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Does Team Mindfulness Predict Project Team Performance? The Role of Team Cohesion and Effective Team Leadership

by

Ikram Khan

A thesis submitted in partial fulfillment for the
degree of Master of Science

in the

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I dedicate this work to my family, my friends and my teachers

CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY

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Abstract

Identifying Project team performance behaviors and techniques is critical to project success in project based organization. At times the difference between success and failure of a project could be the small things that were taken care of along the way. The purpose of the current study is to find the impact of team mindfulness on project team performance. Team mindfulness is a relatively newer concept which assists individuals and teams to focus attention on the present and not to judge by previous experiences and perceptions. It is proposed and examined to lead to better project team performance and eventually project success. The current study also aims to examine the mediating role of team cohesion between team mindfulness and project team performance. It is hypothesized and established that team mindfulness leads to team cohesion which brings about togetherness and attachment with in the team and in turn results in higher project team performance. Additionally, the study hypothesizes that effective team leadership moderates the relation between team mindfulness and team cohesion as well as team cohesion and project team performance. Leadership plays a vital role in teams and can sway the performance of the team in either direction given how effective or ineffective the leader is.

This study demonstrates that team mindfulness increases project team performance through team cohesion and effective team leadership. The important takeaways of this research include the assertion that team mindfulness is a root construct and hence can be applied to any team settings in any form of organization, and the establishment of a full mediation effect of team cohesion. Theoretical and practical implications as well as limitations and future research are discussed.

Keywords: TM as Team Mindfulness, TC as Team Cohesion, PTP as Project Team Performance, ETL as Effective Team Leadership

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Abbreviations

AMOS	Analysis of a moment structure
ANOVA	Analysis of variance
CFA	Confirmatory factor analysis
CFI	Comparative fit index
CXO	Chief executive officer
DF	Degree of freedom
DV	Dependent variable
ETL	Effective team leadership
GDP	Gross Domestic Product
GEQ	Group environment questionnaire
GFI	Goodness of fit index
GPA	Grade point average
HR	Human resource
IBM	International business machines
IT	Information technology
IV	Independent variable
MBA	Master's in Business Administration
NFI	Normed fit index
NGO	Non-government organization
PBO	Project based organization
PTP	Project team performance
RMSEA	Root mean square error of approximation
RMR	Root mean square residual
SEM	Structural equation modeling

SIT	Social interdependence theory
SPSS	Statistical package for social science
TC	Team cohesion
TLI	Tucker lewis index
TM	Team mindfulness

Chapter 1

Introduction

1.1 Theoretical Background

Project-based forms of Organizations have seen rapid growth and attention in recent times (Thiry & Deguire, 2007) owing to the ever changing and evolving technological environment and market conditions. The past 25 years have seen the evolution of programs from unorganized and vague bodies into entities where there are efficient mechanisms in place to achieve business benefits by aligning and incorporating different strategic change activities (Office of the government commerce, 2007; Project management Institute, 2013). With the increase in the size and complexity of the projects, the project management challenges have become more substantial (e.g. Turner, 2009; Turner et al., 2013; Daniel & Turner, 2016). In their study on future project management trends (Gemunden and Schoper, 2014) discovered that the term projectification was mentioned by nearly 82 experts worldwide who were part of the study. There is however no substantial and pragmatic evidence that supports the assertion of increasing projectification to support this very frequently made prerogative. The World Bank 2009 estimates for example show that the gross capital foundation, mainly achieved through projects comprise 21% of the world's GDP (Scranton, 2015). These are only rough approximations though and there is no proper scale of the extent of projectification yet. any attempt to conduct research and measure the scale of projectification from all

the economic sectors and project types, is yet to be made according to our best knowledge.

Many authors and researchers have over the years criticized the execution of large and mega projects (Morris & Hough, 1987; Miller and Lessard, 2000; Flyvbjerg et al., 2003; Merrow, 2011; Xue et al., 2013). For example, (Morris, 1994, 2013) opined that more strategic attention must be paid on the client side to project scoping. Flyvbjerg stresses on the importance of decision-making in the planning stages, especially for public sector megaprojects (Flyvbjerg et al., 2003; Flyvbjerg, 2008, 2009). Furthermore, the iron triangle criteria of time, cost and quality/scope tend to sway the scoping more on the demand side. While assessing the project and team performance during and after completion, these criteria are subsequently stated and discussed. The success and failure of projects therefore may depend on the way they are managed and the manner in which they achieve their goals (Lehtonen and Martinsuo, 2006). In order to achieve those goals, projects must be efficiently and effectively controlled (Nieminen and Lehtonen, 2008).

Individual and team mindfulness have come to the fore as a relatively newer concept in such techniques where certain team attributes can be enhanced to achieve greater performance and project success. While individual mindfulness has seen its fair share examined by scientific researchers (Glomb et al., 2011; Good et al., 2016), team or collective mindfulness have been considered but relatively understudied (e.g., David, 2015; Gelles, 2015) Management scholars have not yet seriously undertaken the challenge of how mindfulness affects teamwork (Good et al., 2016: 15; see also Hulsheger, 2015). There is a structural difference between team mindfulness and individual mindfulness (Morgeson & Hofmann, 1999); however in both teams and individuals, it functions in a similar manner (Davidson & Kaszniak, 2015; Good et al., 2016). Team mindfulness develops from team experience, thus it is a shared team attribute (Carter et al., 2017; Marks et al., 2001). This separates team mindfulness from individual mindfulness. Some Scholars have defined mindfulness as "a receptive attention to and awareness of present events and experience" (Brown, Ryan, & Creswell, 2007: p212; see also Brown & Ryan, 2003). When all members in a team cooperate with each other and relate to each

other in a way that is perceived similar by everyone, such that their thought process becomes the same; this gives rise to team mindfulness. (Carter, Carter, & DeChurch, 2017).

Hence Yu & Bruhn, (2018) introduces and validates a team mindfulness concept, and show its functions and importance as a safeguard against the malfunctioning negative aspects and effects of team conflict. Their research suggests that team mindfulness is an incorporated common belief among teammates that they should interact and make relations with each other based on their awareness and attention to present circumstances, and that they should see their inter-team experiences in the context of the present situation and not judge each other according to their previous experiences and thoughts. Hence team mindfulness is a concept that needs to be studied and considered in the context of the project based organizations in Pakistan to see how it affects team cohesion and project team performance.

Project is a temporary form of organization; this was first established by Lundin and Sderholm, (1995) in their article "a theory of the temporary organization". This was endorsed further by Turner and Muller (2003), who integrated the view of classic project management with the project as short-term organization viewpoint. The nature of project management is such that it encompasses many disciplines. Taking this into consideration, many scholars are now calling for a more universal approach by using a wide range of organization theories (Lundin, 2011; Sderlund, 2011).

In the modern era, Project Based forms of organizations or PBOs have been in the limelight due to their enhanced capabilities to combine and work together with resources and people possessing diverse and specialized skills and expertise (DeFillippi and arthur, 1998; Gann and Salter, 2000; Hobday, 2000; Keegan and Turner, 2002; Lindkvist, 2004; Sydow et al, 2004). This presents both a challenge and an opportunity for the PBO to work with such a diverse set of resources which can become the difference between the success and failure of the projects specifically and organizations in general.

As an emerging organizational form, Project-Based Organizations assimilate diverse, specialized and knowledgeable resources and expertise in the form of a

project team (Davenport, 2006, Sydow, Lindkvist, & DeFillippi, 2004). The demanding nature of the customers and industry trends require that project professionals from different functional units of the organization work together on the development of projects to deliver the highestquality products in the shortest possible time. Hence, project based organizations embrace temporary work structures and associates them with short-term work processes to deliver products and services to their customers swiftly and flawlessly (Turner et al., 2008). The success of a project based organization therefore very much depends on its knowledgeable workers' capabilities, the development of new skills and the innovative ways in which they make use of their skills (Davenport, 2006).

To this effect the concept of team work is very important and critical in the execution of project activities. The value of teams and teamwork in projects and product development is therefore indisputable. For nearly half a century, researchers have been trying to understand the circumstances that facilitate teamwork (Edmondson, 2009). Cross functional teams have been found to facilitate the implementation of successful projects to a greater extent (Pinto, et al, 1993). The predicament of higher and higher expectations of performance from projects and project teams necessitate a deep insight and understanding into the effectiveness and efficiency of teams and teamwork in project based organizations.

The dependence on team structure is very high in temporary project organizations. This implies that people from different departments will work together in the same teams (Goodman and Goodman, 1976). When studied in practice, the project teams are found to be more similar to a group of individuals rather than belonging to an organization group. (Bakker, 2010). A project team consisting of different organizations is an even more dynamic mix of people coming from different backgrounds with different experiences and expectations of the project objectives. The organizations that they permanently belong to, have their own specific requirements and expectations from the project. With this evidence it is obviously challenging to create a coherent team out of such a diverse group of individuals. Adding further to this challenge is the fact that the natural focus of such teams that are made for the shorter term would be more on the present

situation and tasks at hand rather than gelling well as a team. The team would hence process information in a rather erratic and inconsistent manner instead of adopting a methodological and organized approach (Bakker et al., 2013).

A Project team can be described as a group of cross functional individuals working together towards a common project goal. Members are usually assembled by acquiring resources from different functions and departments within the organization. Some Project team members are acquired from outside of the organization as consultants in case relevant expertise is not available inside the organization. Project teams usually get disengaged after the project is complete, or assigned to other projects where deemed necessary.

Team Cohesion is a very important factor when it comes to teamwork and is defined as the degree to which work team members stick together and join to achieve team objectives (Din, 2017). Cook, Cheshire, Rice and Nakagawa, (2013) defined team cohesion as "a project manager's opinion on the degree of attraction of a team's members to each other and the familiarity of the personal bonds among team members". According to the above definition, a more cohesive team will result in more effective project team. To achieve the team goals and requirements, they can get more conformity from each team member. Team cohesion can provide the positive team results that include awareness of difficulties, better creativity, increased enthusiasm, increased motivation, preference and openness to change. Different process aspects may impact team cohesion such as team structure and contribution (Quick & Nelson, 2013).

From the individuals prospective, team cohesion is generally described as positive emotions and feelings toward project team members or using of similar feelings between team members, giving importance to public enclosure and acceptance of the norms and values. In this way, team cohesion gives importance to an affective element in group practices. Cohesion is usually seen as an effect of expected understanding between team participants and relates positively with the member's activities in groups, team practice and results (Hoegl, Ernst & Proserpio, 2007). In their study, Quick and Nelson, (2009) say that high team cohesion will have a good impression on project team's performance, work fulfillment and employee

growth. High cohesive employees likewise have a tendency to have more persistence in their work to achieve the team objectives. This study is considering "team cohesion as an effect of team mindfulness which then results into better project team performance".

The temporary and unique nature of projects also make them more susceptible to higher rates of failure, however this does not deter organizations from investing more and more in projects and as a result this investment rate in projects has increased with the passage of time (Zwikael & Smyrk, 2015). Strategy is often about setting the long term goals of the organization and is driven from the top management. Strategic changes are often mainly achieved through projects (Ward and Daniel, 2012). Better Organizational goals and outcomes can be ensured by aligning the business strategy with projects (Morris and Jamieson, 2005; Loch, 2008). Organizations evidently accomplish more innovation and harness complex problem solving proficiencies through the undertaking of projects (Hobday, 2000; Hanisch and Wald, 2014; Lundin et al., 2015) hence achieving a competitive edge over their rival organizations.

Dane, (2011) says in their research study that mindfulness has an effect on employee performance in the organization. (Vogus & Welbourne, 2003) deduct in their research that mindfulness also leads to innovation, similarly (Dane & Brummel, 2014) discuss the effects of mindfulness on reduced turnover in the organization, moreover (Hafenbrack, Kinias, & Barsade, 2014) allege that mindfulness leads to better decision making and finally (Vogus & Sutcliffe, 2007) have studied its effects on quality and safety. Hence there is a wide variety of research on the effects on mindfulness on the organization and employee performance. There are strong reasons to believe that team mindfulness not only affects individual performance but also enhances team performance. Hence the study examines whether team mindfulness leads to project team performance. The study also looks at the concept of team cohesion as mediator to explain the relationship between team mindfulness and project team performance.

There are many studies and scholars who claim the projects that involve more innovation usually perform better because the project managers managing them are

more enabled and empowered (Larson and Gobeli, 1989; Clark and Wheelwright, 1992; Patanakul et al., 2012). There is a continuous stream of project management literature that proclaims on the surge in projectification of enterprises and organizations and this surge can be observed in not just a few but all segments of the economy. Hence not only individual firms are facing stiff competition but the effect is so far-reaching that it engulfs the financial wellbeing of the whole economies (Engwall, 2003; Sydow et al., 2004; Bechky, 2006; Whitley, 2006; Hodgson and Cicmil, 2007; Lindner and Wald, 2011; Packendorff and Lindgren, 2014). In conjunction with Midler's analysis of the fourth phase of organizational transition, where the processes of an organization are equally transformed into project and functional domains (Midler, 1995); It is expected that in process oriented organizations, the standardization of processes, process automation and trends like digitalization is going to further decrease the traditional functional structures and work (Keegan and Turner, 2002).

It is imperative for the project manager to have an effective and trust worthy team to complete the project deliverables on time, within budget and according to the specified quality. as for the team; it is equally important that they gel well quickly and seamlessly as a unit and work together in synergy to complete the most daunting project tasks that are also more time & labor intensive.

Leaders and Project managers lead and organize their teams in several ways depending on their leadership styles and personality types. Some might use authority and some use their charisma, while others might choose to lead by example (Yahaya & Ebrahim, 2016). However leaders and project managers need to come up with innovative scientific techniques to foster creativity, achieve team interconnection, ensure loyalty and achieve performance (Sosik & Godshalk, 2000). The aforementioned evidence in literature suggests that leadership plays a major role when it comes to teamwork and team performance therefore this study also examine effective team leadership and its moderating effects on team mindfulness, team cohesion and project team performance.

This study proposes that Team mindfulness affects project team performance and Team cohesion plays a mediating role by explaining the relationship between team

mindfulness and project team performance. The moderating effects of effective team leadership on the relationship between a) team mindfulness and team cohesion, and b) team cohesion and project team performance are also examined. A team with effective team leadership and rich in mindfulness will exhibit better team cohesion and that will eventually result in enhanced team performance for the project.

