This research provides the opportunity to the researcher to find further such intangible factors that help to improve project performance as compared to tangible factors.

1.7 Supportive Theory

Several theoretical perspectives have been defined by different researcher various research theories which are used worldwide to underpin the studies of mastery climate and collaboration in project like theory of knowledge, social exchange theory, organizational support theory, regulatory focus theory, goal-setting theory, and achievement goal theory but the theory of achievement goal theory can

cover all the variables of the present study. In project management literature the research about mastery climate is less (Lai et al., 2018).

1.7.1 Achievement Goal Theory

Nicholls (1984) came up with a concept that Achievement goal theory focused behavior provides high performance by showing high ability as goal and motivational climate as two main construct of this theory. The current study explain the relationship of mastery climate and project performance based on fact that achievement of desire project performance is also a goal. Nicholls (1984). explored the effect of mastery climate on individual outcomes. According to AGT if appropriate variables are included affective reaction will mediate the relationship of environment and outcomes. In this case collaboration in team mediates the relationship between mastery climate and project performance.

Learning and sharing knowledge occur at work which need collaboration in teams. Empirical research has underpinned the concept that individuals who want to learn or gain knowledge, having learning behavior which is promoted while collaboration. In this way AGT endeavor Mastery climate as an instructional approach effect behavioral outcome like collaboration and performance (Birkeland & Nerstad, 2016).

Therefore, the AGT model promotes behavior that operates in different stages in process of creating mastery climate which influence collaboration in team. In this type of environment, the team members experience benefits from each other as they share the available resources to perform efficiently (De Jong & Den Hartog, 2007) which will enhance the project performance. Prosocial behavior is the dispositional factor, which is present in process when mastery climate influences the collaboration in team and then project performance. Researcher suggested the shift of traditional organization to project based organization and allow team members to adopt the environment provided to team members through cooperation (Pintrich, Conley, & Kempler, 2003), The model presented, where mastery climate requires collaboration in teams, highlights the existence of better project performance. Therefore, the leader must provide an environment in which a team

can communicate and share knowledge easily to cope up with changing conditions due to rapid technological changes (Gorman, Grimm, & Dunbar, 2018).

Chapter 2

Literature Review

2.1 Mastery Climate

Achievement goal theory defines mastery climate as "the achievement criteria of success and failure in a particular work situation based on learning, growth, cooperation, and effort (Bosch-Rekveldt et al., 2011) . In framework of achievement motivation, people define motivation on bases of their social context they perceive while working within any project and in today's competitive environment success of any project traced on their motived team performance whose main feature is to apply full efforts to learn skills and apply, Motivational climate for team is important in this chaotic environment to attract the individuals to work as a team which is a key element of success (Osabiya, 2015).

Ames (1992) conceptualize, in a mastery climate, employees perceive an emphasis on learning and mastery of skills. According to Nicholls (1989) states Mastery climate as task involvement, individuals with this tendency of task involvement consider self as reference criteria for failure and success they exert efforts to learn new skills and the strategies were used to create the mastery climate. Ames (1992) defined the characteristics to develop the learning environment which includes task, authority, recognition, grouping, evaluation and time these characteristics are based on EP Stein's model (1988).

2.2   Collaboration in Team

Collaboration is required in the project team from the very beginning stages of the project so that commitment will be stronger and a team member will share knowledge at a high level (Manu, Ankrah, Chinyio, & Proverbs, 2015). The two categories of collaboration in which collaboration in project team fall are relationship and process and it is defined as two or more individuals/organizations work together to achieve common goal and benefits (Cao & Zhang, 2011).

2.3   Prosocial Behavior

Prosocial behavior is an important factor to an organization as other factors, "acts such as helping, sharing, donating, cooperating and volunteering are a form of prosocial behavior that is positive social acts and carried out to produce the wellbeing and integrity of others" (Brief & Motowidlo, 1986).

2.4   Project Performance

While defining project performance it is said that it has multidimensional notion with reference to stakeholder involved so there is no consensus on a single definition (Pollanen, Abdel-Maksoud, Elbanna, & Mahama, 2017). Project management researchers associate that performance can be measured next to cost, quality and time are also known as "iron triangle" (Berssaneti & Carvalho, 2015).

2.5   Mastery of Climate and Project Performance

Project is a unique activity in which financial, physical, human resources are organized within the given specifications of the iron triangle to attain the objective (Turner & Cochrane, 1993). Before supporting the relationship between mastery climate and project performance, there is a need to define mastery climate from where the term arises.

Motivation is the reason that direct individual behavior and action toward any goal (Peterson, 2007). The environment plays a very important role in team motivation, achievement and engagement of team members in any project and different ways have been suggested by Researchers regarding the environment that will affect the performance (Patrick, Kaplan, & Ryan, 2011). AGT is considered as social cognitive theory having the element of both motivational climate and goal orientation (Nerstad et al., 2013). The goal orientation is due to the socialization process (Nicholls, 1989) and as per AGT, the mastery climate refers to criteria for success and failure which are the result of polices and the environment in which project work takes place. The polices are communicated to team members by the team leader to a certain type of behavior (Gilbert, De Winne, & Sels, 2011) so reward structure is created to evaluate the performance result of that behavior (Kuenzi & Schminke, 2009). As mentioned earlier the two domains of motivational climate are performance climate and mastery climate. The compatibility and incompatibility between the dimensions of motivational climate; mastery climate the encouraging conditions, learning focus and knowledge sharing whereas performance climate; the social comparison conditions may have negative influence over the outcome performance (Nerstad et al., 2018). The both may exist at the same time and gave different value coordination, they may increase or decrease the performance outcome, scholar relates these opinion of motivational climate to the performance (O'Boyle Jr & Aguinis, 2012). The domains of motivational climate are considered as mutually exclusive, the organization either has a mastery climate or performance climate as per recent research (Škerlavaj, Černe, Dysvik, Nerstad, & Su, 2019). Mastery is supported by different researcher (Carroll, 1963) describe master learning in which directions are given to the team and they are later on assessed as per fixed standards rather than comparison with other, opportunities are provided to learn new methods, skills to meet those standards. Later AGT of motivation also describe Mastery as an environment in which goal structure is created and communicated to team members that goal is to improve the performance and skills (Senko, Hulleman, & Harackiewicz, 2011).

MC encourages achievement behavior in team members (Treasure & Robert, 2001),

it also increases emotional stability, learning and other skills (Robinson & Goodway, 2009). This increases the project performance because a team member has obligation to perform well without any intention to leave the work, the context in which they perform or its influence on output is comparatively undiscovered (Kraimer, Seibert, Wayne, Liden, & Bravo, 2011).

The past studies define project performance in terms of project success which covers a number of its dimensions like cost, quality, time, scope, etc (PMBoK, 2013) and project performance is measured by these perimeters of project success (Radujković, Vukomanović, & Dunović, 2010). Mostly due to the interdependency feature of projects, they are not successful (Yan & Dooley, 2014). This interdependency can be of financial, administrative, resource and team member's location, etc. (Yan & Nair, 2016). Team with high MC levels yield high performance and produce innovative output (Jasmand, Blazevic, & De Ruyter, 2012).

Mastery climate is considered ideal to achieve an outcome of any project work performed because team members are more involved, work passionately share their knowledge and experience with each other as a result their satisfaction and performance will be enhanced (Van-Dijk et al., 2011). This knowledge sharing activity among the project team member must be followed to achieve a competitive advantage and to get expected performance (Chen & Fong, 2015).

MC focus on skill improvement, efforts, and learning (Nerstad et al., 2013) but learning sometimes also causes a delay in the project as like the complexity of the project (Edmondson & Nembhard, 2009). In MC criteria for success is effort put to complete the project and self-referenced skills demonstrations. This climate is associated with collaboration and communication. Knowledge sharing and exchange of knowledge with each other is also supported in MC (Černe et al., 2014).

An organization with effective team members who contribute toward the project by sharing their knowledge was studied and there is a positive relationship between them which improves the performance (Jain & Moreno, 2015; Adam, 2017). Project performance has been improved if it has an element of learning and was also confirmed by past research (Prencipe & Tell, 2001). Learning and development is

a critical source of success in a project-based setting to avoid any misunderstanding and repetition of work in a project (Almeida & Soares, 2014) as a result the overall performance of the project will be improved (Landaeta, 2008). Knowledge hiding occurs among the team members which will affect their performance and result like delay but in the context of achievement goal theory knowledge sharing is essential and MC focus on knowledge sharing (Connelly, Zweig, Webster, & Trougakos, 2012) the climate having feature of MC is considered as means of achieving competitiveness in an organization (Celinsek & Markic, 2008).

The present literature on AGT, the promotion desire increases the flexibility so MC strengthens the focus on sharing information, helping others and motivation which increase the team member for output realization and completing the project and focuses on the performance of the project (Kuntz et al., 2017). The existence of motivational climate shows the project goal accomplishment within time and cost which is the main focus of most of the projects (Ika, 2009).

Recent studies underline that the MC features of knowledge, learning, and self-development significantly contributes to project performance (Wei & Miraglia, 2017). These findings and achievement goal concept theory indicates that if MC is introduced as an organizational environment, its employees will involve more regularly in knowledge sharing and thus, the organization will enjoy the higher performance. The above literature leads to the hypothesize that:

H_1: There is a positive impact of mastery climate on project performance.

2.6 Mastery Climate and Collaboration in Team

A team is group of two or more people came together, coordinate for specific time period to achieve specific goal which is agreed by them and cannot be achieved by single person (Salas, Dickinson, Converse, & Tannenbaum, 1992) and researcher suggested that the evolving environment in which teamwork is dynamically changing in which achievement of goal by single person is not possible so the team must be effective which can share their knowledge, ideas, and skills to cope up with

changing requirements (Gorman et al., 2018). The effectiveness of the team depends on the interaction of team members on how they shape their behavior with respect to changes in the environment (Cooke, Gorman, Myers, & Duran, 2013).

Collaboration between team has defined in different ways but the two main groups in which it falls is relationship and process collaboration (Sheu, Rebecca Yen, & Chae, 2006; Cao & Zhang, 2011). Our study focus on Process collaboration which is define as an activity in which group of two or more people shares information, resources, create knowledge, develop skills, communicate, align decision with goals in participative way and considered all this activity as their responsibility in flexible environment (Golicic, Foggin, & Mentzer, 2003; Malhotra, Gosain, & El Sawy, 2005). The collaboration in team members improves the quality of work, as a result, the overall cost reduces and performance improved (Lee, Padmanabhan, & Whang, 1997).

Information sharing plays an important role in collaboration it means team members share relevant information on time and inaccurate way (Park & Lee, 2014) so that team member takes the benefit from provided information and with a flexible environment they adopt the behavior by collaborating with each other to modify the process of achieve the goal (Gosain, Malhotra, & El Sawy, 2004). Information sharing for collaboration in team is considered as essential essence so that it will enhance the project performance by knowing the right information by the skilled team members (Min et al., 2005; Sheu et al., 2006; Cao & Zhang, 2011; Meindl, 2016).

With reference to information sharing Collaborative Communication confides the idea in which team member transfer the information in term of method and regularity (Tuten & Urban, 2001) like Face to face, at different levels, balanced, formal, informal and indirect by use of technology (Goffin, Lemke, & Szwejczewski, 2006) to team members because the pattern of communication is also important (Mohr, Fisher, & Nevin, 1996).