1.2 Research Gap

In their study, Yu & Bruhn, (2018) evaluated team mindfulness as a safeguard against multi-level team conflict transformation process leading to reduced task conflict and relationship conflict. They gave a concept of mindfulness at the team level and its role in reducing the negative effects of team conflict. From their study it is also identified that future research should evaluate and recognize the most important and new moderators that enhance and support each other. For example, mindfulness responds to short term incentive, so it is quite possible that teams with low trust levels will be protected by team mindfulness (Hafenbrack et al., 2014), so conflict transformation might be prevented by the intervention of mindfulness in teams with low-trust levels.

The study mainly focused on the effects of team mindfulness on team conflict; they encouraged future researchers to focus on other important aspects and outcomes like multilevel performance effects of team mindfulness because of the fact that organizational success in mainly dependent upon team performance which is a measure of team effectiveness and consequently individual performance and effectiveness (Carter et al., 2017).

The authors suggest that there should be a hypothetical and experiential examination of the effects of team mindfulness on individual and team performance through complex longitudinal designs which should inspect the different aspects of team mindfulness and team performance in future studies. They also conclude that team mindfulness can be applied to varying workplace settings, by conducting and replicating their study in project teams in an MBA program and achieving

the desired results. Hence I decided to apply this to corporate and service industry project organizations in Pakistan. These organizations employ a lot of project management professionals and incorporate related techniques for executing their projects. It is a known fact that many projects fail for one reason or another, and there could be many aspects of failure, like poor communication practices, inadequate training and learning, inappropriate and deranged team size and composition, and incompetent and underperforming teams (Antony & Gupta, 2018). Hence it would be very beneficial to examine the project team performance in the light of team mindfulness and see whether team mindfulness can lead to enhanced team performance in the projects. In this way future research could also explore the validity and importance of team mindfulness further.

Moreover the research design did not support an assessment of how much team mindfulness would associate with team cohesion and psychological safety. There could be important findings for us in the study of these domains. a cohesive team rich in understanding and communication is gelled well together and understands each other well (Wachs & Cordova, 2007). This kind of team can have all the potential to become a high performing team.

Considering the aforementioned gaps identified for this study, the relationship between Team Mindfulness and Project Team Performance is the focus area for this research. Team Cohesion has been identified as the mediator for this study as there is abundant research that leads to the belief that team mindfulness results in team cohesion which in turn results in better project team performance. Leadership also plays a very important role and no team is complete without an effective leader. Leadership is the rudder that keeps the ship steady in rough waters and projects can be imagined to be more than rough rides. Hence the study suggests that effective team leadership plays a moderating role between a) team mindfulness and team cohesion and b) team cohesion and team performance.

There is no indication that the concept of team mindfulness has ever been contemplated or tested in Pakistani work context, environment and project based organizations. Our project based organizations could benefit from mindfulness trainings for its employees where there is not much work done (if at all) on team

mindfulness to improve team member's performance. So the study looks at the project based organizations in Pakistan and observes the extent to which team members are mindful of their environment.

Traditionally, the focus of studies on leadership in projects have either been on the personality and leadership style of the project manager or the leadership processes evolving from the team (Muller et al., 2018). So this study attempts to find out the moderating effect of effective team leadership on the relationship between team mindfulness, team cohesion and project team performance in Pakistani project based organizations as this has not yet been attempted and is an avenue for further exploration.

Several meta-analysis studies have tried to explore the situations in which the effects of team cohesion are stronger or weaker as the relationship between team cohesion and team performance was not clear (e.g., Carron, Colman, Wheeler, & Stevens, 2002; Evans & Dion, 1989; Gully et al., 1995; Mullen & Copper, 1994; Oliver, Harman, Hoover, Hayes, & Pandhi, 1999). In their study on the Perceived Cohesion, and Team Performance" Kevin et al., 2018 had to unearth the dynamics of the team through the observation of MBA students in a virtual environment. If it were ever possible, a more representative sample would allow researchers to support or complement their observations. Further in the study on the detrimental effects of team cohesion and performance Hill et al., (2018) have used student teams instead of organizations which also raise questions related to the generalizability of the study findings. Hence this study involves people in real project based organization environments with people from both top and lower management teams as well as employees/subordinates.

In addition to this, there are many recent articles on the effects of different types of leadership like, authentic leadership (Lyubovnikova, et al., 2017), servant leadership (Chiniara & Bentein 2018), effective virtual team leadership (Maduka, et al., 2018). However there is not much research done on the moderating effects of effective team leadership, which the current study addresses.

1.3   Problem Statement

Projects are by nature short term endeavors (Lynch, 2014), unique and must end at some point in time. Hence the project teams formed to fulfill the project tasks must also dismantle at the time of project completion. Given this nature, it is often very challenging to achieve cohesion and loyalty in such short term teams (Hoegl et al., 2007; Chatman & Flynn, 2001) and bond them together in a way that they understand each other and communicate effectively. The absence of cohesion, trust and communication will lead to a direct effect on the performance of the project team. This will ultimately result in undesirable outcomes and might eventuality lead to the failure of the project.

In the context of multinational IT and service sector private organizations in Pakistan, we observe a lot of challenges in the execution of projects. External factors like political uncertainty, security situation, unplanned and sudden religious and political rallies and processions, law enforcement agency's lack of control over the aforementioned eventualities and most importantly the infrastructure unavailability makes it very challenging to achieve project success. Similarly internal factors like organization culture, employee relationships, management style and organization risk endurance and appetite are the main factors that influence the undertaking and execution of projects. Often frictions among competing organizations in collaborative projects within the relevant industry might be the reasons for distressed projects and their abandonment. Similarly inter departmental disagreements within the organization could scupper the project progress due to conflicting priorities by the functional managers.

It is therefore, imperative that the project teams develop a good relationship and understanding among each other and are mindful of the bigger picture of project success and the fact that they have to achieve the project objectives together by indulging in the least possible amount of conflicts and disagreements. Team mindfulness, as explained earlier seems to be the stimulus to achieve team performance through greater team cohesion. This paper will try to prove this hypothesis.

Similarly effective team leadership is paramount to the success of the project (Turner & Muller, 2005) as they will ensure that the project team is protected from both inside and outside influences discussed earlier. In addition to these, the project manager/leader must also ensure that the project team stays focused on the project goals, give their 100 percent and are duly rewarded and recognized for their efforts.

1.4   Research Questions

With the aforementioned problems identified, this research study intends to find answers to the following questions:

Research Question 1

Is there a positive relationship between team mindfulness and project team performance?

Research Question 2

Is there any positive relationship between team mindfulness and team cohesion?

Research Question 3

Is there a positive relationship between team cohesion and project team performance?

Research Question 4

Does team cohesion play a mediating role between team mindfulness and project team performance?

Research Question 5

Does effective team leadership moderates the relationship between team mindfulness and team cohesion?

Research Question 6

Does effective team leadership moderate the relationship between team cohesion and project team performance?

1.5 Objective of study

The objective of the research is to develop and test the predicted model to find out the connections between the independent variable (team mindfulness), mediator (team cohesion) and dependent variable (project team performance). As the study tries to establish that team mindfulness should enhance team cohesion which will eventually result in better project team performance. Enhanced project team performance is highly likely to lead to successful project outcomes.

Additionally the study evaluates effective team leadership as the possible moderator for the relationship of the variables mentioned in the research model (team mindfulness, team cohesion and project team performance). Leadership is very important for project teams; as important it is for any functional team in the organization. Whether a project manager should be a good leader or a good manager is a different debate, however they should possess both these qualities as they will come in handy during the life of the project.

The specific objectives of the study are stated below:

Research objective 1

Find the impact of team mindfulness on project team performance.

Research objective 2

Find the impact of team mindfulness on team cohesion.

Research objective 3

Find the impact of team cohesion on project team performance.

Research objective 4

Check and find the mediating role of team cohesion between team mindfulness and project team performance.

Research objective 5

Check and find the moderating role of effective team leadership between team mindfulness and team cohesion.

Research objective 6

Check and find the moderating role of effective team leadership between team cohesion and project team performance.

1.6 Significance of Study

The study is significant in contributing to the existing and future research of team mindfulness and the effects it will prove to have on project team performance. Team performance in projects is directly and positively related to Project success and this research contributes to a greater extent, in highlighting the role that team mindfulness will play in project team performance and project success overall.

Furthermore the study also measures whether team cohesion plays a mediating role as according to research this is the variable that actually explains the relationship between team mindfulness and project team performance. The study also looks into the moderating effects of effective team leadership to establish whether effective leadership in the team enhances the relationship between team mindfulness and project team performance. It is no secret that good leadership skill is essential to developing a good project team and helps achieve the project goals and objectives efficiently and effectively. The seven dimensions of employee enablement namely, power, decision making, information, autonomy, Initiative and creativity, knowledge, skill, and responsibility (Petter et al., 2002; Sun et al., 2011) and the strong impact of this empowerment on team creativity and performance suggests that the project leader and team members need to be given autonomy and authority to execute the project tasks effectively and successfully. So this research also focuses on the role of effective team leadership on project team performance improvement.

Overall this study plays a significant part in contributing to the role of teams, their relationships with each other, their performances, team leadership and their effectiveness in project success through the lens of team mindfulness, team cohesion, effective team leadership and team performance.

1.7 Supporting Theory

The model proposed in this study is supported by the Social learning theory by albert Bandura, (1977). The theory states that; learning in human beings occurs through observation, imitation and role modeling. all of this learning happens in a social context through a cognitive process even in the absence of motor reproduction or direct reinforcement. The Human learning process happens through observing the behavior and acts of others and we try to imitate what we see others do. For example we learn from our parents, peers, teachers and friends (Bandura, 1977) and then we try to implement those learnings in our appropriate settings. Learning is a continuous process and team mindfulness supports the notion of learning from our team members and advocates about living in the moment by focusing our attention to the present events. Mindfulness has very far reaching affects across a variety of social spheres, this attribute makes it vital to understanding the way human beings function and because of this attribute some scholars and researchers have extravagantly labeled it as a root construct (Good et al., 2016).

Putting the social learning theory in perspective we believe that Team mindfulness is an ability that is acquired by the individual member first and then with time the team members learn from each other with everyone's support to implement this in the team settings. The social learning theory also supports the idea that teams try to emulate and copy the behaviors and values of such role models who are more prominent and can be termed as effective leaders (Bandura, 1977). This team behavior then leads to better team understanding, coordination and communication without possessing perception bias for each other. These are also the traits exhibited by a cohesive team and this leads to the phenomenon of team cohesion where the team members sync with each other in perfect harmony, such that they act as a unit with greater understanding of each other. Greater team cohesion enhances team work and as a result the team achieves better results through their performances.

When the individuals in the team are mindful of each other and their environment, the execution of their tasks and their relationships with each other reflect the behavior of experiential processing. Members are not critical and defensive and do not judge and categorize others quickly and according to their certain experiences. This behavior is imitated by others and the whole team learns to behave in a certain way. This attribute of observation and imitation can be linked to the theory of social learning.

Chapter 2

Literature Review

2.1 Team Mindfulness and Project Team Performance.

To understand team mindfulness we must go into its origins and first understand the basic concept of mindfulness. In order to be a mindful individual, one simply needs to be more attentive to the "here and now" (Herndon, 2008, p. 32), and consequently let go of the past and the future thoughts (Brown & Ryan, 2003).

Researchers have come up with many definitions of mindfulness, however we have identified that Mindfulness can be defined as "a receptive attention to and awareness of present events and experience" (Brown, Ryan, & Creswell, 2007: 212; see also Brown & Ryan, 2003). This definition means that rather than dwelling in the past or contemplate the future, one has to be aware of the present, be wary of the current circumstances and pay attention while making decisions and passing judgements. This definition also coincides with the classical Buddhist view of mindfulness which highlights it as "awareness and attention of the present time" (Quaglia, Brown, Lindsay, Creswell, & Goodman, 2015). Awareness and attention are the terms that differentiate Mindfulness from other related states hence it is are very significant to understand and behold them. The capability of being able to ascertain proceedings, feelings and sensations according to the moment and not linking them with personal thoughts, perceptions and eventualities of the past and

the future, provides one with the ability to view events as real occurrences that should be dealt with accordingly in the current moment. Current moment refers to what is happening right now and focused attention implies that concentration is observed with conviction (Dreyfus, 2011).

For centuries mindfulness has been centrally used in Buddhist trainings however it began to draw attention as a therapeutic tool to treat chronically ill patients in the late 1970s (Kabat-Zinn, 2003) and then later in the earlier part of 1990's it was introduced to the management literature by Weick and Roberts, (1993) who studied and were inspired by the research of Langer and colleagues (e.g., Langer, 1989) on mindfulness, whose ideas are mostly different from the Buddhist philosophies.

There has been an increasing interest with over 4000 scholarly article already on the subject (Black, 2015), in understanding the concept of mindfulness and its application in organizations (Brown & Ryan, 2003) like Google, aetna, LinkedIn, and Ford where mindfulness has been used to make teams more productive (Gelles, 2015). This has not been limited only to organizations however and has also been used in applied sport psychology over the last three decades to optimize performance by incorporating mindfulness in athlete's trainings (Kabat-Zinn et al., 1985).

The obvious reasons for this surging interest are the facts that mindfulness impacts the human functioning very positively in general (Brown, Ryan, & Creswell, 2007) and there is emerging research that links mindfulness to better organizational operations (Glomb, Duffy, Bono, & Yang, 2011). Hence the literature on mindfulness promoting its positive effects and covering a range of domains and journals is growing rapidly and is generally showing how important and critical it is becoming to scrutinize and discover its effects on the field of management in an organized way.

Much like conceptual processing is essential to organization life (Walsh, 1995); experiential processing is the trademark of mindfulness (Brown et al., 2007; Teasdale, 1999). Mindfulness at work can be best understood by comparing these two concepts. Thought takes precedence over attention in conceptual processing and

it quickly goes to conclusions based on perceptions as we go through experiences during the day. Conceptual processing also takes the forms of concern or contemplation (Watkins, 2008) due to its recurrent and repetitive nature, i-e happening again and again. Hence with conceptual processing we try to understand and comprehend the stimuli in a nonrepresentational, judgmental and prejudiced manner (Leary, 2004; Watkins, 2008).