Another way to increase the collaboration in team is through 'decision management" in which team members are involved it refers to joint decision making in

which operational and planning decisions are taken; former refers to daily basis decision taken to manage operations of project like its inventory and latter is related to long term decisions form project planning to its documentation (Simatupang & Sridharan, 2005; Lockamy III & McCormack, 2004).

The next source for collaboration in team is incentive alignment. The process in which fit between benefit, cost and risk is distributed in a team in an equal way so that each team member can benefit from the outcome of collaboration equally (Manthou, Vlachopoulou, & Folinas, 2004; Simatupang & Sridharan, 2005) this will increase the commitment to the project and the project teamwork to achieve jointly agreed target goal to get the maximum benefit from the goal (Um & Kim, 2018).

Due to the rapidly changing technology, the competitive market and its trend demand for knowledge and preference for skills development arose the preference for the project that not only benefits the customers but also enhances the individual's team member's skills and competences (Simatupang & Sridharan, 2005). The project team require the supportive environment like MC which provide opportunities for development and growth (Aguinis & Kraiger, 2009) so that they can feel the MC provide career growth chances and in response they will be obligated to benefit the project in form of increased performance of work (Pajo, Coetzer, & Guenole, 2010) this will decrease the turnover and increase the commitment to work thereafter require the team members who collaborate with each other accordingly with reference to MC provided to deal with project because MC send perfect massage about what is respected in organization (Kraimer et al., 2011). Collaboration in team can be increased by the use of technology in mastery climate this will improve the efficiency of team member's collaboration (Peng, Heim, & Mallick, 2014) and MC emphasis of intrinsic cooperation (Černe et al., 2014). In complex project sometimes the misleading market analysis results in poor project performance (Um & Kim, 2018) but MC promote knowledge sharing so team member cooperates when finding any difficulty and work together to focus on improvement to avoid any loss (Poortvliet & Giebels, 2012).

Projects are temporary, specific time period and unique activity which require innovation, need to face unavoidable realities related to social acceptance of project and to handle complexity within the project it requires maximum level of collaboration, creativity and cooperation between team members who are accountable for significant project (Stokols, Hall, Taylor, & Moser, 2008) and in MC the team members are involved in decision making, considering the abilities, learning and using new strategies and efforts in any complex situation (Ames, 1992). Opportunities can be recognized by team members who are creative, focus on learning and the creativity can be enhanced by the collaborative efforts which lead to effective performance and to provide creative results (Barczak, Lassk, & Mulki, 2010). As project is said to be complex and difficult required creativity to deal with uncertain situations; creativity increased when team members are more involved by giving their ideas and discussing them with each other all this need collaboration in team (Uzzi & Spiro, 2005), consequently the MC provide the framework that will support team collaboration.

Above mention, literature shows that whenever any project started it required collaboration in team (Peng et al., 2014) and it is a key factor for success (Vaaland, 2004). The study of Kuntz et al. (2017) have also generalized that team member who focuses on promotion element of MC shows a high level of commitment particularly with regard to collaboration in team, team member interacts to develop and learn which help to meet deadlines of the project. Therefore, we hypothesized:

H_2: There is a positive impact of mastery climate on collaboration in team.

2.7 Collaboration in Team and Project Performance

The team is considered as the backbone for any project and it is very common in most of the organizations especially project-based organizations, they required a

team with skills to achieve the best (Curşeu, Chappin, & Jansen, 2018). Collaboration in team members helps them to learn new skills and improve teamwork (Curşeu & Pluut, 2013; Cohen, 1994). In-built concept of collaboration is; it will enhance the overall performance of the firm and reduces the other cost associated with the project Dyer (1997). Collaboration occurs when a person is unable to complete the task and help each other to utilize the resources and skills in the best possible way to reduce the risk impact (Huxham & Vangen, 2013). Collaboration is the process in which team members plan, support, monitor, motivate, negotiate and influence each other to collectively work for shared objective (Miller & Hadwin, 2015; Miller, Järvelä, & Hadwin, 2017) and or 21st-century collaboration is considered as a skill for learning and development.

As per researcher collaboration in team is an effective way through which knowledge is transferred between team members, interaction reduces the load from a person (Kirschner, Paas, & Kirschner, 2009). When projects focus on collaboration in team rather than competition within the project team members it will perform effectively and gain an advantage over other firms in form of improved project performance and have a positive impact (Dyer & Singh, 1998). Therefore, research provides the base for a relationship of collaboration in team and project performance (Um & Kim, 2018; Martins, Gilson, & Maynard, 2004; Pintrich, 2000; Cao & Zhang, 2011).

When there is a difference in opinions, conflicting situations; coordinated and strategic decision making plays a vital role for better performance of the project (Amason & Schweiger, 1994) as this will resolve the problems and result in new idea generations to adopt the opportunities (Kalwani & Narayandas, 1995). The participation of team members is key to collaboration (Järvelä, Järvenoja, & Veermans, 2008). In projects team member interdepend on each other to perform tasks they do discussions, share knowledge, analyze the information this collective work lead to collaboration in team (Kirschner et al., 2009) this task dependence of team member need the support by leader and other involved in project which is provided in MC (Harwood et al., 2015) and environment is key influencing factor for the

team performance (Pearce, 1997) therefore require quality in inter-team association as it influences the performance by involving the team members in decision making and project planning (Curşeu & Pluut, 2013; Duffy & Fearne, 2004) so coordination in making decisions for task is required because the tasks are directly or indirectly link with each other' the involvement is necessary for team members to enhance the performance of the team, as a result, the project performance is improved (Eliashberg & Steinberg, 1993).

Studies show information sharing is considered as fundamental for enhancing project performance (Öztürk, Arditi, Günaydın, & Yitmen, 2016; Wong, Cheung, Yiu, & Hardie, 2012) information sharing depend on members forming the team, their association and readiness to collaborate effectively (Fawcett et al., 2007). Information sharing and collaboration has an impact on performance of project as for successful completion of project it need timely distribution of information among team members to cope up with innovativeness of project (Olson, Walker Jr, Ruekerf, & Bonnerd, 2001; Wong, Cheung, & Fan, 2009) as it is a key to deal with complications (Ngulube & Dube, 2012) without this project can suffer from different problems like delay, collaboration issues (Herbsleb & Moitra, 2001). Leadership style is also very important in the concern of collaboration in team and cohesion to deliver the timely performance of project team (Keller, 2006) along with information sharing pattern that help team members to use the expertise and skills of each other by minimizing difference (Moye & Langfred, 2004) and enhance the team performance which as a result improve the project performance (Salehzadeh, Pool, Mohseni, & Tahani, 2017).

Incentive alignment refers to reducing the burden by equally dividing work and aligning the personal objective to the project's objective to gain an equal advantage; as higher the ratio of incentive alignment, stronger the relationship between team members in order to achieve the performance of the project (Westphal, 1999) reduce the cost and risk and increase productivity of team members (Das, Narasimhan, & Talluri, 2006). If the incentives are not aligned means team member's goals are not considered and not according to the target goal it will affect the project performance (Simatupang & Sridharan, 2005).

Based on the above literature, it is summarized that element of collaboration in team like information sharing, incentive alignment, joint decision making is important to project performance and deliberate efforts of a team member are required (Amason & Schweiger, 1994). Collaboration in team pays a competitive advantage in the form of quicker results and improved performance (Ian Stuart & McCutcheon, 1996). Different ideas while making a plan and sharing information while working solve the complex problems that contribute to improved performance and meet the decision criteria for success (Yan & Wagner, 2017). The above discussion helps to generate the next hypothesis:

H₃: There is a positive impact of collaboration in team on project performance.

2.8 Mediating Role of Collaboration in Team between Mastery Climate and Project Performance

Projects are done to achieve a specific goal, temporary and unique bounded by time and cost (PMI, 2008). The main focus of most of the project-oriented organization is project completion within the triple constraints (Kerzner, 2017) not as much of consideration for the team members involved which are the main element of all factors involved in project performance (Cooke-Davies, 2002). The project completed is due to its team, not the resources involved. In the recent past, the collaboration in team was studied in the context of project performance in which motivational aspect was also considered as an important factor for project success (Dwivedula et al., 2016). Some studies show the failure of the project due to the absence of collaboration in team members due to low MC (Klimkeit, 2013).

Project management literature said project goal must be achieved efficiently and effectively (Ika, 2009) which can be possible in mastery climate (Caniëls et al., 2019) project have to deal with uncertainty while achieving the desired objective

in environment of project performance (Turner & Cochrane, 1993) hence, conditions in which project takes place have impact on performance (Gällstedt, 2003). Projects deal with innovation and creative ideas, for this team members have to depend on each other, they shape their behavior with reference to context (Shalley & Gilson, 2004). Mastery Climate may raise more innovation by generating exposure to new ideas (West, 2002). The innovation in a project by a team depends on the motivational climate (Ames, 1992). Mastery climate is adaptive such as high involvement, performance, working hard when facing problems because of MC support skill development, cooperation and efforts (Nerstad et al., 2013; Lau & Nie, 2008). This type of development opportunities is valued by team members (Boselie, Dietz, & Boon, 2005) as team members are provided with the opportunity to develop new knowledge, skills, career advancement and in turn they perform better which also affect the project performance as they repay in form of hard work (Kraimer et al., 2011; Brandes et al., 2004).

Collaborative efforts are required by the team to better perform and take advantage of such developmental opportunities (Chiocchio, Forgues, Paradis, & Iordanova, 2011). While working as a team it is important to identify objectives to measure the project performance; teamwork depends on the quality of collaboration in team which add value to project performance (Högl & Parboteeah, 2003). Project management consist of ten knowledge areas having their terms and conditions collaboration is among one of them to improve the project performance (PMBoK, 2013). Collaboration means interaction among team members for specific goal achievement which is not possible at the individual level (Todd, 1992). Collaboration in team is required and there is a need for mastery climate for motivation so that they can share knowledge among them for the achievement of project performance at best level as mastery promote learning so it is required from the initial stage of the project (Manu et al., 2015). Collaboration in team is considered as the major factor for the success of the project and sharing knowledge increases the level of collaboration between team members (Buvik & Rolfsen, 2015). The past research shows the success and failure of project based on team collaboration and the level of trust among themselves, chances of project success

increases when the collaboration level increases, management among team member and commitment toward project increases the performance level (Bond-Barnard, Fletcher, & Steyn, 2018).

In project management, literature knowledge management is getting importance, the creation and utilization of knowledge within the project organization support the project performance (Dimitriades, 2005). Sharing information and knowledge is supported in MC; team member feels confident, safer while sharing knowledge and considered it as beneficial for all so they avoid knowledge hiding in MC (Černe et al., 2014). In this setting skills and knowledge of every individual involved is important to enhance the project performance and team members are aware of each other's skills and knowledge they have and use them when required without hiding any information considering it as a factor which boosts the innovation (Baer, Oldham, Jacobsohn, & Hollingshead, 2008). Akgün, Byrne, Keskin, Lynn, and Imamoglu (2005) say that awareness of skills and knowledge of team members work as an additional asset to individual skill sets because they can utilize each other's skills to improve the project performance.