Serious considerations have not yet been given to investigate the effects of mindfulness on team work by management researchers in particular (Good et al., 2016: 15; see also Hulsheger, 2015). The advancement of both academic and applied research knowledge therefore necessitated the need to create and verify a theory about team mindfulness to study and capture the effects of this fascinating concept (Good et al., 2016; Hulsheger, 2015; Sutcliffe et al., 2016). Yu & Brun, (2018) investigated team mindfulness and its safeguarding role against team conflict transformation process on multiple levels. They defined the team mindfulness concept as the shared perception among the members of the team that their inter team experiences and coming together are to be observed and formed through their awareness and attention to current events and experiences, not judging each other based on their previous perceptions and experiences and spending time with the team as a new experience. Along with the introduction and authentication of a team mindfulness paradigm, their aim was to show that team mindfulness also protects against the negative effects of team conflict. In their study they showed that team mindfulness breaks the link between conflict types and individual deviant behavior through its functions of stable attention and control, non-reactive, open and nonjudgmental processing of experiences (Davidson & Kaszniak, 2015; Good et al., 2016). Adding to the essential knowledge base of organizational behavior, the value of team mindfulness is of paramount importance and the study achieves this by highlighting the application and assessment of mindfulness in teams and its relation to social developments (Good et al., 2016; Hulsheger, 2015; Sutcliffe et al., 2016). The main difference between team and individual mindfulness is that team mindfulness originates from team experience and it is therefore a joint element owned by the team (Carter et al., 2017; Marks, Mathieu, & Zaccaro, 2001). The

two fundamental ingredients (present focused attention and experiential processing) of both team and individual mindfulness however remain the same, but each retains different configurations and arrangements (Morgeson & Hofmann, 1999).

The influence of mindfulness on performance is supported by empirical evidence in multiple areas, for example, performance level improvements, reduction in the variability of the performance, protecting performance in intimidating and troublesome situations and affecting motivation and goal-directed attitudes (Good et al., 2016). A mandatory element of job performance is task performance, which encompasses the attitudes and attributes necessary to support the technical epicenter of an organization (Motowidlo, Borman, & Schmit, 1997). The contingency theory by Dane, 2011 is a prominent theory for explaining the relationship between mindfulness and task performance at present time. This theory assumes that mindfulness expands the spectrum of attention, meaning seeing less through the lens and more of a broader picture. In their model the qualities of attention (i.e., stability, control, and efficiency) infers that the positive effects of mindfulness on performance may be more widespread even in ordinary settings (Good, et al 2016). The observations made by Dane, (2011) suggest that mindfulness helps maintain a wide external attentional Breadth which is likely to contribute favorably to task performance in a dynamic task environment. Wide internal attentional breadth fosters task performance when one has a high level of task expertise. Projects usually have high level experts, assembled from different parts of the organization internally or acquire external consultants and the task environment is also dynamic with ever changing requirements and goals. Hence mindfulness can be positively associated with better task performance.

The repercussions of collective mindfulness for employees and organizations have been the subject of more research by scholars recently, which has led to the discovery of a wide range of its benefits. Collective mindfulness has been defined as the ability to swiftly respond to and differentiate among the facts of the emerging problems without prejudice (Weick et al., 1999, 2000; Vogus & Sutcliffe, 2012). Employees working in organizations with prevalent mindfulness have been associated with low turnover rates (Vogus et al., 2014), and equally organizations where

mindfulness is practiced have observed a lot of positive and constructive outcomes, like increase in customer satisfaction rates (Ndubisi, 2012), effectiveness in resource distribution (Wilson et al., 2011), enhanced quality, safety, and reliability (Vogus & Sutcliffe, 2007 a,b) and superior innovation (Vogus & Welbourne, 2003).

The earliest research shows that mindfulness has a connection to facets of performance, specifically when considering the ethical, prosocial, and deviant aspects of behavior. As per research by Reb, Narayanan, and Ho (2015), mindfulness is connected to a higher level of moral, and prosocial conduct, as well as a lower level of nonconformity. Consistent research has shown that mindfulness influences performance in many ways, for example job performance, task performance, Organizational Citizenship Behavior, deviance and health and safety (Good et al., 2016). Servers at a restaurant have been shown to exhibit better job performance connected to trait mindfulness (Dane & Brummel, 2014). This has also been shown to be the case with supervisors (Reb, Narayanan, & Chaturvedi, 2014). In the academic field, trait mindfulness is also correlated to academic performance with indicators such as overall GPa among MBa students. However, this has been shown to be the case only with women (Shao & Skarlicki, 2009). When tested against initial performance and that of a control group, middle managers have shown positive correlation with mindfulness; as indicated by mindfulness training, and job performance; as rated by their supervisors (Shonin et al., 2014).

In the healthcare sector specifically psychiatry, coaching and mentoring based on mindfulness resulted in better performance among treatment teams, and a greater level of attendance of patients at group and individual therapy sessions. The results also indicated that satisfaction levels among staff, and patients increased, with patient satisfaction exceeding staff satisfaction. This suggests that coaching and mentoring based on mindfulness may result in enhanced performance of treatment teams in adult psychiatric wards (Singh et al., 2006).

In general terms, paying careful attention to information relevant to their tasks, should have a marked impact on task performance. Efficient attention, for example, results in a reduction of costs related to attention, which implies a more controlled, and stable level of attention in routine tasks, an area where most errors are

made due to a lack of attention. Such errors may be reduced through mindfulness, as mindfulness reduces attention lapses (Smallwood & Schooler, 2015). Moreover, the mechanism through which this framework seeks to improve performance is by incorporating emotional, cognitive, behavioral, and psychological changes in the individual. For example, mechanisms such as Fluid Intelligence (Postlethwaite, 2011), a positive emotional tone (Miner & Glomb, 2010), and a reduced response to stress (Hunter & Thatcher, 2007) are correlated with an improved job and task performance in organizations. It is therefore logical to suggest that there is a link between mindfulness and improved performance. Hence we deduce that better task performance may also eventually lead to better project team performance

Just as meditation experience is connected to creativity, different and holistic trains of thought (Colzato, Ozturk, & Hommel, 2012), mindfulness, and trait mindfulness predict problem solving based on better insight (Ostafin & Kassman, 2012). Research conducted by Ding et al. (2015) shows that a brief mindfulness training was related to an increased level of insight when dealing with problems. The participants showed neural patterns which suggested that attention control led to the increased level of insight and flexibility in thought patterns. From a broader perspective, these results show that an increased level of mindfulness generates better mental capacity, as well as flexibility. at the very least, this is partly due to the effects of mindfulness on attention.

According to Glomb et al. (2011) due to mindfulness, there is greater regulation of one's own behavior, which forms the workplace behavior. A number of outcomes at the workplace have been shown to be affected by the impact of mindfulness on cognition, emotion, physiology, behavior, and attention (e.g. akinola, 2010; George, 2000; Lord, et al., 2010; Ocasio, 1997; Walsh, 1995). It is therefore suggested by Good, et al. (2016) that these mechanisms affect organizational outcomes such as relationships, well-being, and overall performance. When considering the effectiveness of team with regards to how well coordinated they are mentally, two traits similarity (having similar structures of knowledge), and accuracy (where mental schemata of the team are inclined to represent facts) stand out. Teams exhibiting such a level of mental coherence facilitate each other, and outperform

teams where these traits are not present, and this is shown by the example of high performance work teams, such as Flight crews, and medical teams (Mohammed, Ferzandi, & Hamilton, 2010). There is a possibility that better attention through increased mindfulness would allow teams to develop a better awareness of members' tasks, thereby leading to the formation and/or inculcation of better shared mental models.

There is also evidence to suggest that relationship conflict is reduced due to team mindfulness (Yu & Bruhn, 2018). Reduced relational-conflict is directly proportional to better team performance (De Dreu & Weingart, 2003; De Wit et al., 2012). Mindfulness also plays a vital role in learning behaviors among team members, whereby members examine their actions, and the behaviors in order to improve team performance (Edmondson, 1999). This behavior can also be related to the supporting theory of social learning, which implies that human beings learn through observing, imitating and setting others are role models (Bandura, 1977).

With the help of better motivational and attentional abilities, mindfulness also supports the pursuit of individual and team goals. On the basis of the above literature I am deducing that team mindfulness will have a positive effect on project team performance, the first hypothesis.

H1: There is a positive relationship between team mindfulness and project team performance.

2.2   Team Mindfulness and Team Cohesion

The way cohesion is seen is usually by looking at the level of understanding between group members, and it correlates positively with the activities of individual members as well as the overall results for the team members (Hoegl et al., 2007). Therefore, cohesion leads to higher productivity of the team members. When looked at from the perspective of the individual, cohesion is seen as an amalgamation of positive feelings of the individual team members, and these feelings are shared across the team between members. Generally, people like to work with, and relate to people who are similar to them. This is an important component of

social cohesion, which refers to the feeling of creating and keeping social relations inside the social gathering (Carless & De Paola, 2000).

One of the key aspects influencing the behavior of people in teams is perceived cohesion (Ensleva et al. 2002; Janis, 1982). Cohesion is seen as the fabric that inspires individuals to remain connected, and together (Festinger et al., 1950), and is dependent upon how people in the team interact and work with each other (Marks et al., 2001). When talking about perceived cohesion, it can be described as "an individual's sense of belonging to a particular group and his or her feelings of moral association with membership in the group," and "is an attribute of individual's reflection and appraisal of their relationship to the group" (Bollen and Hoyle, 1990, p. 482).

The sense of belonging to a group in individuals largely reinforces an individual's sense of identity as part of a group, as well as the level of attraction and goodwill that he/she expresses towards other members (Beal et al., 2003). This sense serves as an incentive for not deviating from group norms, so as to avoid exclusion, and marginalization from the group (Janis, 1982), and is connected to the amount of commitment, as well as group pride that one shows. Cultures that are based on strong shared ethical values, place greater emphasis on cohesion, and in doing so forms incentives for individuals to not deviate in their behavior. As an example, acquiring and utilizing privileged information is seen as an unethical behavior, which is not only seen as such by outsiders, but also by one's own group members, even if such information is gained solely for the benefit of the group. This is especially true if this action goes against group norms (Gino et al., 2009).

Team cohesion can also be seen as the level of cooperation in achieving shared goals. We can see this as a collection of processes apparent in a group's activities, specifically as they relate to the members of the group in the way that they stay together and committed for the achievement of their goals, as well as fostering fulfillment of members' emotional needs (Mach & Baruch, 2015). When seen from the perspective of group life-cycle, cohesion is usually seen to be prevalent at the later stages of the formation of a group (Woerkom & Sanders, 2010). Results from questionnaires indicate that for teams to have any attachment, two indicators are

common. These are social and undertaking cohesion, the former referring to the way people join groups for shared purposes and the latter reflects the tendency to join groups out of responsibilities that are assigned (Castano, Watts & Tekleab, 2013). For an effective team to be created, managers view cohesion as inherently important. The task of the manager in fostering cohesion within a team is, then, to bring together different people of different aptitudes, as well as instilling different perspectives in all (Salas et al., 2014).

A number of studies show the positive relationship between team mindfulness and cohesion. For example, Singh et al. (2006) suggests that when mindfulness training and mentoring was delivered to previously uninterrupted teams, the teams' cohesion and functioning improved significantly, not only in the short run, but also in the long run. This was shown to be the case as a result of a yearlong follow up, and without any further intervention. The insight gathered from the study is that collaboration, rather than competition leads to better performance of certain tasks. Further, the study found that the staff that participated in the mindfulness-based trainings reported positive outcomes such as an increased self-esteem, increased assertiveness without any negative consequences, as well as increased confidence levels with regards to questioning others in their teams. The training also led to a more humanistic approach by the staff towards treatment plans. Moreover, the study continues on to report that leaders of the teams became more flexible, balanced, and acceptable in their leadership style. The team was also reported to have learnt the crucial skill of taking professional things professionally, rather than personally, as well as developed a greater level of loyalty and commitment to the team and the work (Singh et al., 2006).

Whilst studies in management show the connection between social processes and team performance (Mathieu et al., 2000), the impact of mindfulness and relational processes within the team are shown more profoundly outside the management literature, with a special emphasis on health care. Research published by Singh, Singh, Sabaawi, Myrs, and Wahler, (2006) shows the results of a mindfulness-based training intervention on therapeutic treatment teams. The observations reflected an increased quality of team meetings, with participants actively listening, as well

as discussing patients productively, and collaborating on the basis of respect with other team members. The study's follow up found the results to be prevalent even after a year. A further study was conducted on a group without any formal leaders student groups. When mindfulness-based training was given to a random selection of participants, they showed an increased level of cohesion, and collective performance with the group (Cleirigh & Greaney, 2014).

Mindfulness may also improve cohesion through improved conflict management. It was found that mindfulness improves perspective-taking (Krasner et al., 2009), which is an important foundation of performing negotiations (Galinsky et al., 2008) and can result in lower task based conflict. Controlled and Stable attention may also benefit teamwork by improving the formation and coordination of shared mental models (Metiu & Rothbard, 2012). When teams are in the phase of "norming", conflict resolution usually leads to increased cohesion, satisfaction, and trust. Further, because task conflict is tied to relationship conflict (for example, conflicts from tasks can lead conflicts in relationships, and vice versa; Jehn, 1997), a direct, and negative correlation has been found between conflict and cohesion by De Dreu and Weingart (2003) in their meta-analysis.

Scholars are of the view that conflicts in relationships adversely affect the efficiency of a team. This is because relationship conflict between team members show lowered satisfaction, and attraction towards other members, and a reduced motivation to stay in the team (e.g. Amason, 1996; Ensley et al., 2002; Jehn, 1995, 1997; Jehn & Mannix, 2001; Peterson & Behfar, 2003). The mechanism is related to increased tension, higher antagonism, and distraction between team members (De Dreu & Weingart, 2003).