Further Yang, Huang, and Wu (2011) in their work describe teamwork with respect to communication among team members, cohesiveness and collaboration in team in these three collaborations in a team is one of the important aspects of team performance; there is a positive relation in teamwork and project performance. A lot of researchers find a positive association between collaboration in team and project performance (Cao & Zhang, 2011; Um & Kim, 2018). MC creates the environment of cooperation and trust which leads to collaboration in team they consider hiding as distrust so this will improve project performance (Nerstad et al., 2013).

H_4: Collaboration in team mediates the relationship between mastery climate and project performance.

2.9 Moderating Role of Prosocial Behavior between Mastery Climate and Collaboration in Team

The relationship between MC and project performance can be moderated by many factors but in relation to collaboration in team, several studies focus on the importance of prosocial behavior (J. Hu & Liden, 2015; Kavussanu & Stanger, 2017). Prosocial behavior is defined as an act of cooperating, helping, donating, volunteering and sharing to give advantage to others (Eisenberg et al., 1999). To maintain the integrity and well-being of others within an organization, all these positive acts are done (Campbell, 1965). In the 1970s, social sciences gave a lot of attention to this but within the organizations, prosocial behavior has attention; to describe how to behave while working in any organization so that necessary functions can take place (Katz, 1964).

Prosocial behavior within an individual encourages to cooperate with team members, putting efforts and time for effective collaboration (Grant & Berry, 2011) as compared to other antisocial behavior (Kavussanu & Boardley, 2009). The environment provided to team members plays a significant role to shape the behavior of team members, their thoughts and feelings MC provide such social interactions and stronger the relationship between team members (Al-Yaaribi & Kavussanu, 2018) e.g. appreciating others on their performance. One pattern of prosocial behavior is that It will help individuals to be the part of organization and meeting the set standard of performance by effectively achieving the objective another form is to protect the organization by performing beyond the defined standard through cooperating with team members at unexpected change to improve the performance thereafter enhancing collaboration in team; Third way of prosocial behavior is very important in this individual try to protect the organization's interest by taking voluntary and spontaneous actions (Sun, Liden, & Ouyang, 2019). There is no consensus on the definition of prosocial behavior but in general, it means helping or benefit others without any expectations (Sorrentino & Rushton, 1981).

Due to development and innovation organizations shift toward projectized organization which need collaboration in team to cope up with new trends of the market (Pinto & Pinto, 1990). To gain a competitive advantage and meet technological trends need team members who can work with coordination (Edmondson & Nembhard, 2009). The research of Beersma et al. (2016) have laid down the fact that MC focused team show higher work engagement, cooperate or collaborate more effectively when they work for team reward rather than individual so prosocial behavior has a significant role in team output (J. Hu & Liden, 2015). Extra role rather than a formal role of the individual in the team to help teamwork is prosocial behavior (Grant, 2007). Prosocial behavior and team success are positively associated because it creates an open environment in teamwork so every member feels trusted and considered investing in a team member as self-investing to produce mutual performance (J. Hu & Liden, 2015). Prosocial behavior has more impact in a team setting it will motivate the team member to perform better and increase their commitment toward a goal (Al-Yaaribi, Kavussanu, & Ring, 2016). The past research shows that prosocial behavior has an impact on team members which will increase the motivational level as a result performance of the team improved (Kavussanu et al., 2009).

Rapidly changing trends focus more on the team, their behavior while performing in conflicting situations; pro-social behavior helps to resolve the issues and perform more effectively (Grant & Sumanth, 2009). Understanding of Professional competences (Suter et al., 2009) and commitment to resources (Cuellar et al., 2007), knowledge sharing which is promoted in MC is also important for project success which can reduce any ambiguities (Nerstad et al., 2018) not just performing, prosocial behavior promote effectiveness and collaboration in team boost their morale (Borman, Motowidlo, Rose, & Hansen, 1987). Research of Cabello-Medina, López-Cabrales, and Valle-Cabrera (2011) indicated that knowledge has a significant and direct impact on innovativeness which improves an organization's performance and it is the uniqueness of humans. The chances of significant organizations improvement depend on recruiting individuals with excellent learning tendencies (Wiig, 1997).

Aladwani (2002) said that contextual setting in which the project team operates to affect the performance of the project i.e project is executed in a social setting and team member behavior is effected by such social setting the behavior adopted will predict the project performance. The human factor is important as like policies and procedures for project success (Leonard, Graham, & Bonacum, 2004) the humans have limited skills which call for coordination and cooperation within the team which depends on their behavior (O'Daniel, Rosenstein, & Hughes, 2008).

Apart from other requirements (Morgan & Bowers, 1995) define that goal clarity is necessary for project performance it will help team members to find any problem and then behave effectively through teamwork, as MC focus on development and efforts (Skerlavaj et al, 2017). Resources required for a project is provided by organization its timing and quality is important (Richey Jr, Musgrove, Gillison, & Gabler, 2014) these resources are shared among each other (Dwivedula et al., 2016) but prosocial behavior promotes donating resources among team members for good of goal (Brief & Motowidlo, 1986). Prosocial behavior focuses on struggles for other's welfares, it is studied in connection with the outcome of team performance and positively associated with the efficiency of the team (J. Hu & Liden, 2015).

The past research shows that prosocial behavior has an impact on team members which will increase the motivational level, as a result, the performance of the team improved (Kavussanu et al., 2009). Prosocial behavior eliminates the negativity while promote collaboration in team as it provides the intention to benefit and help teamwork and activities that help to achieve the common goal (Kuntz et al., 2017). In MC the team members with prosocial behavior do their best to show concern for others and try to benefit them so that they can develop more skills, encourage each other's ideas and adapt actions accordingly which will promote the collaboration in team (Caniëls et al., 2019).

The above literature forms the base for our next hypothesis:

H₅: Prosocial behavior moderates the relationship between Mastery climate and Collaboration in team; such that it strengthens the relationship when if prosocial behavior is at high level and weaken the relationship when prosocial behavior is at low level.

2.10   Moderated Mediation

Lastly we anticipate that prosocial behavior will conditionally effect the indirect effect between mastery climate and project performance. So for the hypothesized model, we anticipate the moderated mediation pattern, whereby indirect effect of mastery climate on project performance happen with mediation of collaboration in team.

H_6: Prosocial behavior moderates the indirect effect of Mastery climate on project performance via Collaboration in team; the mediation relationship will be stronger when prosocial behavior is high as opposed to low.

2.11   Research Model
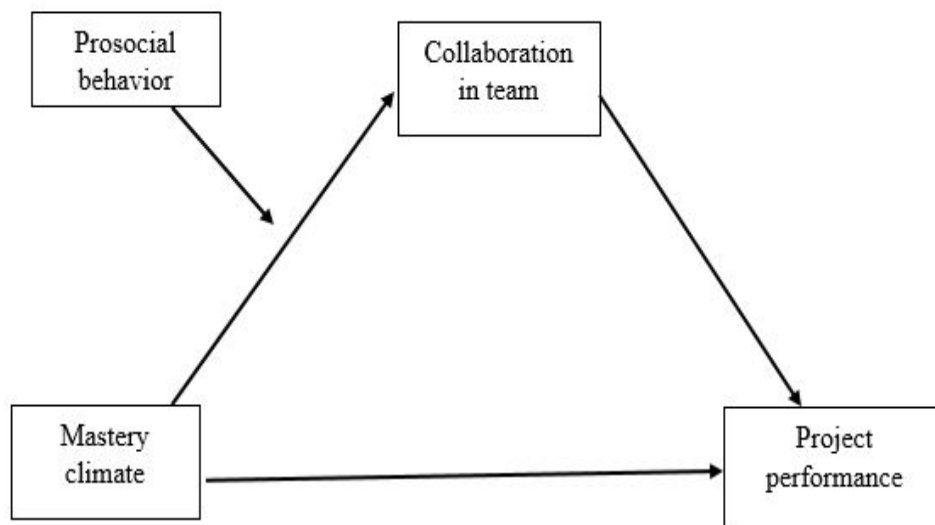
FIGURE 2.1: Research Conceptual Model of MC Impact on Project Performance through Collaboration in Team: Moderation of Prosocial Behavior.

2.12   Research Hypotheses

H_1: There is a positive impact of Mastery Climate on Project performance.

H$_2$: There is a positive impact of Mastery Climate on Collaboration in team.

H$_3$: There is a positive impact of Collaboration in team on Project performance.

H$_4$: Collaboration in team mediates the relationship between Mastery Climate and Project performance.

H$_5$: Prosocial behavior moderates the relationship between Mastery climate and Collaboration in team, such that it strengthens the relationship when prosocial behavior is high and weaken the relationship when prosocial behavior is low.

H$_6$: Prosocial behavior moderates the indirect effect of Mastery climate on project performance via Collaboration in team; the mediation relationship will be stronger when prosocial behavior is high as opposed to low.

Chapter 3

Research Methodologies

The methodology is the action undertaken to analyze the collected data by the use of analysis techniques to obtain the valid result for the proposed hypothesis. It covers all the aspects regarding research design that how data is collected (sample & population), type of study, unit of analysis, an instrument used and their reliability measurement.

3.1 Research Design

3.1.1 Type of Study

The current study is done to high light the impact of mastery climate on project performance, for this correlational study has been used to find the effect between two variables. To get the reliable result of the study project-based organizations in Pakistan were selected as the target population. 350 Questionnaire were distributed initially out of these 280 authentic responses were received. The sample selected for this research is assumed to cover the overall project-based organizations of Pakistan. This assumption will help to generalize the result from the sample to the overall target population. The sample will likely exhibit the characteristics of the population.

3.1.2 Research Design and Research Philosophy

Research design is a method that tells us which process and technique are used to analyze the data. This research is based on a positivist viewpoint that uses the hypothetical deductive research method, which is based on past research and existing theories to support the proposed hypothesis then find the reality, the hypothesis was tested empirically for authentication. The scientific method is the discerption of the hypothetical deductive method. According to this hypothetical deductive method, scientific examination initiates by forming a hypothesis based on the existing literature that can be rejected or accepted by using different statistical tools on the collected data with reference to items used to measure the developed hypothesis. As per the concept of supported theory if the result of statistical analysis supports the proposed hypothesis the hypothesis is said to be accepted otherwise opposing result hypothesis is rejected. It is then projected to compare the descriptive value of opposing hypotheses by testing how strongly they are authenticated by their predictions.

As to reach a large scale of population, generally quantitative methods are used and valued. Hence, in this research quantitative research has been utilized to collect the quality data to associate variables to each other and for demonstrating the nature of the relationship between the variables used in the research.

3.1.3 Unit of Analysis

Generally, the unit of analysis is the most important characteristic of any research study. In research study, unit of analysis can be an individual or an object whose characteristics are need to be measured it can also range from an individual to different groups, organizations, cultures, etc. since this study is designed to find the impact of mastery climate on project performance, therefor the unit of analysis were employees of project-based organizations public and private in Rawalpindi and Islamabad.

To assess the impact of mastery climate in the project through learning and development amongst employees, the study needed to approach the specific sector

of project-based organization which required and promoted MC in their projec-
tized organization under the affective presence of the collaboration. To assess the
performance of the projects the stakeholders who eventually benefited from the
projects were taken as the unit of analysis.

3.1.4 Time Horizon

The data collected for this study is not time-lagged it is cross-sectional and col-
lected at one time. The collection of the date take place within 2 months.