As per research conducted by many scholars, conflict is inversely proportional to cohesion (e.g. De Dreu & Weingart, 2003). Directly addressed conflict tends to improve the environment within the team, making it more open, healthy, and constructive for the long run (Brett, 1984; Campbell & Dunnette, 1968; De Dreu et al., 2000; Montoyaet al., 2001; Moor, 1986; Shapiro & Kulik, 2004; Van de Ven & Ferry, 1980). Teams can overcome disagreements, and develop better cohesion through open conversation, and communication. according to the theory of

punctuated equilibrium by Gersick (1988, 1989), higher awareness in teams over a passage of time results in the desire to resolve disagreements over tasks, resolve conflicts, and implements a mutually agreed approach through cohesive efforts following the midpoint transition, Further, Van de Vliert, Euwema and Huismans (1995) found that conflict management can result in better relationship outcomes (such as increased mutual trust, and better quality of relationships), and these outcomes are positively correlated with cohesion (Dion, 2000).

According to Edmondson and Smith (2006, p.19), focusing on the resolution of relationship conflict in the face of important issues "served the decision making process, helping to deepen the team's understanding of each other and of the issues, and helping the team make progress." It follows, then, that better conflict management mitigates adverse effects of relationship conflict as it pertains to team cohesion. Therefore, it is hypothesized here that team cohesion is positively correlated with conflict management (Tekleab et al., 2009). The learning behavior of a cohesive team leads to better understanding, coordination and communication and learning from each other in a way that they act as a unit with greater understanding of each other. This can be attributed to the supporting theory of social learning (Bandura, 1977).

It has been found that team mindfulness leads to reduced conflict in terms of tasks, as well as prevents undermining of team members (Yu & Bruhn, 2018), resulting in better understanding and tolerance within the team. Cohesion can be understood as an effect of the level of expected understanding between group members, and is positively connected to activities and practices of the members within the group (Hoegl, Ernst & Proserpio, 2007); therefore team mindfulness has an impact on cohesion within the team. Further elements of cohesion as seen by Beal, Cohen, Bruke, & McLendon (2003) are solidarity within the team, and a desire to appear in gatherings, and complete assignments. It follows then that team cohesion will be a product of mindfulness.

H2: There is a positive relationship between team mindfulness and team cohesion.

2.3 Team Cohesion and Project Team Performance

As previously stated, there is a positive link between team mindfulness, and how cohesive the team is. The focus turns now to building upon this hypothesis, by establishing a correlation between team cohesion, and project team performance. Generally, cohesion in a team refers to smooth functioning of a team where the members show a close bond and understanding of each other. Cohesion is not an individual attribute, but rather a group attribute, and the literature points out that affective states of team members influences team performance (Barsade & Gibson, 2012; Collins et al., 2013).

Cohesion as a construct comprising of several dimensions was proposed by Festinger (1950). according to Festinger, cohesion is determined by several factors, including initial attraction of the group members to each other, the kind of activities performed by the group, as well as the status and prestige of the group. Gully et al. (1995) is of the view that interdependence between group members when it comes to their tasks is a moderator of the relationship between cohesion and performance. The more a group's tasks are interdependent between members, the more important cohesion becomes in achieving higher performance.

As a mechanism that defines the factors that bind team members to each other, and their shared purpose, cohesiveness is an important construct (Festinger, 1950; Carron, 1982). A multitude of studies has found cohesion to be positively proportional to team performance (e.g., Beal, Cohen, Burke, & McLendon, 2003; Castao, Watts, & Tekleab, 2013; Mullen & Copper, 1994). Cohesiveness can lead to not only a greater collaboration between team members towards achieving their own goals, but also to more collaboration with other teams. The thinking among researchers is that cohesion leads to an increased mutual commitment to the achievement of tasks, and goals, as well as increased coordination. When the team is cohesive, members' feel increased motivation, develop better work strategies, communicate effectively, and are focused on achievement of team goals (e.g, Beal et al., 2003; Casey et al., 2009; Gully et al., 1995; Mathieu et al., 2015).

Following from this, Chiniara & Bentein (2018) are of the view that cohesion in the team is positively linked to the team's performance on tasks.

Team cohesion is discussed broadly in terms of its connection to team performance (Salas et al., 2014). Teams usually comprise members that contribute positively towards the goals of the team (Allen and Badcock, 2003). Therefore, according to Gully, Devine and Whitney (1995), when team performance and team cohesion are viewed at the group level, they exhibit a stronger relationship. Some important elements of team cohesion include pride in the group, commitment to tasks, and attraction between members. Since research suggests that teamwork is important in achieving an optimal performance level, training in teamwork is found to positively affect both technical, and non-technical performance. For achieving an optimal performance, the role of the individual is important. However, the team affects an individual's performance as well (Meese & Borkowski, 2017).

Performance of a team is a function of the progression of the team's work through each of its member, not just the addition of members' performance. According to Tesluk et al. (1997), various Human Resource policies can increase productivity at each stage of the team's workflow. The authors placed a high emphasis on running team level HR Programs as opposed to programs focused on the individual level, specifically when the workflow consists of interdependence between team members. The observations give the insight that cohesion is strongly linked to team performance, specifically as workflow becomes more interdependent between members. Elements like attraction between members, mutual commitment, and a feeling of pride from belonging to a group have a significant effect on performance as tasks become more interdependent at each stage of the workflow.

Cohesive groups are seen to outperform non-cohesive groups when the organization is focused on achieving efficiency, as opposed to times in which the requirement is the mere completion of work (such as achieving a high score on a project, winning games, or a successful surgery, for example). Further, due to the fact that behaviors are antecedents to outcomes, they may be closely connected to cohesion. It is difficult to reconcile the relation between cohesion and performance, when the mediating presence of performance behavior is missing. Meta-analyses of the link

between cohesion and performance show that cohesion benefits performance. This suggests that the benefit resulting from such a link has far reaching implications for many conceptualizations of the constructs of cohesion and performance.

Finally, the study is also aware of how cohesion is connected to another domain of performance, which is contextual performance. While there is no universally agreed definition of contextual performance, generally, the elements of contextual performance comprise "behaviors that exhibit more support for the wider organizational, social, and psychological environment in which the technical core must operate, compared to supporting the technical core itself" (Borman & Motowidlo, 1993, p. 73). Cohesive groups are likely to exhibit higher levels of contextual performance in that members of a group are helpful to each other (LePine, et al., 2000). according to research conducted by Beal et al. (2003), there is a positive relationship between cohesion and contextual performance, due to the occurrence of contextual performance at the individual level. Therefore, it can be suggested that each of the components of cohesion i.e. interpersonal attraction, task commitment, and pride in the group as identified by Festinger (1950), are independently related to performance across multiple categories of criteria.

The kind of cohesion that is likely to have a positive impact on performance is where team members are attracted by tasks, and have common interest and commitment to the task (Bahli & Buyukkurt, 2005). As per recent studies, team performance can be improved as a result of better relations between team members (Sivasubramaniam, Liebowitz & Lackman, 2012). Greater cohesion leads to better project team performance. This is implied in studies conducted in psychology where it is suggested that the more cohesive a team is, the better it executes its tasks (Mathieu et al., 2015). Since all this learning happens in a social context through a cognitive process without direct reinforcement (Bandura, 1977), hence this can be linked to the supporting theory of social learning. Moreover, the study by Quick & Nelson, (2009) suggests that a higher level of cohesiveness in the team leads to better team performance, and feeling fulfilled from work. Cohesive teams, therefore, are more likely to achieve greater consistency in their work and in achieving their goals. When team members are cohesive, and connect on a level

of mutual understanding, their performances improve, and as a result the project team's performance improves as well. Therefore, the derivation from the research is that cohesion in teams positively influences their performance.

H3: There is a positive relationship between team cohesion and project team performance.

2.4   The mediating role of Team Cohesion.

Team performance improvement has been the subject of organizational research throughout the history, and identifying its factors and processes has been an important milestone. While pursuing this milestone, the motivational and social forces that are shared by the team mates have been the particular focus area for researchers. These forces give existence to cohesion which is a bond between the members of the group, as this bond becomes stronger the productivity of the group increases; this has been the intuitive and theoretical hypothesis. It is presumed that the team performs well, is highly motivated and coordinates actions in a better way when the bonds among team members and cohesion are strong (Cartwright, 1968; Davis, 1969).

It is suggested that mindfulness helps bring people alive to the current situation ((Hanh, 1976, p. 11), makes them familiar to their internal states and processes (Epstein, 1995) and improves their mental and physical wellbeing (Thondup, 1996). There is strong evidence to advocate that mindfulness helps improve mental and physical health, regulates behavior and improves the quality of relationships between people (Brown, Ryan, & Creswell, 2007). Harvey (2000) observed that mindfulness embodies "keen awareness of mental and physical phenomena". A principal component of job engagement called absorption is very similar to mindfulness (Macey & Schneider, 2008; Rich, LePine, & Crawford, in press). The state of absorption makes one engaged with a specific role and brings him/her to a state of deep attention to the tasks and activities (Agarwal & Karahanna, 2000; Rothbard, 2001; Wild, Kuiken, & Schopflocher, 1995).

The emergence of team mindfulness incorporates similar perceptions among team members regarding their dealings with each other (Carter, Carter, & De church, 2017). The functions of mindfulness like awareness, attention focus and the processing of events as nonjudgmental and experiential, helps safeguard against the processes of group conflict (Glomb et al., 2011; Good et al., 2016). Conflict is very damaging for teams and there has seldom been any illustrations where conflict resulted into anything positive (De Dreu & Weingart, 2003; De Wit et al., 2012; Todorova et al., 2014).

Yu and Bruhn (2018) explain how the aforementioned team mindfulness functions and others like controlled reaction and open execution of experiences (Davidson & Kaszniak, 2015) interrupt the connection between conflict types and the deviant behavior of individuals in the team. They pointed that team mindfulness helps protect against a) relationship conflict, b) the formation of relationship conflict from task conflict, and c) the cross-level spreading of team relationship conflict to the social dejection of the individual. Trait mindfulness was found to be linked to lowering the behavior of counter productiveness in individuals by Krishnakumar and Robinson (2015), a reduction in hostile feelings mediated this effect. Since the experiential processing function of mindfulness helps focus on the internal (e.g., thoughts and emotions) and external (e.g., registering the observed facts) it can be said that mindfulness might improve relationships and partner interactions by helping them give constant attention to each other. This will improve their capacity to communicate emotional feelings and thus improve their communication (Wachs & Cordova, 2007). Hence it can be said that mindfulness may result into team cohesion.

There are many definitions of cohesion derived by researchers on group behavior, most of which are extensions of Festinger's definition (1950): "Cohesion is the resultant of all forces acting on the members to remain in the group," the part of "remaining united to reach a common goal" was added later by Carron (1982). Cohesion does not occur at the time of the formation of the group; rather it develops as people in groups work together with each other and gets to know each other well (Gosenpud, 1989; Harrison, Price, & Bell, 1998; Matheson, Mathes, &

Murray, 1996). Hence it can be said that cohesion would affect the performance of the team in a later phase in the formation of the group and that's the basis for its mediating effect on team mindfulness and project team performance.

Several meta-analysis studies have tried to study the situations in which the effects of team cohesion are stronger or weaker as the relationship between team cohesion and team performance was not clear (e.g., Carron et al., 2002; Evans & Dion, 1989; Gully et al., 1995; Mullen & Copper, 1994; Oliver et al., 1999). So Mullen and copper (1994) tried to bring some clarity on this by examining the historic belief on the composition of cohesion into attraction between members, sense of pride being part of the group and commitment to task. In their study they found that the attraction between members and their sense of pride being part of the group did not relate to performance independently, however the commitment to task related considerably to performance. Other scholars have discovered an increase in effectiveness in language behavior in cohesive teams (Mickelson & Campbell, 1975), improved convergence in the group's mental model (Mathieu et al., 2000), and an increased use of transactive memory systems (Hollingshead, 1998, 2000; Wegner, Erber, & Raymond, 1991). To sum it up, team cohesion improves the ability of teams to proficiently use their resources as they know each other well and are aware of each other's potential of successful task completion and motivation (Mullen & Copper, 1994). After examining different aspect of cohesion these scholars and researchers came to the conclusion, that member's attraction to each other and taking pride in the group were not the factors to contribute to team performance; rather it's their commitment to task that in the only factor resulting in team performance. So members of highly cohesive teams interact more frequently and positively, possess increased enthusiasm (Schriesheim, 1980) and compared to less cohesive teams they endure better and positive psychological states (Chen, Tang, & Wang, 2009).

Through the creation of a context of social exchange, team cohesion helps induce a helping attitude towards others (e.g., George & Bettenhausen, 1990; Kidwell, Mossholder, & Bennett, 1997). Furthermore, affective positive states and moods are abundantly experienced by cohesive team members (Baumeister & Leary,

1995), and the positive effects of these pro-social manners are well known to us (e.g., Bateman & Organ, 1983). Based on this rationale and supporting results we theorize that group cohesiveness positively influences team performance. It is suggested that enhanced team cohesion would facilitate the expansion of team mindfulness towards better project team performance.

Team mindfulness also reduces task conflict (Yu & Bruhn, 2018), and results in improved understanding, participation and cohesion in the team (Hoegl, Ernst & Proserpio, 2007) which has an influence on the team members' focus, hard work, eagerness and commitment to perform tasks and achieve goals, thus improving team task performance. Similarly, more prominent team cohesion results in higher team execution (Mathieu, Kukenberger, Innocenzo & Reilly, 2015), which leads to enhanced team performance (Quick & Nelson, 2009). As already discussed in literature, team cohesion is a group behavior and is achieved through learning from each other in the group, which is a notion supported by the theory of social learning (Bandura, 1977). Consistent with the integration of team mindfulness and its effects on team cohesion we contend that team mindfulness offers the necessary support, resources and direction to all individuals and teams to enhance project team performance through the mediating effects of team cohesion.

H4: Team cohesion plays a mediating role between team mindfulness and project team performance.

2.5 The Moderating role of Effective Team Leadership

It has been found in research done by Dienesch & Liden, (1986) that relationships at the workplace are those to which we attach the utmost significance. A large body of research also suggests that effective work done by groups is achieved through mutual cooperation and collaboration (Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000), according to Reb et al (2014), subordinates become more favorable in their attitudes, and behaviors when leaders exhibit dispositional

mindfulness, which improves quality of relationships. Moreover, there seems to be a positive correlation between a negative relationship quality with the leader, and hostile emotions, as well as contempt between team members (Tse, Lam, Lawrence, & Huang, 2013). This is also connected to a feeling of conflict between team members (Hooper & Martin, 2008; Mayer et al., 2008), and has an inverse correlation with coordination among team members (Li & Liao, 2014). The team is also unwilling to support each other (Tse et al., 2013). Therefore, it follows that steps taken by leaders can mediate the relationship that team members have with each other.

Recently, there has been an increased focus on working in teams, in order to achieve greater flexibility, and adaptability in dynamic, chaotic work environments (Kozlowski & Bell, 2013; Kozlowski & Ilgen, 2006). Leaders are therefore expected to see the team as an entity, comprising of separate parts coming together. The process of leadership revolves around ensuring the synergy between the individuals, enabling their efforts to culminate towards a shared goal (Hogg, 2006; Northouse, 2007). Since a leader-follower relation is very important (Ferris et al., 2009), comparisons are usually made by employees with regards to the way their leaders treat them. As per Duchon, Green, & Taber (1986), as well as Schyns, & Le Blanc (2006), members of work teams demonstrate an awareness of variations in relationships between their leaders, and the team members.

The way employees perceive leader-follower relations at work can be understood by using the theoretical approach to social comparison processes (Festinger, 1954; Wood, 1996). The theory of social comparison details how comparisons and categorizations are made by people in an integrated social entity comprised of individuals, such as a team. Team members routinely observe information consciously and subconsciously- on their position relative to other team members, thereby scanning their environment (cf. Anand et al., 2016). Such observations focus on how the leader interacts and communicates with other team members, and thus are key aspects of social comparisons. Based on social comparisons like these, team members judge the level of respect, value, and favorable treatment received

by them, and it is these indicators by which individuals perceive their status, and evaluation.

The quality of interpersonal relationship between leaders and followers are based on the feelings of respect, loyalty, support, the degree to which leaders and followers influence each other, as well as positive affect (Graen & uhl-Bien, 1995). This is supported by the study conducted by Sherony and Green (2002), according to which a better quality of relationship with the leader also translate to a better relationship quality with co-workers as compared to the co-workers that experience a different quality of relationship with the leader. A variable relationship quality with the leader among team members also engenders emotions of revulsion and distrust between them, whether they comprise the in-group, or the out-group (Sias and Jablin, 1995).

Leaders can therefore, influence team mindfulness and cohesion positively, and promote cohesion and better performance of the team. It is known that leaders such a Project Manager lead their teams in a variety of ways which depend on their leadership styles, and their personalities. Authoritarianism, leading by example, and charismatic leadership are examples. In order to cultivate creativity, whilst achieving team cohesion, and ensuring high performance as well as loyalty, new and improved scientific techniques need to be used by leaders and Project Managers (Sosik & Godshalk, 2000).

The quality of teamwork exhibited in a team is greatly determined by how the project team is led (Hogl and Gemunden, 2001). According to Turner and Muller (2005, 2006); Muller et al. (2012) and Thyssen et al. (2013), there is a positive relationship between leadership and group performance. The current work shows more direct focus on the benefits of individual mindfulness for leaders and followers as compared to the relationship between them. As per research by Reb et al. (2014), trait mindfulness of the leader is positively linked with many indicators of successful employees, such as work-life balance, Organizational Citizenship Behavior, performance on the job, as well as overall Job Satisfaction, and has an inverse link to negative outcomes such as exhaustion and deviance. The associations are mediated by psychological need satisfaction. In a different study, conducted by

Liang et al., in press, it was concluded that the degree of dispositional mindfulness in supervisors led to a lowered probability of abuse and hostility towards the supervisees. Liang et al., found this to be the case because of higher attention given by the supervisors to their own level of hostility and self-regulatory capacity. a further research by Fichtner, Stout, Dove, & Lardon (2000); as well as by Yank et al. (1992) suggests that reduced cohesion and integration in team performance is attributable to weak leadership.

There are a variety of ways through which team performance can be influenced by Leadership (Morgenson, DeRue, & Karam, 2010). Eliminating a judgmental approach towards employees may result in trust (Mayer, Davis, & Schoorman, 1995), as well as a perception of psychological safety, traits which promote better learning and reduced errors (Edmondson, 1999). Training in mindfulness as part of leadership training, is gaining popularity, and credibility in business circles around the world. The participants of these training programs show increased ability to listen, strategic thinking, and innovation as a result of these trainings. Good et al. (2016), states that more mindful leaders may have a better understanding of the non-verbal communication as well as affective states of their followers, which leads to a better understanding of individual needs and differences.

Team behavior can be shaped through self-regulatory behaviors which form part of authentic leadership, and these behaviors can lead to team flexibility, which, in turn can positively predict team performance (Lyubovnikova et al., 2017). Hackman and Wagman's theory of team coaching (2005) also gives the implication of leadership to result in team reflexivity. This theory states that leaders that possess reflective capacity foster developing meta-routines within teams that lead directly to serious dialogue about goals, and progress, while sharing information and learning (Gersick, and Hackman 1990). Therefore, it is posited that effective leaders who are mindful tend to become role models of mindfulness for their teams, which can result in an environment where team members aspire to develop such mindfulness. Since teams possess the capability to develop shared mental models through social information processing (Hu and Liden, 2014; Konradt et al., in press), self-regulation by individual team members congregate in the form of a

bottom-up process (Klein and Kozlowski, 2000). The team focuses on copying the behaviors of the leader, whereby they perform an evaluation of the effectiveness of their work, as well as strive to align goals with team values.

Due to the importance of teams as a necessary component of today's organizational designs (Marthieu et al., 2013), the Social Learning Theory purports that team members imitate their leaders with regards to behaviors related to their performance (Bandura, 1977). Therefore, this study hypothesizes that effective leadership of teams, leads to a moderation of the link between team mindfulness, cohesion, and project team performance.

H5: Effective team leadership moderates the relationship between team mindfulness and team cohesion such that the relationship will be stronger in case of high effective team leadership and weaker in case of low effective team leadership.

H6: Effective team leadership moderates the relationship between team cohesion and project team performance such that the relationship will be stronger in case of high effective team leadership and weaker in case of low effective team leadership.

Chapter 3

Research Methodology

3.1 Introduction

This chapter sheds light on the methodology used to find out the relationship between the independent variable, team mindfulness and dependent variable, project team performance, with the of mediating role of team cohesion and moderating role of effective team leadership. This chapter also deals with the research design explanation and strategy that covers all the data collection means (population & sample) in addition to the measurements and instrumentation.

3.2 Research Design

The researcher should have a plan of action to execute in order to carry out the research study and the research design provides that plan in terms of the Time (where, when and how long will it take for him/her to collect the data), the Type of Settings (the type of work, environment and level of the respondents etc.) and the unit of analysis (individuals, teams, organizations etc.). Hence the characteristics of research design include the researchers plan to identify the methodologies and strategies for collecting the data and then analyzing it to extract the relevant information (Zikmund, 2003).

3.2.1 Time

The data was collected in more than two months' time, including the months of april, May and June 2018 for this study; the nature of the data collection is time-lagged and was collected in three time lags with intervals of at least 2 weeks in between each collection. This is done to eliminate any chances of common method bias by the respondents.

3.2.2 Study settings

The respondents of the study are mainly from the Services industry, project based organizations including IT and Telecom companies of Pakistan and the people working in these organizations. The questionnaires were directly distributed to them so that they could fill them according to their actual work settings.

3.2.3 Unit of analysis

The unit of analysis can either be an individual, a group, an industry, an organization, a country or a culture from whom and where the data is collected. The units of analysis for this study were individuals who were part of different projects based organizations (public & private) from Islamabad and Rawalpindi.

3.3 Population and Sample of the Study

The selection of the research strategy by the scholar is on the basis of how well certain objectives the researchers wants to achieve can be accomplished by the particular method, and whether the method is able to generalize to a maximum extent in relation to the population. Therefore field studies provide a reliable framework to observe the behavior of the actors of the population (McGrath, 1982, 1995).

The study seeks to focus on the Services industry project based organizations of Pakistan including IT and Telecom companies; hence the population of the study is

the Services Industry in Pakistan. The sample consist of the employees all Telecom operators (Telenor, Jazz, u-fone and Zong), IT and Services industry employees (IBM, Teradata, Inbox, Nayatel, Systems limited, other software houses, Banks, Beverage companies and NGOs) of the twin cities of Rawalpindi and Islamabad. It was a time-lagged study and data was collected at three different time intervals with a gap of at least 2 weeks in between each collection.

The data for Independent variable (Team Mindfulness) and moderator (Effective Team Leadership) was collected first (at Time 1). The data collection for mediator (Team Cohesion) followed and was collected at the 2nd time (Time 2) and lastly the data for dependent variable (Team Performance) was collected at the 3rd time (Time 3). Data was collected through a self-administered questionnaire survey forms by both physical distribution and google form links. Sample size was selected on the basis of the rule of thumb of ten and the questionnaire was sent to more than 600 respondents through the convenience sampling technique due to time limitations. A total of close to 500 responses were received, however 379 of all the received responses were complete and others were incomplete where the 2nd and 3rd time responses were not received.

The cover letter explicitly informed the respondents that the study is being conducted for academic research purposes only and is aimed at providing an understanding of the model and its application to research. Participants were assured of the confidentiality of their responses and anonymity so that the respondents felt free to fill in the questionnaire without hesitation or fear of data privacy issues.

3.4   Instrumentation.

The collection of data was performed through adopted questionnaires from a variety of sources. The items that are part of the questionnaire are so comprehensive in nature that all of the variables i.e. team mindfulness, team cohesion, effective team leadership and project team performance are covered well. The respondents of the study were all ranges of professional employees of the target organizations,

including; but not limited to, Officers, executives, specialists, subject matter experts, managers, directors, CXO's and others.

The responses for items of the questionnaires were arranged by using a 5-point Likert-scale with 5 set as strongly disagree and 1 set to strongly agree. Questionnaires consist of nine demographic variables, including information regarding the respondent gender, age, organization type, designation or grade, qualification, experience with current organization, experience with current supervisor, total working experience and the estimated duration of the project. Since it was a time lagged study hence the demographics portion also included an entry of a primary key for respondents, which could be used later to match the survey forms to the correct respondent on their 2nd and 3rd time response.

3.4.1   Team Mindfulness.

In the current study, the scale developed by Lingato Yu and Mary Zellmer-Bruhn (2018) was adopted, for gathering the data on team mindfulness. It is a set of 10(ten) item questionnaire measured on a five point Likert scale starting with 1 strongly agree and 5 strongly disagree.

A few of the items of the scale are, "It is difficult for the team to stay focused on what is happening in the present. (R)", "The team is preoccupied with the future or the past. (R)", "Some of the team's thoughts or emotions are inappropriate. (R)", "This team is friendly to members when things go wrong". The Reliability of the scale was calculated through a Cronbach's alpha value of 0.75.

3.4.2   Team Cohesion

The Mediating variable of team cohesion was measured with the help of the GEQ (Group Environment Questionnaire) scale developed by Carron, a. V., Widmeyer, W. N., & Brawley, L. R. (1985). The GEQ is recognized among international methods and is one of the most applied instruments in present team cohesion research. It is a set of 18 (eighteen) item questionnaire measured on a five point Likert scale starting with 1 strongly agree and 5 strongly disagree

Some of the items of the scale are, "I do not enjoy being a part of the social activities of this team (R)", "I am not going to miss the members of this team when the project ends (R)", "Some of my best friends are on this team", "Our team is united in trying to reach its goals for performance", "Our team members rarely party together (R)", "If members of our team have problems in execution of work, everyone wants to help them so we can get back on track". The reliability of this measurement was calculated to a Cronbach's alpha value of 0.84.

3.4.3   Effective team leadership

The moderating variable of effective team leadership was measured by the scale developed by Hansen, L. B. (2017). . It is a set of 5(five) item questionnaire measured on a five point Likert scale starting with 1 strongly agree and 5 strongly disagree.

A few of the items of the scale are, "Our management team possesses good leadership", "The leader of my management team helps to facilitate the team's interactions", "Our leader does what it takes to ensure effective functioning of the management team". The reliability of the scale was recorded to a Cronbach's alpha value of 0.905.

3.4.4   Project Team Performance.

Finally the Dependent variable, project team performance scale was developed by Thompson BM, Levine RE, Kennedy F, et al (2009). It is a set of 18(eighteen) item questionnaire measured on a five point Likert scale starting with 1 strongly agree and 5 strongly disagree.

Some of the items of the scale are, "Team members encouraged one another to express their opinions and thoughts", "My team used several techniques for problem solving (such as brainstorming) with each team member presenting his/her best ideas", "Team members listened to each other when someone expressed a concern about individual or team performance", "Team members seemed attentive to what

other team members were saying when they spoke", "Team members were recognized when something they said helped the teams reach a good decision". The reliability with Cronbach's alpha was calculated to a value of 0.955.

3.5   Data analysis Tools and Techniques

The analysis of the data is done using tools like SPSS, AMOS and Process Macro by Hayes. Tests like ANOVA, Descriptive Statistics, Reliability, Correlation and Moderation were performed using SPSS. Confirmatory Factor analysis (CFA), Herman's Tests and Structural Equation Model tests were done through AMOS. Model fitness tests of 1-factor, 2-factor, 3-factor and 4-factor were done through Herman's pairing tests using AMOS and the results are posted in chapter 4. The regression analysis of independent and dependent variables, mediation and moderation analysis and alternate model tests were also carried out through AMOS as it's a reliable tool for getting these estimates.

The mediation hypothesis, which is the main hypothesis and alternative hypothesis are also tested by using the structural equation modeling technique in AMOS.