3.2 Population and Sample

Since the present study seeks to focus on the project-based organization in Pak-
istan, the population of the study is the managers, subordinates and the stake-
holders (end-users) of this sector.

For the current study, data were obtained from project-based organizations con-
fined to the geographical location of Islamabad, and Rawalpindi. These include
both National level and international level project-based organizations, running
various projects in the field of banking, infrastructure, healthcare, education, en-
ergy, hydropower, social services, etc. For data collection the eligibility criteria
are having minimum experience in the field, there were many projects under these
programs and the data is collected from the project teams and the relevant stake-
holders of the projects.

3.3 Sample and Sampling Technique

It is the process of selecting a sample from a population to generalize the finding
from sample to overall population. Being aware of the fact that generally, it is
difficult to collect data from the overall population and owing to the scarcity of
resources and time limitation, sampling is a commonly used method to collect data
which can be generalized on the overall population. The specific group selected

for data collection must have the characteristics of the population, to be a true representative. For this study, only project-based organizations of Pakistan were approached. The data on independent variable (i.e., mastery climate), moderator (prosocial behavior) as well as the mediating variable (i.e., collaboration in team) were collected from project team members. However, support staff was excluded from this group. The data on project performance has been obtained from key stakeholders i.e., the stakeholders who are the end-users of the product or the ones using services being provided by the project. The sample mainly consists of the managerial and operational levels of different organizations and also the counterparts who benefited from the project.

Almost 350 questioners were distributed, out of those 280 were consider authentic, some were discarded due to the incomplete response. For reporting purposes, the data on project performance obtained from stakeholders were merged and described as averages, which indicated that no threat of common method variance exists. The convenience sampling technique was used due to time limitations. Convenience sampling is one of the techniques of a non-probability sampling. Convenience sampling is the most appropriate technique to be used in this research because through this technique data can be collected from the project-based organizations of Pakistan which makes it possible to have the most genuine picture of the whole population in demonstrating the impact of MC on project performance through collaboration in team and prosocial behavior. This includes public and private sector project-based organizations (national and international), having a diverse workforce and culture running different projects in the field of healthcare, infrastructure, education, defense, and services etc.

The data was collected from KRL, Nescom, Attock oil refinery, Sky tech software houses and many more organizations in different fields, which run different projects.

The cover letter unequivocally demonstrated that the examination is being led for scholastic research purposes just and is gone for giving clear comprehension of MC and collaboration in the team and some different elements influencing the project performance. Respondents were guaranteed the privacy of their reactions

and namelessness so the respondents don't hesitate to fill in the survey decisively.

3.4 Sample Characteristics

For research, the demographics used in the questionnaire represent the characteristics of sample e.g gender, age, experience. The demographics considered in this study are; project team members the organization's employee's age, their dynamic experience in the project-based organizations. Sample characteristics are described and elaborated as follows;

3.4.1 Gender

To maintain the gender equality, gender is the main element including two groups female and male, it has been tried to sure the equality but there is the difference in the ratio of female and male which is considered as the main element of demographics. 1 is used to donate female group and 2 is used to donate male group

TABLE 3.1: Gender Distribution

Gender	Frequency	Valid Percent	Cumulative Percent
Female	146	52.1	52.1
Male	134	47.9	100
Total	**280**	**100**	

Table 3.1, show the percentage of male and female respondents. 52.1

3.4.2 Age

Responded feel uncomfortable while revealing their age so age composition was used for the convince, divided into 4 categories 1= 20-30, 2=31-40, 3=41-50 and 4= above 50.

Table 3.2, shows age range of respondent between the composition categories. 63.9% of majority respondent were having age ranging between 20-30, 27.1% of

TABLE 3.2: Age Distribution

	Frequency	Valid Percent	Cumulative Percent
20-30	179	63.9	63.9
31-40	76	27.1	91.1
41-50	22	7.9	98.9
>50	3	1.1	100
Total	**280**	**100**	

respondents were having age ranging between 31-40, 7.9% respondents were having age ranging between 41-50, while 1.1% were employees having age range greater than 50.

3.4.3   Qualification

Another important part of demographic is qualification of responded which contribute toward the prosperity of projects and it is basic need to compete. Qualification is divided into 5 categories labelled as Bachelors, Master, MS, Phd and any other course.

TABLE 3.3: Qualification Distribution

	Frequency	Valid Percent	Cumulative Percent
Bachelor	83	29.6	29.6
Masters	109	38.9	68.6
MS	68	24.3	92.9
PhD	12	4.3	97.1
Any other	8	2.9	100
Total	**280**	**100**	

Table: 3.3, shows the qualification of respondents 29.6% of the respondents were having qualification of Bachelor, 38.9% of respondents were Master, 24.3% of respondents were MS degree holder, 4.3% of the respondents were PhD amongst the 224 respondents and 2.9% of respondents were having other course.

3.4.4 Experience

Experience shows the expertise and knowledge of any team, more the experience better the capability of generating new ideas and creativity. Fresher also have potential to bring exceptional change in field when involved by bring new thoughts and ideas. After qualification experience is vital part of demographic to collect the data about experience four composition categories were used i.e less than 1 year, 1-3 years, 4-6 years and above than 6 years. It will help respondent to choose from their relative tenure of experience.

TABLE 3.4: Experience Distribution

	Frequency	Valid Percent	Cumulative Percent
<1	53	18.9	18.9
01-3	107	38.2	57.1
04-6	51	18.2	75.4
>6	69	24.6	100
Total	**280**	**100**	

Table: 3.4, show the experience of respondents. 18.9% of the respondents were having an experience less than 1 year, 38.2% have an experience between range of $1 - 3$ years, 18.2% respondents were having experience between the range $4 - 6$ years, 24.6% respondents were having experience above than 6 years.

3.5 Instrumentation

The questionnaires used to collect data in this study are close-ended adopted from online and manual authentic sources. During a visit to different project-based organizations, almost $50 - 60$ questionnaires were distributed. The items in the questionnaire were recorded by using a 5-points Likert-scale where 1 (strongly disagree), 2 for disagree, 3 for neutral, 4 for agree and 5 (strongly agree). Questionnaires also show demographic variables detail like Gender, Age, Qualification, and Experience.

3.5.1 Measures

As all of the questionnaires were adopted from past scholar's research. There are 30 items used to measure the 4 constructs. The questionnaire consists of five sections, the first section represents the demographic detail of respondents while the second section contains five questions related to MC 14 questions are related to the mediator and the moderator and DV contain 5 questions. The language used to collect data in English and translated into Urdu when needed during a visit to project-based organizations. Use of the traditional method of paper and pen is adopted while collecting data during the working hour of organization. An additional cover note is attached to a questionnaire to show the purpose and significance of the research. Some of the respondents filled the questionnaire on the spot while some take time for their response. As the focus was to collect data from authentic individuals which is difficult to achieve in the online data collection method.

As per the nature of research, items included in the questionnaire that is mastery climate, project performance, collaboration in the team and prosocial behavior all of the items were evaluated by a project manager and subordinate. 350 questionnaires were distributed in total but only 287 were received. But the actual numbers of questionnaires used for the analysis of data for demonstrating the results were 280. The discarded questionnaires out of 287 questionnaires were those which were not having the complete information or many of the questions were unfilled in those questionnaires hence making them not appropriate for the study.

Keeping view, the ethical consideration, respondents were made to ensure that information provided is only used for research thesis purpose with complete confidentiality of their response and no one is forced to give response while data collection.

3.5.2 Mastery Climate

The MC was measured using the scale developed by (Nerstad et al., 2013). It has 6 items in total. Originally the scale was developed in Norwegian and English

(Nerstad et al., 2013) to measure the desire for learning and development. These questions determine how the participated team member considered the success criteria in the provided work setting. 5 point Likert scale range is used to get responses ranging from 1= Strongly disagree to 5= Strongly agree. Sample item "I my department/workgroup each learning and development is emphasized" all the items emphasized on efforts, development, and cooperation.

3.5.3   Prosocial Behavior

Prosocial behavior was measured using the scale developed by (Grant & Sumanth, 2009). This scale has 5 items to show the behavior toward team members. The desire to help others (team members), contributing and exert efforts forsake others; this measure is very suitable for our study. 5 point Likert scale range is used to get responses ranging from 1= strongly disagree to 5= strongly agree. Prosocial behavior consists of the following 5 items. For example: "I get energized by working on the tasks that have the potential to benefit other" "I like to work on tasks that have the potential to benefit others"

3.5.4   Collaboration in Team

Collaboration in team will be measured using the scale developed by (Chiocchio et al., 2011). This scale has 14 items to measure the collaboration that how individuals recognize collaboration in team. It is suitable for our study in these respondents have to respond by bringing all of the project subordinates in their mind who contributes toward the project. Sample item "My teammates and I share the knowledge that promotes work progress". 5 points Likert scale range is used to get responses ranging from 1= strongly disagree to 5= Strongly agree.

3.5.5   Project Performance

The Project performance will be measured using the scale developed by (Um & Kim, 2018). It has 05 items in total to measure Project performance. 5 point

Likert scale range is used to get responses ranging from 1= Strongly disagree to 5= Strongly agree to get the response from manager whether a project produces the high-quality result inefficient way. The respondent has to answer 5 statements to show their response that how much they agree with the statement by rating agree or disagree The statements are: "The project results, or deliverables, are in line with client objectives" "This project is operating within the pre-estimated budget" etc

TABLE 3.5: Instruments

Variables	Source	Items
Mastery Climate (IV)	Nerstad, Roberts, & Richardsen, (2013)	6
Collaboration in Team (Med)	Chiocchio, Grenier, O'Neill, Savaria & Willms, (2012)	14
Project Performance (DV)	Um & Kim (2018)	5
Prosocial Behavior (Mod)	Grant & Sumanth (2019)	5

3.6 Measurement Model

Confirmatory factor analysis was used for authenticating the measurement model and to check model fitness by using AMOS. To check the fit statistics AMOS, involve multiple indices such as Root Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI) and Comparative Fit Index (CFI).

CFI compares sample covariance matrix with null model by assuming that there is no correlation between latent variables. The acceptable value range lies between 0 to 1. The value for good model fit lies closer to 1 and value above 0.8 is considered as good model fit and value below this threshold is considered as poor model (Raykov & Marcoulides, 2000).

According to Byrne (1998) RMSEA evaluates model goodness with population covariance matrix. Different Threshold values are suggested by different authors for acceptance of RMSEA value. MacCallum, Browne, and Sugawara (1996) commanded that the acceptable value should be equal to 0.10 or less than 0.10. Whereas Hu and Bentler (1999) suggest that the acceptable value range should be between 0.06 – 0.08, while (Lomax & Schumacker, 2004) recommend that value for good model fit should be less than 0.05.

Anderson and Gerbing (1988) suggest that there are four latent variables used for justification of model e.g Mastery climate, Collaboration in team, Prosocial behavior and Project Performance.

The table 3.6 highlights the four factor model where different indices were used for model fit such as CMIN (model chi square), TLI (Tucker- Lewis Index), IFI (Incremental fit Index), GFI (Goodness of fit index), CFI (Comparative fit Index) and RMSEA (Root Mean Square Error of Approximation).