3.6   Proposed theoretical Model/framework

The proposed model describes the impact of Team mindfulness (IV) over Project team performance (DV), in the presence of the mediating effect of Team cohesion (Mediator) and the moderation effect of Effective team leadership (Moderator) on both the relationships between "team mindfulness and team cohesion" and "team cohesion and project team performance".
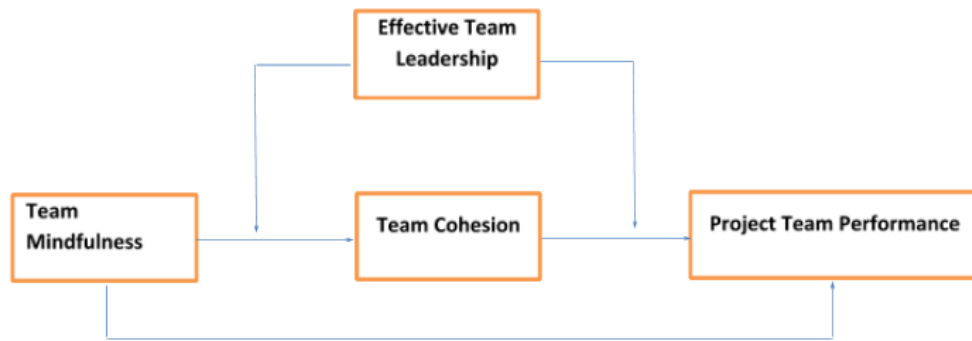
FIGURE 3.1: Proposed hypothesized model

3.7 Description of Variables

Independent Variable Team Mindfulness

Dependent Variable Project Team Performance

Mediator Variable Team Cohesion

Moderator Variable Effective Team Leadership

3.8 Sample Characteristics

The following tables (3.1) represent the details and percentages on the respondent's Gender, Age, Type of Organization, Grade, Education, Experience with current company, Total working experience, Experience with current supervisor and the Project duration. The total sample size was 379, out of whom male respondents were 277 (73.1%) and 102 (26.9%) respectively. Age wise segregation of the sample shows that 43.8% (166) of the respondents were between the ages of 20 to 30 years, 51.2% (194) between 31 to 40 and 5% (19) respondents were above 40 years of age. Similarly, other demographic details about their percentage and numbers are given in the following table 3.1.

Table 3.1: Sample Characteristics

Gender

	Frequency	Percent
Male	277	73.1
Female	102	26.9
Total	379	100

Age

	Frequency	Percent
20 to 30	166	43.8
31 to 40	194	51.2
Above 40	19	5.0
Total	379	100

Organization Type

	Frequency	Percent
Government	32	8.4
Semi_Government	22	5.8
Private	325	85.8
Total	379	100

Grade

	Frequency	Percent
Officer	79	20.8
Executive	46	12.1
Specialist/Expert	100	26.4
Manager	86	22.7
Other	68	17.9
Total	379	100

Education

	Frequency	Percent
Undergraduate	6	1.6
Bachelors	135	35.6
Masters and Above	238	62.8
Total	379	100

Experience with current company

	Frequency	Percent
Less than 1 year	69	18.2
1 to 2 years	91	24.0
More than 2 years	219	57.8
Total	379	100

Total working experience

	Frequency	Percent
Less than 1 year	16	4.2
1 to 5 years	114	30.1
More than 5 years	249	65.7
Total	379	100

Experience with current Supervisor

	Frequency	Percent
Less than 1 year	119	31.4
1 to 2 years	147	38.8
More than 2 years	113	29.8
Total	379	100

Project duration

	Frequency	Percent
Less than 1 year	104	27.4
1 to 2 years	110	29.0
More than 2 years	165	43.5
Total	379	100

Chapter 4

Results

4.1 Pilot testing

Table 4.1 shows the reliability analysis of instruments. The test was performed on the first 50 (fifty) questionnaires collected from authentic respondents and all 50 questionnaires were considered for the analysis. According to Nunnally and Bernstein (1994), the standard Cronbach's alpha should be greater than or equal 0.70.

TABLE 4.1: Pilot Instrument Reliability

Variable Name	No. of Items	Cronbach's Alpha
Team Mindfulness	10	0.700
Team Cohesion	18	0.883
Effective Team Leadership	5	0.862
Project team performance	18	0.942

The Cronbach's alpha value for Team mindfulness, the independent variable was 0.70 in the research study, Team Cohesion, the mediator variable had a Cronbach's alpha value of 0.883, Cronbach's alpha value for Effective Team Leadership, the moderator is 0.862 and finally the dependent variable, Project Team Performance value of Cronbach's alpha was recorder to be 0.942.

4.2 Initial Data Screening

Data analysis was performed with the help of SPSS software package version 20, AMOS version 20 and Process Macro by Hayes version 3. The data was collected over a period of two months as it was a time-lagged study and was loaded in SPSS as and when it was collected. All the four variables of team mindfulness, team cohesion, effective team leadership and project team performance were added with respective codes in the software (SPSS). When the data was completely loaded, it was treated for missing values and the data was fairly consistent at this stage.

4.3 Descriptive Statistics

The table of descriptive statistics provides a basic representation of the collected data for this study. This includes statistics like the size of the sample which represents the number of respondents, maximum and minimum values showing the response ranges selected by the respondents, the mean values of the responses and the standard deviation of the data. The descriptive statistics helps provide a summarized view of the data in a tabulated form. Table 4.2 below presents those details about the data gathered in this research study. The first column describes the variables names of the study, followed by the size of the sample in the second column. The third and fourth columns are showing the minimum and maximum value ranges for the responses. Data was collected in the form of questionnaires with a 5-point Likert scale ranges from 1 to 5 where 1 was set to Strongly agree and 5 Strongly Disagree. The independent variable, team mindfulness has a mean of 2.66 and a standard deviation of 0.60871. Project

team performance, the dependent variable has mean and standard deviation values of 2.2064 and 0.67924 respectively. Similarly, the mediator of this study, team cohesion has mean and standard deviation values of 2.3817 and 0.60098. and finally, the moderator of the study effective team leadership has a mean of 2.2369 and standard deviation of 0.87512.

TABLE 4.2: Descriptive Statistics

Variable	Sample Size	Minimum	Maximum	Mean	Std. Deviation
Team Mindfulness	379	1	5	2.6668	0.60871
Team Cohesion	379	1	5	2.3817	0.60098
Project Team Performance	379	1	5	2.2064	0.67924
Effective Team Leadership	379	1	5	2.2369	0.87512

4.4 Reliability analysis

The reliability analyses of the variables are shown below in table 4.3. The Cronbach's alpha value for the independent variable, Team mindfulness is 0.749, similarly Team Cohesion, the mediator variable has a Cronbach's alpha value of 0.874, the moderator, Effective Team Leadership, scored a Cronbach's alpha of 0.905 and finally, Project Team Performance, the dependent variable value of Cronbach's alpha is 0.955.

TABLE 4.3: Reliability Analysis

Variable Name	No. of Items	Cronbach's Alpha
Team Mindfulness	10	0.749
Team Cohesion	18	0.874
Effective Team Leadership	5	0.905
Project team performance	18	0.955

4.5 Correlation Analysis

There is no auto-correlation and linearity of the model as the correlation values between independent variable Team Mindfulness and Project Team Performance, the dependent variable is also significant to a moderate level as shown in table 4.4 below.

TABLE 4.4: Correlations Analysis.

Variable Name	1	2	3	4
Team Mindfulness	1			
Team Cohesion	.362***	1		
Project team performance	.216***	.500***	1	
Effective Team Leadership	.258***	.430***	.396***	1

The independent variable Team mindfulness is significantly and positively correlated with the mediator, Team cohesion (r = .362 , p = .000). Team mindfulness was also found significantly correlated with dependent variable Project team performance (r = .216 , p = .000). Team cohesion and moderator Effective team leadership were also significantly and positively correlated (r = .430 , p = .000). Team cohesion also formed a positive significant correlation with Project team performance (r = .500 , p = .000). Finally, the correlation between Project team performance and Effective team leadership was found significant and positive (r =.396 , p = .000).

4.6 ANOVA and Covariates

The analysis of variance was calculated for the control variables using SPSS and the significant covariates discovered. It is suggested by many scholars that variables other than the ones understudy forming a signification relationship with the understudy variables should be controlled (Becker, 2005). After some careful observations the demographics of Age, Gender, Education, Working Experience, Size and Duration of the project etc. were found to have an effect on the success of the project (Barrick et al., 2007). We considered all these demographic variables in the study in addition to some more, and we found that a) Gender has a significant relation with ETL with values (F= 4.74 and P= 0.030), b) Age related to team cohesion with values (F= 4.6 and P= 0.010), c) Organization type related to effective team leadership with values (F= 4.09 and P= 0.017), d) Grade related to effective team leadership with values (F= 3.05 and P= 0.017), e) Education related to project team performance with values (F= 1.59 and P= 0.206), f) Experience with current organization related to team cohesion with values (F= 3.86 and P= 0.022), g) Total working experience related to team cohesion with values (F= 4.86 and P= 0.008), h) Experience with current supervisor related to effective team leadership with values (F= 3.19 and P= 0.042) and i) Project duration related to team cohesion with values (F= 1.62 and P= 0.199). These covariates were treated accordingly in the regression through Structural Equation Model test in AMOS.

4.7 Herman's Test

Herman's test is an effective way of checking common method bias according to the opinion of many scholars (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). In this method, different combinations of variables and its items are loaded on a single factor first and checked for model fitness. The results of single factor are then compared with 2, 3 and 4 factor models according to the number of variables that are part of the study. There are four variables in the study, hence the below

table 4.5 contains the results of both single factor and multi factor (2, 3 and 4 factor) tests.

TABLE 4.5: Herman's Tests.

Model test	X^2	Df	X^2/df	CFI	NFI	GFI	TLI	RMR	RMSEA
IV to Moderator									
1 Factor (TM and ETL)	471.9	84	5.6	0.8	0.77	0.82	0.76	0.16	0.11
2 Factor (TM and ETL	**169.2**	**86**	**1.9**	**0.96**	**0.92**	**0.94**	**0.95**	**0.07**	**0.05**
IV to Mediator									
1 Factor (TM and TC)	322		2.8	0.81	0.74	0.83	0.77	0.09	0.07
2 Factor (TM and TC)	**325**		**1.8**	**0.92**	**0.84**	**0.9**	**0.91**	**0.07**	**0.04**
IV to DV									
1 Factor (TM and PTP)	315		2.6	0.91	0.86	0.85	0.89	0.07	0.06
2 Factor (TM and PTP)	**330**		**1.6**	**0.96**	**0.9**	**0.9**	**0.96**	**0.04**	**0.04**
Mediator to DV									
1 Factor (TC and PTP)	567		2.9	0.84	0.78	0.76	0.83	0.09	0.07
2 Factor (TC and PTP)	**529**		**1.4**	**0.97**	**0.9**	**0.9**	**0.96**	**0.04**	**0.03**
IV to Mediator to DV	916								
1 Factor (TM, TC and PTP)	**901**		2.5	0.83	0.75	0.76	0.81	0.09	0.06
3 Factor (TM, TC and PTP)			**1.4**	**0.96**	**0.86**	**0.87**	**0.95**	**0.05**	**0.03**
All Variables									
1 Factor (TM, TC, ETL and PTP)	1113		2.4	0.83	0.74	0.76	0.81	0.09	0.06
4 Factor (TM, TC, ETL and PTP)	**1165**		**1.6**	**0.92**	**0.82**	**0.84**	**0.92**	**0.06**	**0.04**

N = 379

IV = Independent Variable; DV = Dependent Variable

TM = Team Mindfulness; TC: Team Cohesion; ETL = Effective Team Leadership; PTP = Project Team Performance

Best model fits are all the 2, 3 and 4 factor models compared to the 1 factor models.

In the current study, Herman's test is performed between a) team mindfulness and effective team leadership (1 and 2 factor), b) team mindfulness and team cohesion (1 and 2 factor), c) team mindfulness and project team performance (a and 2 factor), d) effective team leadership and project team performance (1 and 2 factor), e) team mindfulness, team cohesion and project team performance (1 and 3 factor) and f) team mindfulness, team cohesion, effective team leadership and project team performance (1 and 4 factor). The values in the table show that the results of 2, 3 and 4 factor are better model fit indices compared to 1 factor model indices for all.
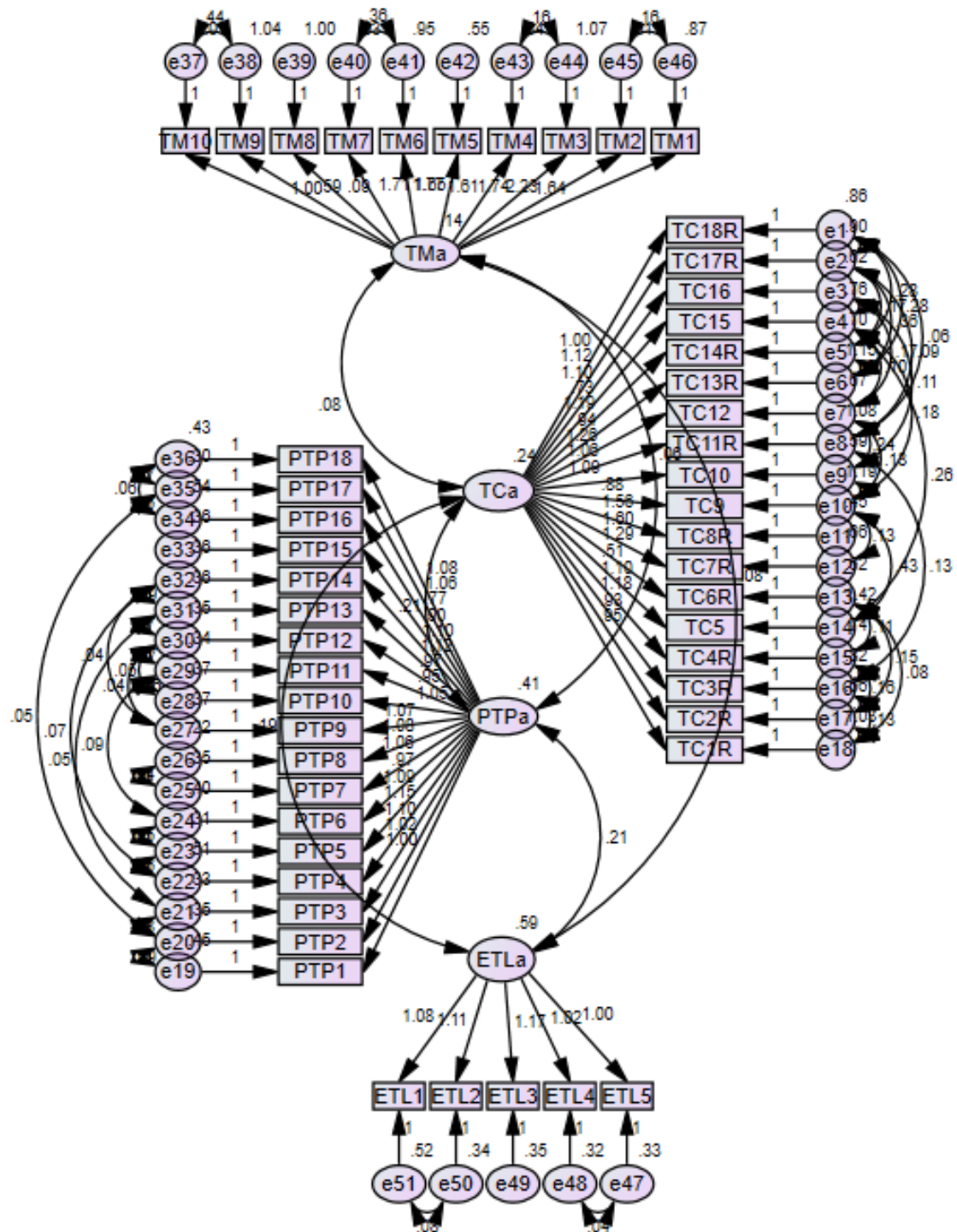
FIGURE 4.1: Four-factor model with all variables included

4.8 Confirmatory Factor analysis and alternate Models

Confirmatory Factory analyses (CFA) for all four variables including Team mindfulness, Team cohesion, Effective team leadership and Project team performance were performed to check the validity of the variables. All the items of the variables were found within the acceptable ranges hence all were retained. Furthermore in table 4.7 there is a comparison of the hypothesized model with two alternative models, where alternate model 1, sets team mindfulness and team cohesion both as IVs and project team performance as DV and alternate model 2, sets team mindfulness as IV and both team cohesion and project team performance as DVs. The model fit results indicate that in comparison to both the alternate models the hypothesized model fits better.

TABLE 4.6: Alternative model tests with hypothesized model

Model test	$\chi2$	Df	$\chi2/df$	CFI	NFI	GFI	TLI	RMR	RMSEA
Hypothesized Model: Indirect path from TM to PTP through TC	2002.7	1078	1.86	.91	.85	.90	.91	.05	.05
Alternative Model 1: Direct paths from TM and TC to PTP	2426.6	987	2.5	.82	.74	.80	.82	.10	.06
Alternative Model 2: Direct paths from TM to TC and PTP	2510.3	987	2.5	.81	.73	.76	.80	.12	.06

N = 379
IV = Independent Variable; DV = Dependent Variable; Med: Mediator.
TM = Team Mindfulness; TC = Team Cohesion; PTP = Project Team Performance
Age, Experience with current organization and Total working Experience are the control variables in the model.
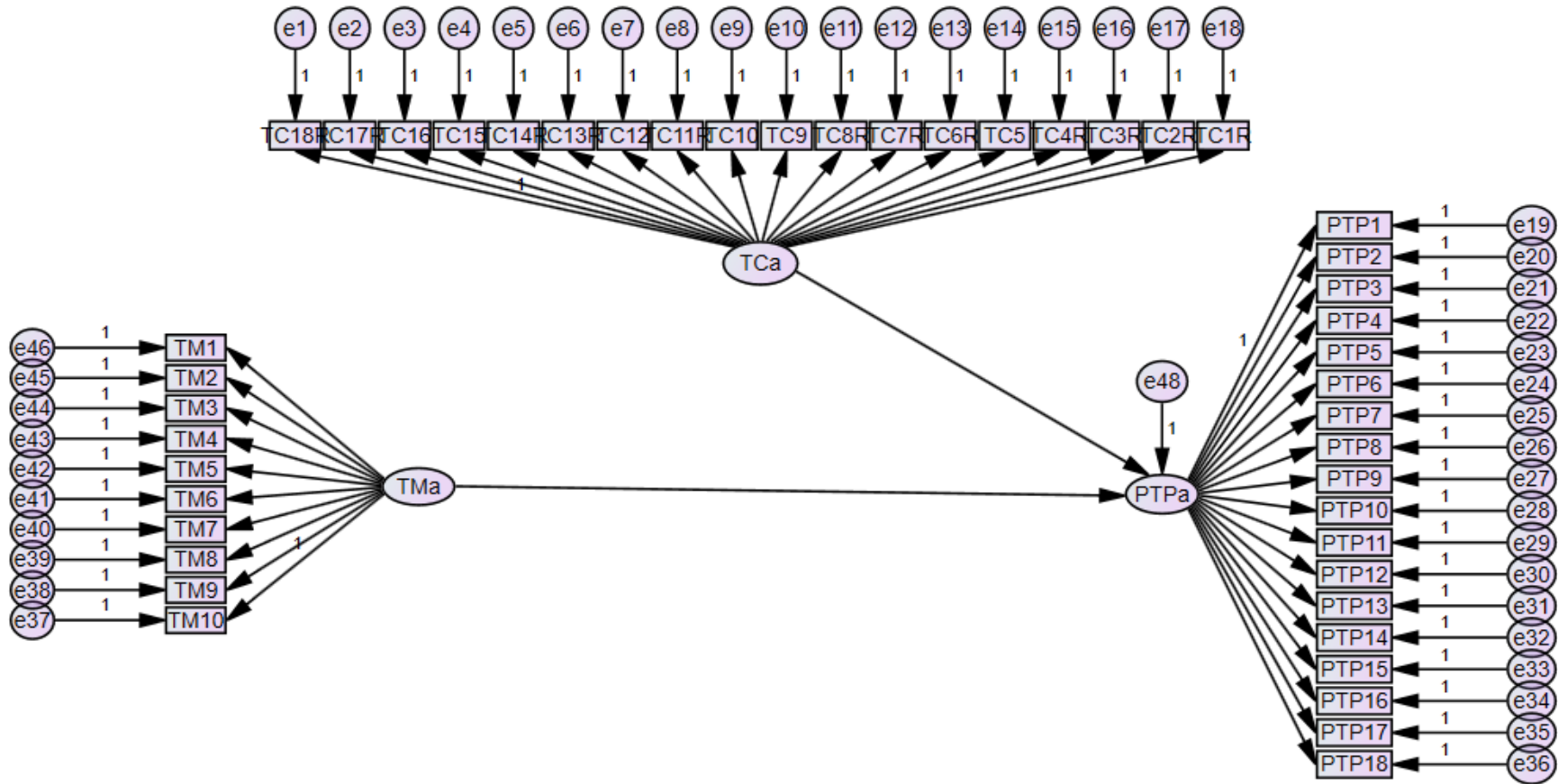
FIGURE 4.2: Alternative model-1
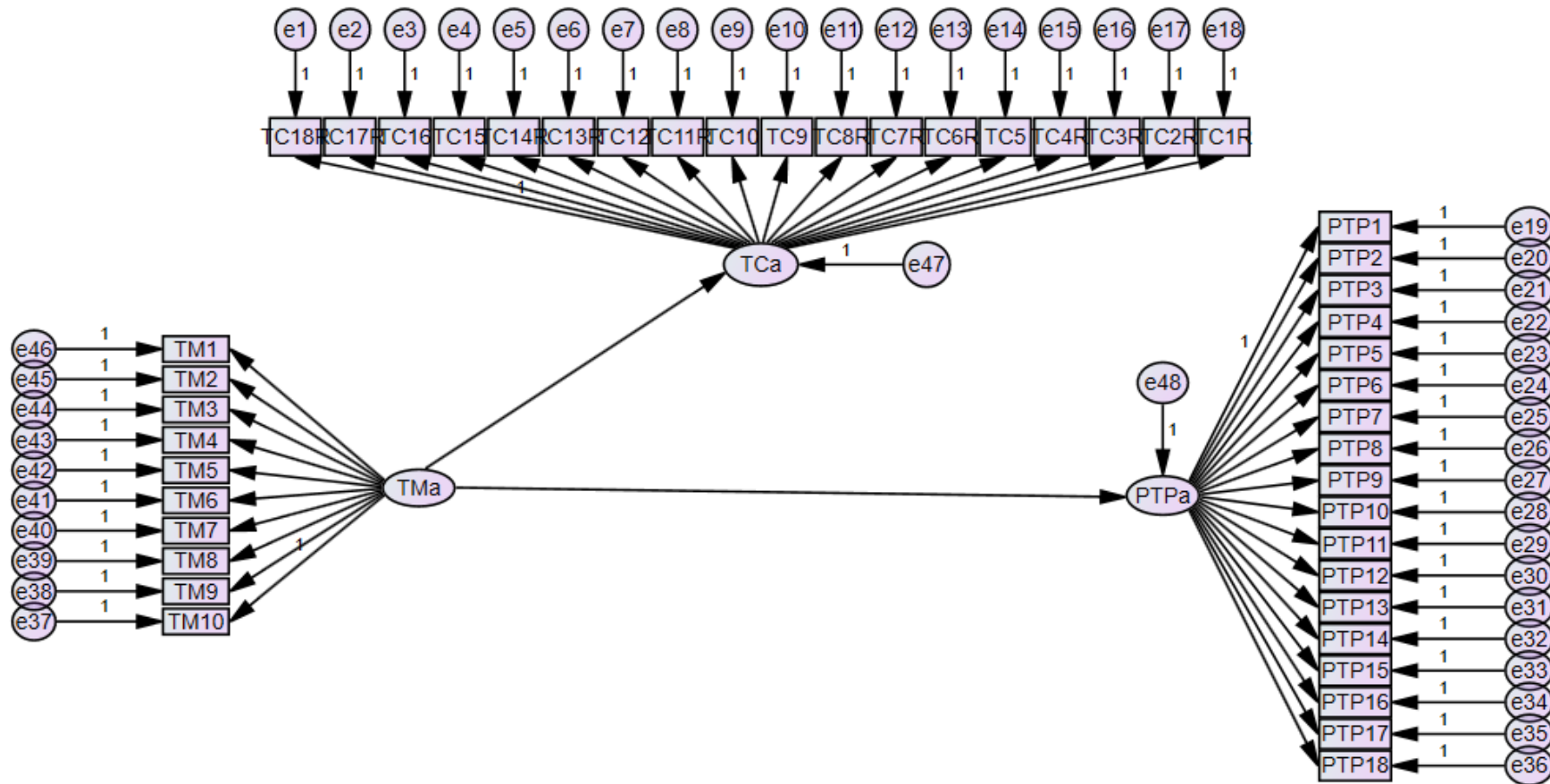
FIGURE 4.3: Alternative model-2

4.9 Structural Equation Model Results

It has already been proved that the 4 factor hypothesized model is the best fit with values (X2 = 2002.7, Df = 1078, X2/Df = 1.86, p< .000; CFI = .91, NFI = .85, GFI = .90, TLI = .91, RMSEA = .05). The mediation is tested through different direct and indirect paths. In direct path tests, first path from team mindfulness, independent variable to project team performance, dependent variable was found positive with values (β= .25 and p < .000). The second direct path from team mindfulness, independent variable to team cohesion, mediator is also found reliable at values (β= .33 and p < .000). The third and final direct path from team cohesion, mediator to project team performance, dependent variable is also reliable at values (β= .86 and p < .000).

The first three paths were tested as direct path whereas path four was tested for the mediating effect of team mindfulness, independent variable to project team performance, dependent variable through mediator, team cohesion and was found reliable, such that there is the case of fuill mediation as the values of (β= -0.25 and p > 0.050). The first four paths of the hypothesized relationships were tested through Structure Equation Modeling (SEM) technique in AMOS. Paths five and six were tested through SPSS by running the Process Macro by Hayes tests. The fifth indirect path is between team mindfulness and team cohesion with the moderating effect of effective team leadership, moderator and the results are (β= .10 and p < .000). Similarly, the final and sixth path between team cohesion and project team performance moderated by effective team leadership yeild results of (β= .11 and p < .000).
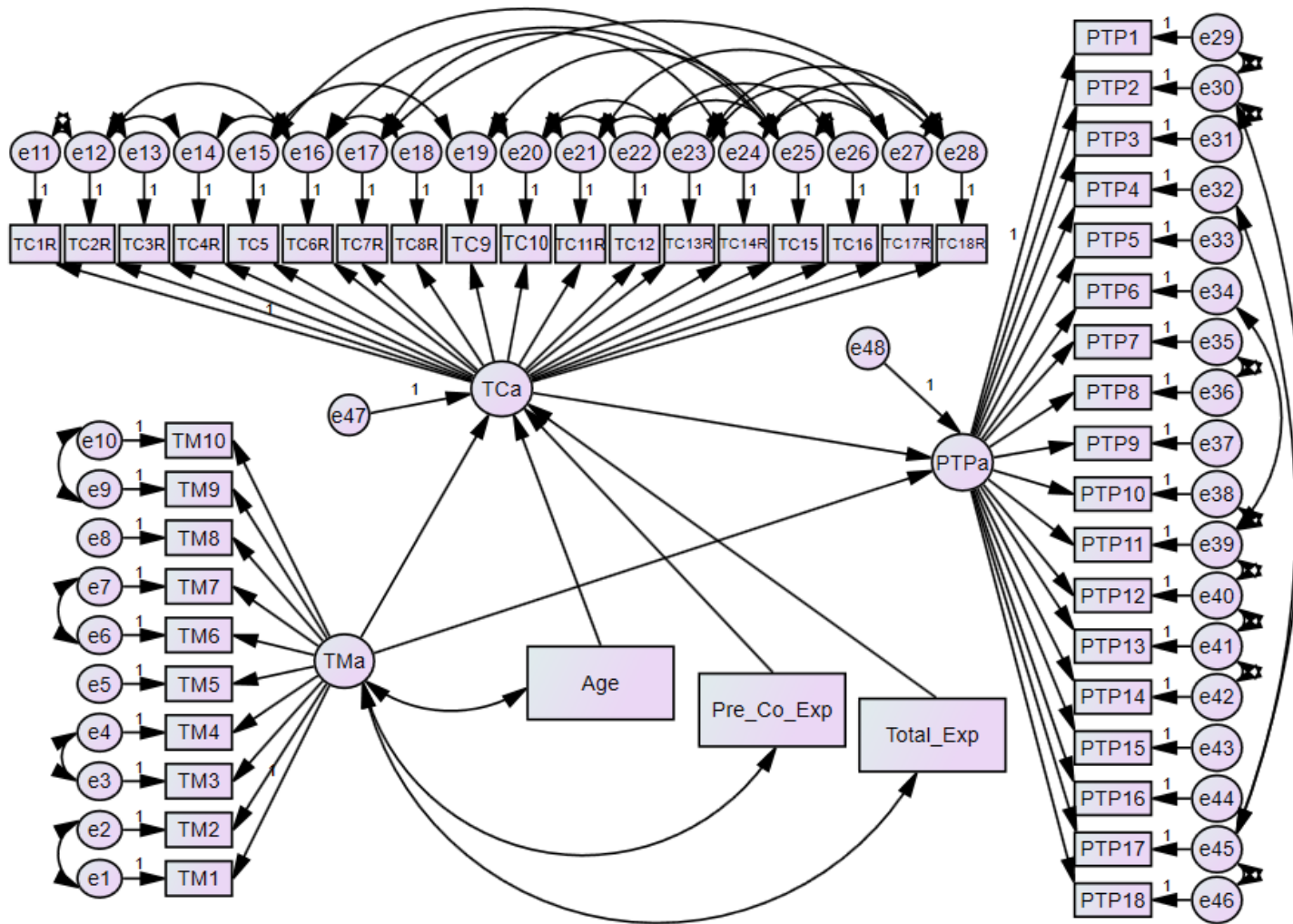
FIGURE 4.4: Hypothesized Structural Model and Structural Equation Modelling (SEM) Results.