The satisfactory level is 0.05 to 0.10 (ideal) for RMSEA and values of CFI, TLI, IFI must be greater than 0.9. CFA for complete model is shown is figure 3.1 below:

TABLE 3.6: Confirmatory Factor Analysis

Model	CMIN	CFI	TLI	IFI	AGFI	GFI	RMSEA
Hypothesized model	2.168	0.917	0.908	0.918	0.803	0.835	0.065

Table: 3.6 depict the results for model fit. The model proved to be a good fit to the data. The results of CFA confirmed by showing discriminate validity by meeting the threshold criteria suggested by Hair et al (2009). CFI (Comparative fit index) should be greater than 0.90 that was 0.917, which exhibits good model fit, IFI (Incremental fit index) value is greater than 0.9 that was 0.918, RMSEA (Root mean square error of approximation) value should be less than 0.07 that was 0.065 which again illustrate good model fit. Further the value of TLI (Tucker-Lewis index) should be greater than 0.90 that was .908 and value of GFI (Goodness of fit index) should be greater than 0.80 that was 0.835 which indicate the good

model. Last the value of chi-square must be less than 3 that was 2.168. Overall, the four factor model was proved to be good model as evident from the values.

FIGURE 3.1: Measurement Model.
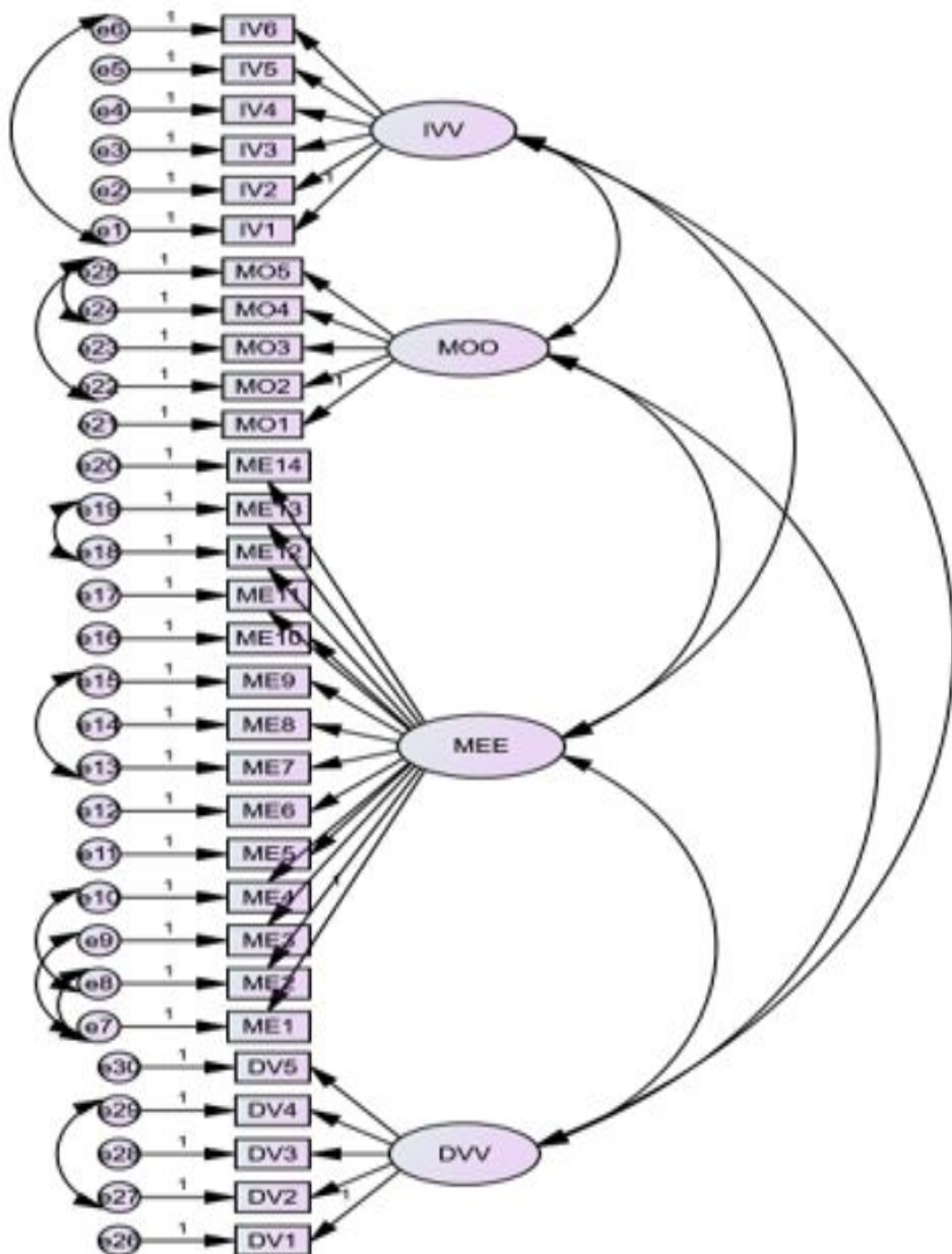
Figure: 3.1 clarify the latent variables. The IVV indicates Mastery climate,

MEE indicates mediator Collaboration in team, MOO indicate moderator Prosocial behavior and DVV indicate project performance.

3.7 Control Variables

One-way ANOVA in SPSS test was conducted to find control variables. Demographic variables (Age, Gender, Education, experience) are checked with DV (Project performance). If the value of significance is less than 0.05 than we will consider demographic variable has significant impact on outcome variable. When the demographic have significant impact on project performance (Dependent variable) its influence will be then control.

Table: 3.7, show gender and age have significant impact on project performance because the p-value for gender and age is less than 0.05. The experience and education have no significant impact on outcome variable as p- value for experience is .054 and education have p- value = 0.075 which are insignificant.

TABLE 3.7: Covariates

Variables	F- Values	Significance
Gender	2.065	0.006
Age	1.795	0.021
Experience	1.593	0.054
Education	1.517	0.075

3.8 Pilot Testing

This proactive approach is used to avoid any ineffective consumption of resources, risk and time. Pilot testing is always considered to check scale consistency and preferred while doing research on large scale. Initially we done pilot test on 45 questionnaires to examine the data's compliance with proposed hypothesis either data support them or not.

3.9   Scale Reliability

Reliability in research referred as a process in which variables give consistent result at different time intervals. According to our prospective we use Cronbach alpha to check internal reliability of items either they are correlating with each other or not and whether the item support the same variable or not. Cronbach alpha measure the reliability of result more than one time.

It is the most used method. The standard explained by (Nunnally & Bernstein, 1994) which should be greater than or equal to 0.7. if the value of Cronbach alpha is less than 0.7 the item will be considered as non-reliable or less reliable to measure the selected constructs so 0.7 is an acceptable level.

Zero to 1 range is significant range of Cronbach alpha. If Cronbach's alpha = 0, it shows no consistency if Cronbach's alpha = 1, it shows perfect consistency of items. For our study we find the value of Cronbach alpha for MC is 0.817, it means by combining 6 items of MC for analysis it gives us 0.817% of variability in a composite score which is higher than acceptable level so there is high consistency and Cronbach alpha for CIT, PP and PSB were reported as 0.878, 0.785 and 0.787 respectively.

Table: 3.8. shows the values of Cronbach alpha for the scales used in data collection. As the reliable accepted values of Cronbach alpha for the variables must be equal or greater than 0.7, in our research study all variables have Cronbach alpha greater than 0.7 shows that these scales are highly reliable and have consistency to be used in this study with reference to the context project based organizations of Pakistan.

TABLE 3.8: Scale Reliabilities

Variables	Cronbach's Alpha	Items
Mastery Climate	0.817	6
Collaboration in Team	0.878	14
Project Performance	0.785	5
Prosocial Behavior	0.787	5

3.10   Statistical Tools

First, to study the casual relation effect between the Mastery climate (independent variable) and Project performance (dependent variable) we use simple regression analysis. Then gradually move to study the impact of various factors over dependent variable by multiple regression analysis. We run regression analysis three time first to study relationship between MC and PP, then MC and CIT and relationship between CIT and PP. This will assure that the research conducted before is still associated with acceptance and rejection of proposed hypothesis or not. To check moderation and mediation we use multiple regression. According to Preacher and Hayes (2004), to run moderated mediation model 7 is used to check conditional effect.

3.11   Data Analysis Techniques

Data relevant to study was collected from 280 respondents. After data collection it is than analyzed by using SPSS software version 20. A number of procedures were used for complete analysis. These procedures are as stated below:

1. Initially, the questionnaire which were filled completely and appropriately are used for analysis.

2. All variables of questionnaire were coded than after coding variables analysis is performed.

3. To explain characteristics of sample, frequency table were generated which show missing values if any or demographic detail in tabular form.

4. Measurement fitness model is validated by CFA.

5. Coefficient of Cronbach alpha is checked to find the reliability of variable used in study.

6. Descriptive statistic was done by using numerical values.

7. After confirmation of data's validity One-way ANOVA test was used to find any controlled variables.

8. Correlation analysis was used to find the significance and non-significance of relationship between variables under study.

9. Regression analysis was used to determine the relationship between IV and DV.

10. Preacher and Hayes process were used to find the role of mediator and moderator between MC (independent variable) and PP (dependent variable).

11. Through Preacher and Hayes and correlation method the acceptance and rejection of proposed hypothesis were tested.

Chapter 4

Results

4.1 Descriptive Statistics

A descriptive statistic is used to realize the important information from the collected data. The total number of respondents for the study is 280 and there is a total of 30 items in the questionnaire. In descriptive statistic minimum and maximum value of variables are represented along with their mean and standard deviation for a total number of respondents participated. Mean referred to as the average value of respondents and Standard deviation represent abnormality here it referred to the deviation of received responses from mean. Variables under study are measured by using 5 points Likert scale where 1= strongly disagree, 5 = strongly agree and 3 = neutral. To tell the statistical point which is a completely significant descriptive statistic (data summary of complete data) is used.

The below table 4.1 represents descriptive statistic of current data showing the level of significance of the complete data. The first column of the table presents the detail of variables, the second column of table present size of data, third and fourth column present minimum and maximum value of variables, fifth and sixth present the mean and standard deviation of variables respectively. The mean of MC (independent variable) is 3.7893 and the standard deviation is 0.86657. The mean of CIT (mediator) is 3.8898 and S.D is 0.73870. The mean of PSB (moderator) is 4.0314 and the standard deviation is 0.86601. The mean of PP

(dependent) is 3.6948 and the standard deviation is 0.76431. The mean is the core value of responses. While the minimum value of all variables is 1.00 except CIT (mediator) is 1.07. The maximum value for all variables is 5.00.

TABLE 4.1: Descriptive Statistics

Variables	Sample Size	Min	Max	Mean	Std.Deviation
Project Performance (IV)	280	1	5	3.7893	0.86657
Collaboration in Team (ME)	280	1.07	5	3.8898	0.7387
Prosocial Behavior (MO)	280	1	5	4.0314	0.86601
Project Performance (DV)	280	1	5	3.6948	0.76431

4.2 Correlation Analysis

Person Correlational analysis is used to find the relationship between variables. It revealed the magnitude and link between variables. Strength of relationship between variable is shown by its value which may exist between -1 to +1 and its signs show the direction of relationship which may be negative or positive. When the value is +1 or nearer to +1 it means there is positive correlation between variables increase in one variable cause increase in other variable. When the value is -1 or nearer to -1 it means there is negative correlation, decrease in one variable cause decrease in the value of other variable also. When the value is zero it means there is no relationship exist between variables, 1 shows there is strong & direct relationship while -1 show there is strong relation but indirect in nature.

It does not show the existence of dependent variable and predictor it just describes the link, direction and strength of relationship between variables. To find the cause and effect relation between two or more variables we use regression analysis

which is the base for hypothesis acceptance and rejection. In this research work, correlation analysis is used to examine the correlation between mastery climate and project performance, the mediating role of collaboration in team and the moderating role of prosocial behavior; to make the proposed hypotheses valid.

TABLE 4.2: Correlation

	Mastery Climate	**Collaboration in Team**	**Prosocial Behavior**	**Project Performance**
Mastery Climate	1			
Collaboration in Team	.847**	1		
Prosocial Behavior	.697**	.776**	1	
Project Performance	.720**	.758**	.735**	1

**Correlation is significant at the 0.01 level (2 tailed) *Correlation is significant at the 0.05 level (2-tailed) N=280. *P<0.05, **P<0.01, ***P<0.001.

Table: 4.2 show the correlation analysis for all the variables in this demographic are not used. The result shows moderate relationship between variables. As per above correlation table there is significant positive relation between Mastery climate (independent variable) and Collaboration in team (mediator) where r = .847** and p < 0.01. there is also significant positive relationship between Mastery climate and Prosocial behavior (moderator) where r = .697** and p < 0.01. Furthermore, there is positive and significant relationship between Mastery climate and Project performance (dependent variable) where r = 720** and p < 0.01.

Next, there exist positive and significant relationship between collaboration in team and prosocial behavior where r = .776** and p < 0.01. whereas same positive and significant relationship between collaboration in team and project performance where r = .758** and p < 0.01. whereas also significant positive relationship exists between Prosocial behavior and Project performance where r = .735** and p < 0.01.

4.3 Regression Analysis

The process of correlation has been carried out to check the relatability of variables and correlation is positive and significant but only correlation is not adequate because it does not provide any authentic acceptable support to proposed hypothesis it just define the association of variables under study which is insufficient to provide the support to causal relationship. Therefore, regression analysis has been conducted to find causal relationship to find the dependency of one variable on another variable. Regression analysis show how the change in one variable impact other variable when there is liner relationship between variables it will explain the factors that cause change in dependent variable.

TABLE 4.3: Mastery Climate and Project Performance

Project Performance			
Predictor	β	T	SIG
Mastery Climate	0.635	17.27	0.000

H1: There is positive impact of mastery climate on project performance.

For this hypothesis **Table: 4.3**, show the statistical analysis this will help to understand relationship between Mastery climate and Project performance and provide strong justifications. Result show there is significant and positive relationship between MC and PP. R is 0.518 which is variance in project performance (DV) explain by mastery climate (IV). β value show the rate of change that will be caused by one variable on other here if we change 1 unit of mastery climate there will be cause 0.635 (64%) change in project performance. P – value of 0.000 indicates the relationship is highly significant. Hence hypothesis 1 is accepted.

TABLE 4.4: Mastery Climate and Collaboration in Team

Collaboration in Team			
Predictor	β	T	SIG
Mastery Climate	0.722	26.51	0.000

H2: There is positive impact of mastery climate on collaboration in team.

To support the above stated hypothesis 2 **Table 4.4**, show strong justifications. Result show there is significant and positive relationship between Mastery climate and collaboration in team as specified by β value (0.722) which show positive change of 72% in CIT and R is 0.717 which is variance in CIT explain by mastery climate (IV). P – value of 0.000 indicates the relationship is highly significant. Hence hypothesis 2 is accepted

TABLE 4.5: Collaboration in Team and Project Performance

Project Performance			
Predictor	β	T	SIG
Collaboration in Team	0.784	19.36	0.000

H3: There is positive impact of collaboration in team on project performance.

Table 4.5, provide the strong justifications for hypothesis 3 which revealed that there is positive and significant association between Collaboration in team and project performance. R is 0.574 which is variance in project performance (DV) explain by collaboration in team. β value show the rate of change that will be caused by one variable on other here if we change 1 unit of CIT it will cause 0.784 (78%) change in project performance. P – value of 0.000 indicates the relationship is highly significant. Hence hypothesis 3 is accepted.

The regression analysis aligns with our proposed hypothesis H1, H2 and H3.

4.4 Multiple Regression

Multiple regression has been conducted when there are more than two variables to establish the casual relationship like in mediation and moderation. Hypothesis 4 proposed that collaboration in team mediates the relationship between mastery

climate and project performance. For this we will check collaboration in team (mediating variable) that how it mediates the relationship between mastery climate (IV) and project performance (DV) by adopting (Hayes, 2013) process macros so we use process macros model 4 to check mediation regression analysis.

TABLE 4.6: Mediation Analysis

IV	Effect of IV on M	Effect of M on DV	Direct Effect	Total Effect	Bootstrapping Result for Indirect Effect	
					LL 95%	UL 95%
Mastery Climate	0.7213***	0.5329***	0.2594***	0.6438***	0.2605	0.5127

H3 says Collaboration in team mediate the relationship between mastery climate and performance climate. The results for mediation is show in table 4.3 provide strong justification. Table 4.6 shows the indirect effect of mastery climate on project performance has lower level confidence interval and upper level confidence interval of 0.2605 and 0.5127. LLCI and ULCI both have same positive sign and there is no zero present between them. Hence we can conclude that mediation is present. hypothesis 3 was supported, that collaboration in team mediates the relationship between mastery climate and project performance.

TABLE 4.7: Moderation Analysis

Variable	β	SE	T	P	LLCI 95%	ULCI 95%
Constant	3.8433	0.0632	60.8084	0	3.7189	3.9677
Int_Term	-0.0057	0.0222	-0.2548	0.799	-0.0494	0.0381

Moderation analysis was done to check prosocial behavior as moderator between mastery climate and collaboration in team by use of model 1 presented in process macros. Hypothesis 5 states that Prosocial behavior moderates the relationship

between Mastery climate and Collaboration in team; such that it strengthens the relationship when if prosocial behavior is at high level and weaken the relationship when prosocial behavior is at low level.

Table: 4.7, depict justification for hypothesis 5. The interaction term of "mastery climate and prosocial behavior" moderates on the relationship of "mastery climate and collaboration in team" has lower level and upper level confidence interval of -0.0494 and 0.0381 both have opposite sign and there is zero between them. The interaction term indicates negative and insignificant result (B = -0.0057, p = 0.7990) means that prosocial behavior does not moderate between mastery climate and collaboration in team. Hence we conclude that H5 is rejected as there is no moderation.

To calculate conditional indirect effect, we use Process by (Hayes, 2013). For processing in Andrew F. Hayes we choose model 7 which support our purposed model structure. While processing we took Mastery climate (independent variable) as "X", project performance (dependent variable) "Y", collaboration in team (mediator) as "M" and finally we present prosocial behavior as moderator represented by "W". This model 7 is also known as indirect conditional effect model or moderated mediation model.

TABLE 4.8: Moderated Mediation

Index of Moderated Mediation			
Index	SE	Boot LLCI	Boot ULCI
-0.003	0.0116	-0.0266	0.0188

To give more evident of moderated mediation for hypothesis 6 Prosocial behavior moderates the indirect effect of Mastery climate on project performance via Collaboration in team; the mediator relationship will be stronger when prosocial behavior is high as opposed to low; table 4.8 provide result for proposed hypothesis. The values of BootLLCI and BootULCI for complete model is -0.0266 and 0.0188 their signs are opposite which show that PSB does not moderate Mastery

climate and project performance through collaboration in team. Hence there is no moderated mediation so hypothesis 6 is rejected.

4.5   Summary of Accepted/ Rejected Hypothesis

Table 4.9 illustrates the precise summary of results for the proposed hypotheses under this study.

TABLE 4.9: Hypotheses Summarized Results

Hypotheses	Statement	Result
H1	There is a positive impact of mastery climate on Project performance.	**Accepted**
H2	There is a positive impact of mastery climate on collaboration in team.	**Accepted**
H3	There is a positive impact of collaboration in team on project performance.	**Accepted**
H4	Collaboration in team mediates the relationship between mastery climate and project performance.	**Accepted**
H5	Prosocial behavior moderates the relationship between Mastery climate and Collaboration in team; such that it strengthens the relationship when if prosocial behavior is at high level and weaken the relationship when prosocial behavior is at low level.	**Rejected**
H6	Prosocial behavior moderates the indirect effect of Mastery climate on project performance via Collaboration in team; the mediation relationship will be stronger when prosocial behavior is high as opposed to low.	**Rejected**

Chapter 5

Discussion and Conclusion

5.1 Discussion

In this chapter we will discuss the theoretical and practical effect, detail preposition of relationship and acceptance and rejection of hypothesis proposed. The primary purpose of conducting this research is to uncover the association of mastery climate and project performance which is studied rigorously in different context, for example mastery climate is studied in relation to motor skills, ethical leadership, knowledge sharing, team moral and many other variables (Robinson, 2011; Černe et al., 2014; Nerstad et al., 2018; Men et al., 2018) same for project performance has been studied with different variables like work motivation, project control, project complexity impact of risk and many others (Carvalho & Rabechini Junior, 2015; Dwivedula et al., 2016; Ko, Lee, Keil, & Xia, 2019). We will do extensive discussion to justify the nature of the study with the use of a theoretical framework produced. Data collected for variables id from Pakistan so it will represent the mindset of individuals as per their available environment in project-based organizations. It will also cover the entire variables of study to make sure the conformity and disconformity of the result.

The current study finds the relationship of Mastery climate and project performance for project-based organizations of Pakistan. Furthermore, the current study

also reveals the relation of the mediator between mastery climate and project performance. The research of moderator prosocial behavior between mastery climate and collaboration in team is also studied and combine effect along with mastery climate on project performance. To answer the non-searched questions, we proposed five hypotheses in the research and all are supported by theory and past research this revelation of unanswered question provide a worthy contribution toward literature.

There is significant positive result received by analysis between mastery climate and project performance which are independent and dependent variables of study having a direct relationship therefor first proposed hypothesis is accepted.MC has a strong positive impact on project performance as it results in a high level of work among team members to take initiative for creative project performance (Osabiya, 2015; Shao, Feng, & Wang, 2017). Furthermore, MC demonstrates a significant positive impact on CIT; as a result, it will positively affect the project performance. Therefore, it depicts the acceptance of H1, H2, H3, and H4 when we develop the MC relation with PP via collaboration in team.

The other variable introduces by the study is prosocial behavior which works as a moderator.

After analysis, it has been recognized that there is no moderation effect of a moderator on project performance with reference to the context of Pakistan i.e increase or decrease in prosocial behavior does not show any impact on collaboration in team which leads to rejection of fifth hypothesis (H5) and indirect effect also has been rejected (H6).

The detail discussion on the hypothesis proposed in the study is as follow.

5.1.1 H1: There is a Positive Impact of Mastery Climate on Project Performance

H1 projected the positive relationship between mastery climate and project performance in accordance with the proposed hypothesis. This credibility is evident from our analysis where the value of $\beta = .635$ and p $= .000$ for our hypothesis,

which shows the existence of an association between MC and PP. The β co-efficient for the relationship is 0.635, β co-efficient expression unit change, when one unit in one variable is increased/decreased it causes a change in other variables. In our study, if there is an increase in MC it will cause an increase in project performance by 63%. There will be an increment in project performance. Hence H1 is accepted.

In today's era of dynamism, project performance is also affected by contextual factors MC is one of them within the project organization it will create social environment which fosters learning, efforts and development (van de Pol, Kavussanu, & Ring, 2012) mostly this will be created by leader (Boardley & Kavussanu, 2009). The environmental factor of Pakistan is unpredictable due to rapidly changing processes and political instability it will make projects to deviate from the concept of linearity and move toward competitiveness which results in a decrease in project success but focus is to complete the project within iron triangle (cost, quality, time) there is need for adaptive behavior MC provides an adaptive behavior which leads toward better project performance (Luo, He, Xie, Yang, & Wu, 2016).

The result is consistent with finding of (DeFreese & Smith, 2014) that If there is strong MC focus by a leader it will create enjoyment and achievement in team members they work with commitment, share their knowledge and skills without focusing on inter-team competition they work hard for effective outcome. Hence, our result also show improvement in the project performance which is done in MC.

The researcher also describes that MC create an atmosphere in which the focus is on common goal and objective rather than the individual goal it fosters collectivism which affects all component of the project, have a direct impact on projects quality, scope and cost which result in better project performance (Peterson, 2007). Knowing it that MC is a supportive social environment created by the leader, it is essential to understand the demotivating factor.

MC is important cognition for knowledge sharing which is a requirement for project performance Nerstad et al. (2013) and it conforms from past research knowledge is an important factor to stimulate the firm's performance (Birasnav, 2014) hence

the MC feature of knowledge sharing for development significantly improve the project performance.

It is a contextual factor that does not work for individuals it focuses on collective effort like in projects when team members work together by cooperating (Ambrose & Folger, 2014). Organizational success depends on the environment provided to individuals so that they can use their full potential to fulfill expectations, MC provides the full potential to bring out skills and provide opportunities to share their ideas by creating positive interdependence between a leader and team member which result in effective project performance (Poortvliet & Giebels, 2012).

Pakistan based projectized organization also focus on creativity and innovation due to globally changing market trend, therefore, need adaptability to cope up with complexities associated with projects MC is an adaptive feature which helps to improve the project performance hence there is a positive association between mastery climate and project performance within a contextual setting of Pakistan.

5.1.2 H2: There is Positive Impact of Mastery Climate on Collaboration in Team

The result of the H2 of the current study anticipates that there is a positive association between mastery climate and collaboration in team. Results for hypothesis 2 are $\beta = .722$, p = .000 the values of analysis also conform to the supportive literature stated above that there is a positive relationship between MS and CIT. β co-efficient = .722 which demonstrates that a 1% change in mastery climate causes 72% incremental change in collaboration in team higher the MC result in increased collaboration in team members. Whereas the value of t is greater than 2 means relation is statistically significant as it represents the significance level of data. Hence the H2 of our study has been accepted.

Projects are carried out with the help of the human factor they are considered as an important component of an innovative process to make project successful as projects are novel in nature this novelty required innovative pool of team having the potential to work for innovation required collaboration in team member for

respective project (Foss, Woll, & Moilanen, 2013). Our result is consistent with finding of (West & Farr, 1989) that the environment provided to team members in which project team coordinate with each other influence to task performed and their collaboration. MC is the social environment that promotes sharing of knowledge, collective learning and providing opportunities for growth as a result collaboration in team increases.

Furthermore, MC increases the intrinsic motivation of team members, as a result, they strive to perform better in teamwork for which they collaborated to adopt new changes in the environment for skill development and to cope up with changing demands (Wallace, Butts, Johnson, Stevens, & Smith, 2016). MC shows the mutual perception, team members focus on improvement on continuous bases by handling the project challenges, confusions, misalignment and opinion about how to carry the project to meet innovation level all these problems are resolved by a loyal and supportive manner which generate the cooperative and positive atmosphere which foster collaboration in team (Qi & Liu, 2017).

Physiological safety and Voice is one of the aspects of MC in which team member feel safe while sharing ideas and perceptions, discoursing problems and voice is raised to welcome new and innovative ideas; this will result in collaboration in team members as they communicate openly with each other in an ethical way (Edmondson & Nembhard, 2009; Van Dyne & LePine, 1998). Collectivist culture is followed in Pakistan, MC focus on helping and cooperating (Anbari, 2005) so we will propose the relationship between MC and CIT i.e when there is a new development focus task is required team member collaborate and share their skills and learn new. Therefore, MC has a positive relationship with collaboration in team.

5.1.3 H3: There is a Positive Impact of Collaboration in Team on Project Performance

The result of the H3 of the current study anticipates that there is a positive impact of collaboration in team on project performance under the proposed hypothesis.

Statistical analysis shows that $\beta = .732$ and p = .000 for our hypothesis, which shows the existence of an association between CIT and PP. β co-efficient of our hypothesis is .732 (p<0.001) there is a significant effect it means when we increase collaboration in team by one unit it causes a change of 73% in project performance. Hence our hypothesis is accepted.

Past research for our hypothesis also supports current findings as per past research collaboration in team is an important factor for enhancing project performance (Cao & Zhang, 2011; Simatupang & Sridharan, 2005). Collaboration in team occurs when the team members are unable to achieve the goal individually due to limited skills set and knowledge, to complement this for achievement of output for project the skills of individual members in a team are exploited so that they can share knowledge and skills with each other by involvement (Huxham & Vangen, 2013; Dietrich, Dalcher, Eskerod, & Sandhawalia, 2010).

Understanding mutual goal understanding, interdependency of activities and recognizing the member's contribution result in coordination in team which increase the collaboration in team members which help to align the team member to project goal (Bedwell et al., 2012) as projects are bounded by time which needs to be completed at that time, so there is need for adaptability to be applied in order to cope up with changes and to complete project on time (Yan & Wagner, 2017; Ammeter & Dukerich, 2002), coordination will harmonized the team member action which increases the quality of CIT (O'Leary-Kelly, Martocchio, & Frink, 1994).

Simatupang and Sridharan (2005) support the linkage between CIT and PP, signifying that to take advantage over a competitor by completing a project on time, collaboration contributes to take an effective decision at right time by team member by involving all individual in a team so that effort will increase the chances of success.

To cope up with technological needs, need to develop that product and services which are in accord to the need of stakeholders, project-based organization focus on this which required combine efforts and involvement for every team member so they can share benefit and risk equally which is supported in MC hence the

finding will establish the significant and positive relationship between CIT and PP in project-based organization of Pakistan.

5.1.4 H4: Collaboration in Team Mediating Relationship between Mastery Climate and Project Performance

The result of H4 of the current study anticipates that collaboration in team mediates the association between collaboration in team and project performance with respect to the proposed hypothesis and this hypothesis has been accepted because result show the significant and positive relationship of collaboration in team as mediator, as the value for lower limit and upper limit 0.2605 and 0.5127 respectively and there is no zero existing between the limits in the bootstrap of 95% around the indirect effect of relationship of mastery climate and project performance through collaboration in team. Hence H4 is accepted.

The literature about project management on critical success factors considered innovation and adaptability among all as contributing factors for project success (Di Stefano, Peteraf, & Verona, 2014). Due to shifting from traditional organization to project-based organization the need to innovate and to be creative increases to be competitive in the market and providing a solution to problems (Baer, 2012) which leads to enhancement of outcome (Shipton, Sanders, Bednall, Escribá-Carda, et al., 2016). The social context also has an importance apart from individual internal processes which will affect the collaboration of team and their creative work behavior (Hirst, Van Knippenberg, Chen, & Sacramento, 2011) mastery climate provide development opportunity focus on goal-reward structure there for team member feel obligated to perform better by coordination so that they can achieve project performance (Roberts, 2012).

When an individual member of the team perceives environment negative it will become difficult for them to cope up with changes and performance of the project will be affected (Swider & Zimmerman, 2010), MC promotes collaboration in the team by providing Psychological safety which increases the team morale (Creasy & Carnes, 2017), team morale subsequently increases project performance in MC.

The environment has an impact on project performance so mastery climate provided support to team members as it is supported climate foster by leader to project team it will help to achieve the project performance (He, Butler, & King, 2007) when developed any goal it will and achievement criteria for success help to develop collaboration in team as in previous research it is stated that collaboration have a positive relation to project performance (Cao & Zhang, 2011).

It is evident that in project-based organizations of Pakistan the team who is selected must be perfect for the project so that they can take decisions with collaboration for the betterment of project performance. In a supportive environment, they can share their ideas and thoughts which cannot be taken as wrong and meet regularly either formally or informally to discuss if any help needs and share their skills and knowledge. Therefore, mediation of collaboration in team occurs in the context of Pakistan between MC and PP.

5.1.5 H5: Prosocial Behavior Moderates the Relationship between Mastery Climate and Collaboration in Team; such that it Strengthens the Relationship when if Prosocial Behavior is at High Level and Weaken the Relationship when Prosocial Behavior is at Low Level

The result of H5 of the current study anticipates that prosocial behavior doesn't a moderate association between collaboration in team and project performance under the proposed hypothesis. Statistical Analysis show that t = -0.2548 for our hypothesis, that show the insignificant relationship of PSB between MC and CIT because for hypothesis to be significant the value of t = 2 indicate level of significance, as our value of "t" for this hypothesis is less than 2 show that our result is insignificant statistically and value of lower and upper limit is -0.0494 and 0.0381 have opposite signs and there is "0" existence in 95% level of bootstrap, it shows the result is insignificant. The value of β coefficient = -0.0057 indicates that prosocial behavior is not bringing any change in MC and CIT. Hence according

to statistical analysis, the results are not meeting the standards so H5 is rejected as it is insignificant with no impact.

Past research says that prosocial behavior has a significant impact on mastery climate and collaboration in team (Černe et al., 2014). As there is a need for teamwork, it needs social linkage with subordinates associated with the project and prosocial behavior helps to create such interactions (Al-Yaaribi et al., 2016). Even though literature is filled with such results that show the significance of prosocial behavior but several reasons support our result. First, cultural diversity has an impact on the behavior of individuals working in a team (Lane, Maznevski, Deetz, & DiStefano, 2009). With culture differences in team members and contextual environment cannot be generalized so there is a gap in determining all impact of social dimensions and their impact on performance (Geraldi et al., 2008). The research of Škerlavaj et al. (2019) proposed that when an individual focus more on prosocial behavior he will overly focus to learn and creating linkages with leader or management which will hinder their efficiency toward output as they focus to improve themselves.

In this study, we explored the moderating effect of prosocial behavior on the relationship of mastery climate and collaboration in team. More specifically, the study was intended to prove prosocial behavior enhances the collaboration in team when coupled with mastery climate. But the result of our hypothesis is not according to literature, our result is insignificant in our study sample prosocial behavior (moderator) does not significantly impact the relationship of a mastery climate and project performance. Hence, the above argument shows that hypothesis 5 was rejected.

Furthermore, Prosocial behavior the indirect effect of MC and PP via collaboration in team such that PSB is high the relation will be high and PSB is low the relation will be weaker. Result did not provide justification for the acceptance of full model. So hypothesis 6 was rejected.

In conclusion, there is not only one factor of MC in which prosocial behavior impact collaboration, but there are also some other social factors which will affect this type of positive behavior. In the context of Pakistan, the data suggest that

when the mastery climate is provided it will automatically cause collaboration in team, team members have pre-determined criteria for performance which will not need any further extra-role help as it will nether impact the output positively nor negatively. Prosocial behavior is an individual's characteristic flourished in a specific context that needs acceptance by the leader and team members also to make it work. As the climate provided to the team the collaboration in team increase but need to develop such a supportive environment in the organization to perform its project better.

5.2 Practical and Theoretical Implication

This study has a practical and theoretical contribution to past literature. As this study has added the aspect of mastery climate, collaboration in team, prosocial behavior and project performance in the literature of project management. First, the effort of this study is to investigate the impact of climate factors on project performance as there is limited knowledge exit on climate available concerning collaborative struggles for the performance of the project. Mediating process of collaboration in team has not been tested between mastery climate and project performance which also contributes to the contextual situation of Pakistan regarding project-based organizations.

The study demonstrates the significant realities by identifying the impact of mastery climate on project performance having collaboration in team within Pakistan's collectivism context were working as a team is always ideal for effective project performance and environment within the project organization available to the team for performance is also influencing the individual values, believes and interaction relation.

When project organizations foster mastery climate it can arouse collaboration in team. For example, it will help to develop success criteria for achievement of the objective, project manager or leader can easily set a goal related to project performance and learning which will develop an environment that will support collaboration in team (Christina, Rassouli, & Latham, 2015). It is identified through

a study that mastery climate improves the project performance as it allows the project team to adapt the changes as MC is adaptive in nature so it will help the team to be together to and work effectively for the task that is new to them as a result expected project performance is achieved.

The theoretical contribution is novel to our study, collaboration in team as a mediator between mastery climate and project performance which is not studied in literature before. Past literature presented on mastery climate and project performance has identified other mediators in the relationship but not collaboration in team has never been introduced as a mediator between the relationship. Our result for the study reveal increase in mastery climate factors increase the collaboration in team that lead toward the project performance as mastery climate promote information sharing, member's involvement in decision making and team member will know what should be valued and expected which in turn result in collaboration in team to work for difficult and specific goal.

Moreover, another theoretical contribution is the moderating role of prosocial behavior between mastery climate and collaboration in team where our collected data's result represents that prosocial behavior does not positively moderate the relationship between mastery climate and project performance in the contextual situation of Pakistan. In the context of collectivism society, this hypothesis has a contribution to the literature concerning consideration for cultural diversity.

Organizations with proper mastery climate that support team do not need any other factor to bring them together and there is no negative impact of prosocial behavior moreover the project manager or leader encourage the team member to bring personal development along with project performance by effective collaboration. Therefore, it is evident from our research that organizations should encourage supportive climate like mastery so that collaboration in team becomes stronger to evaluate the project performance, therefore contributing toward project management literature.

This study is equally important in the practical world. In this age of modernization where world is moving rapidly toward globalization, climate provided to

project team within they operate has become one of the major factor that contribute toward the projects by adopting criteria of success in their work situation which value combine efforts, development, growth, and organization need to develop strategies so that team member work more willingly for the performance of the project by creating positive interdependence in the context of team member performance and success. In the domain of project, the focus is on innovation and development therefor study contributes toward the industry to maximize the mastery climate, with collaboration in team by making joint decisions without an extra role of prosocial behavior it will lead to project performance.

This research is also helpful by providing the insight detail of environment within the projectized organization provided by project manager on how mastery climate enhance the project performance through collaboration in team, for the system to adopt in the way that ensures the performance at project level instead to prosocial behavior, collaboration must be needed to boost project performance.

5.3 Limitation of the Study

Although the practical and theoretical consequence of current study produces contribution toward the literature, there are few limitations in the research as it is not possible to cover all aspects in one study. By adding some knowledgeable facts in literature study has filled some research gap. There are other limitations associated with the scarcity of resources available and time constraints. Because of time constraints, qualitative data collection was also considered as a limitation for the study. The study sample is generated from project-based organizations of Pakistan and the result may not generalize to other sectors as it has their characteristics which other organizations have not and the result must be different for them. The target population was a reachable project organization leaving that which is not reachable.

Moreover, it is not possible to cover all aspect of prosocial behavior in mastery climate and collaboration in team; it was discovered after the analysis that result is not that which we are expected with reference to past literature may be due to a

cultural difference of our country as compared to other. Sampling technique is also the limitation because we use a convenient sampling method and gather the easily approachable data, this also a question to our research for generalizability. Further, the sample size is small and collected only from Rawalpindi and Islamabad, using this sample it is ambiguous that whether the result reported here is generalized to other countries as well. The analysis result may be different due to the strong cultural and situational factors of Pakistani contextual environment so there is a limitation of cultural aspect also.

5.4   Future Research Directions

This research exposed some novel opportunities for future research. In this research, we empirically tested the impact of mastery climate on project performance but in future researcher can test the impact of performance climate on collaboration in team of any project related variable either its performance or complexity that how performance climate supports the complexity of the project with other planning related variables. The focus of the current study is project-based organization this gives an opportunity to use this model in any traditional organization either public or private but must not be projectized to check the impact of mastery or supportive climate and performance with large sample size.

Moreover, the relationship between mastery climate and project performance can be studied with different mediating variable other than collaboration in team like the use of knowledge management system which also has a positive effect on performance when encountering with the climate of projectized organization. Future research can also focus on moderating variable between mastery climate and collaboration in the team other than prosocial behavior like the use of self-efficacy. There is also a room available for the study of the conditional effect on this model's variables. Mastery climate is novel in the domain of project performance.

Further, in this research, we test moderated mediation i.e prosocial behavior is used as a moderator after collaboration in team as a mediator future can also focus on mediated moderation in which after effective collaboration in team, prosocial

behavior can further add advantage in better project performance. Therefor future researchers can use the moderator prosocial behavior in another way or they can also use other variables as a moderator between mastery climate and collaboration in team so that strengthen effect can be achieved for effective project performance.

For further research attention must be made on the data collection method, the use of another method for data collection can also affect the result because in current analysis the study has limitations regarding sampling technique used to collect data from the aimed population. The significant result for the proposed hypothesis shows that this study can be used for the future in this project management area by linking a mastery climate for training staff. The sample size can also be changed for further research as this only focuses on limited reachable data. By using the above suggestion for the rejected hypothesis of moderation, the probability of achieving different results can be possible. Hence above mention suggestion can open the door for further addition in literature.

5.5 Conclusion

Projects in today's era need attention to producing a successful result or to achieve desirable performance. Therefor need is to manage different factor either its collaboration in team, climate provided, social interaction and many more. This study is conducted to develop the association of mastery climate with project performance having a mediating role of collaboration in the team. Data for research is collected from a project-based organization of Pakistan by the use of a questionnaire to measure the association of mastery climate and project performance with mediating role of collaboration in the team and moderating role of prosocial behavior. A total of 350 questionnaires were circulated to gather the data out of circulated questionnaire 280 were used for analysis as these are filled and appropriate to carry out the analysis for the current study.

Achievement goal theory is used to link variables that say that organizations environment creates a climate for goal achievement which needs to be managed through mastery climate and performance climate and statistical analysis shows

the reliability of scale used for a variable used in the model. All the proposed hypothesis was accepted except the moderation hypothesis which shows no impact of moderation between mastery climate and collaboration in the team.

The current study contributes to the literature of project management by adding mastery climate and collaboration in team to increase the project performance as there is a limited study about the variable exist in the literature of project management. In this analysis, H1, H2, and H3 are being excepted in the context of Pakistan with the help of past write up for variables.

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Appendix-A

Questionnaire

Dear Respondent,

Dear Respondent

I am student of Capital University of Science and Technology (CUST). I am conducting a research on " Impact of Mastery Climate on Project performance: Mediating role of Collaboration in team and Moderating role of Prosocial behavior" in context of Pakistan. Kindly fill in the below questionnaire it will take 05 – 10 minutes. Your responses will be kept confidential and will only be used for academic purposes. Your name will not be mentioned anywhere on the document, so kindly give an unbiased opinion to make research successful.

Regards,

Neelam Rauf

MS (PM) Student

Section: 1	Demographic Profile
Gender:	1- Female 2- Male
Age:	1 (20-30), 2 (31-40), 3 (41-50), 4 (>50)
Experience:	1 (<1), 2 (1-3), 3 (4-6), 4 (>6)
Qualification:	1 (Bachelor), 2 (Master), 3 (MS), 4 (PhD), 5 (Any Other)

SECTION 2: Mastery Climate

1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

1	In my department/work group, one is encouraged to cooperate and exchange thought and ideas mutually.	1	2	3	4	5
2	In my department/work group, each individual's learning and development is emphasized.	1	2	3	4	5
3	In my department/work group, cooperation and mutual exchange of knowledge are encouraged.	1	2	3	4	5
4	In my department/work group, employees are encouraged to try new solution methods throughout the process.	1	2	3	4	5
5	In my department/work group, one of the goal is to make each individual feel that he/she has an important role in the work process.	1	2	3	4	5
6	In my department/work group, everybody has an important and clear task throughout the process.	1	2	3	4	5

SECTION 3: Project Performance

1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.

1	The project results, or deliverables, are in line with client objectives.	1	2	3	4	5
2	This project is operating within the pre-estimated budget.	1	2	3	4	5
3	This project is operating within the pre-defined schedule.	1	2	3	4	5
4	Overall, our stakeholders are satisfied with the project outcomes.	1	2	3	4	5
5	The product quality and the deliverables quality accord with the standard.	1	2	3	4	5

SECTION 4: Prosocial Behavior

1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.

1	I get energized by working on the tasks that have the potential to benefit other.	1	2	3	4	5
2	I like to work on tasks that have the potential to benefit others.	1	2	3	4	5
3	I prefer to work on the task that that allow me to have a positive impact on the others.	1	2	3	4	5
4	I do my best when I am working on the task that contributes to the wellbeing of others.	1	2	3	4	5
5	It is important to me to have the opportunity to use my abilities to benefits other.	1	2	3	4	5

SECTION 5: Collaboration in Team

1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.

1	My teammates and I provide each other with useful information that makes work.	1	2	3	4	5
2	My teammates and I share knowledge that promotes work progress.	1	2	3	4	5
3	My teammates and I understand each other when we talk about the work to be done.	1	2	3	4	5
4	My teammates and I share resources that help perform tasks.	1	2	3	4	5
5	My teammates and I communicate our ideas to each other about the work to be done.	1	2	3	4	5
6	My teammates and I carry out our tasks at the appropriate. moment.	1	2	3	4	5
7	My teammates and I make sure our tasks are completed on time.	1	2	3	4	5

8	My teammates and I make adjustments in order to meet deadlines .	1	2	3	4	5
9	My teammates and I make progress reports.	1	2	3	4	5
10	10. My teammates and I exchange information on 'who does what'.	1	2	3	4	5
11	11. My teammates and I discuss work deadlines with each other.	1	2	3	4	5
12	12. My teammates and I can foresee each other's needs without having to express them.	1	2	3	4	5
13	13. My teammates and I instinctively reorganize our tasks when changes are required.	1	2	3	4	5
14	14. My teammates and I have an implicit understanding of the assigned tasks.	1	2	3	4	5