4.10 Standardized direct and Indirect paths

TABLE 4.7: Standardized Regression Weights of Direct Paths in the Hypothesized Model

Hypotheses	Proposed causal relation	β	S.E	P
H1	TM → PTP (In the absence of mediator)	0.25	0.07	***
	TM → PTP (In the presence of mediator)	-0.03	0.06	0.63
H2	Team Mindfulness → Team Cohesion	0.33	0.06	***
H3	Team Cohesion → Project team performance	0.86	0.12	***

Note: Results for H1 are given for direct path model both in the absence and presence of mediator

Table 4.7 contains the standardized regression coefficients for direct paths (H1, H2 and H3) of the hypothesized models. Beta coefficients are significant at 0.01. The results show that there is an increase of 25% in project team performance due to team mindfulness. Similarly, team mindfulness increases team cohesion by 33%, while team cohesion leads to an 86% increase in project team performance. Hence, the first three hypotheses H1, H2, and H3 are proved.

TABLE 4.8: Bootstrap results for Indirect effect in the Hypothesized Model

Hypotheses	Proposed causal relation	β	S.E	P
H4	TM → TC → PTP	0.275	0.073	0.001

Note: †p<.10; *p<.05; **p<.01; ***p<.001
N = 379 Unstandardized regression coefficients are reported
TM = Team Mindfulness; TC = Team Cohesion; PTP = Project Team Performance β = Beta coefficient;
S.E = Standard Error; P = Significance

The structural equation modeling technique was performed in AMOS for the analysis and the result for H4 in table 4.8 imply that team cohesion plays a mediating role between team mindfulness and project team performance, and there is a 27.5% increase in project team performance due to team mindfulness in the presence of mediator, team cohesion. Hence H4 the fourth hypothesis is also proved correct and it is a case of full mediation. According to Baron and Kenny, (1986) when the relationships between independent variable-mediator and mediator-dependent variable are controlled the relationship between independent and dependent variables which was previously significant, becomes insignificant and the mediation is strongest when the beta coefficient value from IV to DV is zero. This demonstrates the presence of a single dominant mediator compared to the presence of multiple mediating factors when the value is greater than zero (Baron & Kenny, 1986).

4.11   Moderation and Mod Graphs

In the below table 4.9 and 4.10 the moderation results are shown which were performed with the help of Process Macro by Hayes tests. The results show that effective team leadership moderates the relationship between a) team mindfulness and team cohesion, such that a) the relationship between team mindfulness and team cohesion becomes stronger when effective team leadership is high and b) the relationship between team cohesion and project team performance also gets stronger when effective team leadership is high. Hence hypothesis H5 and H6 are also proved correct.

TABLE 4.9: Moderation results from TM to TC

	β	*SE*	*LLCI*	*ULCI*
Constant	2.37***	0.03	2.31	2.42
Effective Team Leadership (Mod)	0.25***	0.03	0.19	0.31
Team Mindfulness (IV)	0.26***	0.05	0.18	0.36
*Interaction (TM * ETL)*	0.10***	0.05	0.01	0.19
ΔR^2 due to interaction		0.01*		
F		4.45		

Conditional Effects of Moderator between Team Mindfulness and Team Cohesion (Slope Test)

Moderator "Effective Team Leadership"		*Team*	*Cohesion*	*(DV)*
-0.88	018**	0.06	0.07	0.30
0.00	0.27***	0.05	0.18	0.36
+0.88	0.35***	0.06	0.23	0.47

N = 379 Unstandardized regression coefficients are reported
IV = Independent Variable; DV = Dependent Variable; Mod: Moderator.
TM = Team Mindfulness; TC = Team Cohesion; ETL = Effective Team Leadership; PTP = Project Team Performance
Bootstrap sample size = 5,000. LL = lower limit; CI = confidence interval; UL = upper limit

The value for change in R-square due to interaction is 0.01%. Beta coefficient for conditional effect of team mindfulness on team cohesion shows that the impact increases by 35% in case of high effective team leadership. The value of beta coefficient is 0.35 which is significant at 0.001. This leads to the acceptance of H5.

TABLE 4.10: Moderation Results from TC to PTP

Constant	2.18***	0.03	2.12	2.24
Effective Team Leadership(Mod)	0.12***	0.04	0.05	0.19
Team Cohesion (IV)	0.58***	0.05	0.48	0.68
*Interaction (TC * ETL)*	0.11***	0.05	0.02	0.20
ΔR^2 due to interaction			0.01*	
F			5.46	

Conditional Effects of Moderator between Team Cohesion and Project Team Performance (Slope Test)

Moderator "Effective Team Leadership"			*Project*	*Team*	*Performance*
-0.88	048***	0.07	0.36		0.61
0.00	0.58***	0.05	0.47		0.68
+0.88	0.67***	0.06	0.55		0.80

N = 379 Unstandardized regression coefficients are reported
IV = Independent Variable; DV = Dependent Variable; Mod: Moderator.
TM = Team Mindfulness; TC = Team Cohesion; ETL = Effective Team Leadership; PTP = Project Team Performance
Bootstrap sample size = 5,000. LL = lower limit; CI = confidence interval; UL = upper limit

The value for change in R-square due to interaction is 0.01%. Beta coefficient for conditional effect of team cohesion on project team performance shows that the impact increases by 67% in case of high effective team leadership. The value of beta coefficient is 0.67 which is significant at 0.001. This leads to the acceptance of H6.

In the proposed model, effective team leadership is acting as a moderator between team mindfulness and team cohesion as well as team cohesion and project team performance. The moderator graph was calculated for both the interventions separately. It is observed that there is a positive relationship in the first moderation as with the increase in effective team leadership the team cohesion from team mindfulness increases. Similarly, the relationship between team cohesion and project team performance was also positive and increased with the increase in effective team leadership.

The below graphs show the same results and these values are also shown in tables 4.9 and 4.10, and the slope lines intercept each other for steeper values of the

moderator.
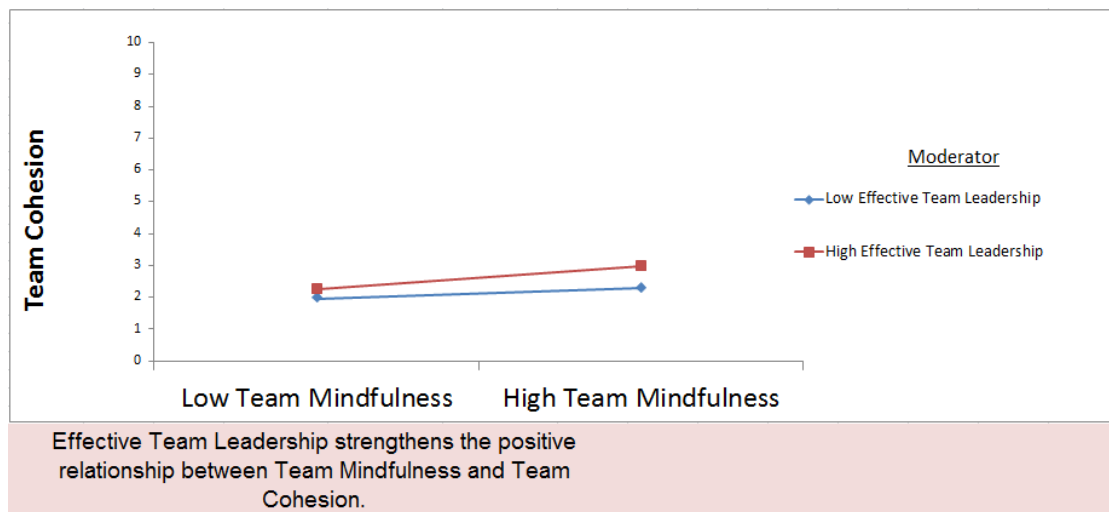
FIGURE 4.5: Moderation Graph for team mindfulness and team cohesion

Figure 4.5 above shows the moderation graph. In the figure we can clearly see that increased team mindfulness leads to increased team cohesion when effective team leadership is high.
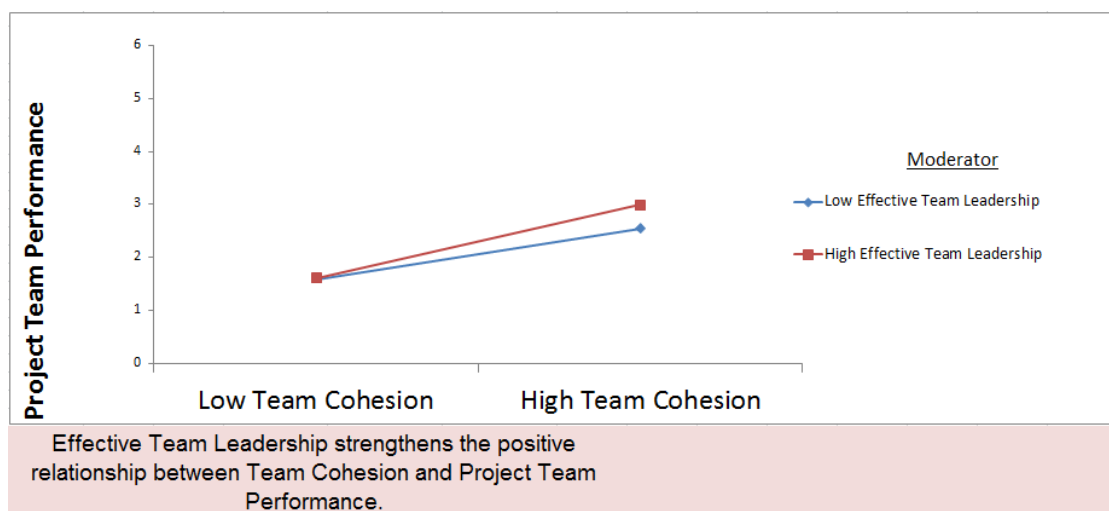
FIGURE 4.6: Moderation Graph team cohesion and project team performance

Figure 4.6 similarly, shows that increased team cohesion leads to increased project team performance with higher effective team leadership.

4.12   Hypothesis Summary

TABLE 4.11: Hypothesis results summary.

Number	Hypothesis	Result
H1	There is a positive relationship between team mindfulness and team performance	Accepted
H2	There is a positive relationship between team mindfulness and team cohesion	Accepted
H3	There is a positive relationship between team cohesion and team performance	Accepted
H4	Team cohesion plays a mediating role between team mindfulness and team performance	Accepted
H5	Effective team leadership moderates the relationship between team mindfulness and team cohesion such that the relationship will be stronger in case of high effective team leadership	Accepted
H6	Effective team leadership moderates the relationship between team cohesion and team performance such that the relationship will be stronger in case of high effective team leadership	Accepted

Chapter 5

Discussion and Conclusion

5.1 Introduction

This chapter describes and discusses the relationships between the variables and explains the criteria for accepting or rejecting the established hypothesis. Furthermore the strengths and weaknesses of the study are also deliberated upon, along with implications for theory and practice. Finally, the limitations and future research directions are expanded prior to the conclusion.

5.2 Discussion

The current study aimed to find the impact of team mindfulness (independent variable) on project team performance (dependent variable), with the mediating role of team cohesion and moderating role of effective team leadership between a) team mindfulness and team cohesion and b) team cohesion and project team performance .

The results show that team mindfulness has a positive relation with both team cohesion and project team performance. The results show that an increase in team mindfulness results in an escalation in project team performance when measured through direct relationship i-e in the absence of mediator (team cohesion), but this relationship becomes insignificant in the presence of mediator (team cohesion).

Hence this is a case of full mediation which according to Baron and Kenny (1986), is the strongest way in which mediation can be demonstrated. They further add that with this substantial decrease, the mediator in this case is very effective and powerful from a theoretical viewpoint. (Baron &Kenny, 1986, p. 1176)

Furthermore the moderating variable, effective team leadership plays a key role in enhancing the relationship between a) team mindfulness (IV) and team cohesion (mediator) and b) team cohesion and project team performance (DV). The findings show that both the relationships "a" and "b" are stronger when effective team leadership is higher.

The first hypothesis of the study was to see the positive relationship between team mindfulness and project team performance, and the results show that there is indeed a positive relationship between these two variables when measured directly. There is also support for this in literature through a partial but increasing body of work which observes the effects of mindfulness on task performance. Several scholars through their research have shown that mindfulness can be positively related to accuracy in judgements (Kiken and Shook, 2011), solving problems related to insight (Ostafin and Kassman, 2012), and educational performance (Shao and Skarlicki, 2009). These findings can also be related to studies which specify that mindfulness improves qualities like intellectual flexibility (Moore and Malinowski, 2009) and stimulates management functioning (Zeidan et al., 2010) which are essential to improving performance in different types of activities. While some scholars are also of the view that important work outcomes are achieved through mindfulness (Dane, 2011; Glomb et al., 2011), others suggest that a certain target performance can be achieved by individuals and teams when mindfulness is the focus of attention in their trainings and practice (Fehr and Gelfand, 2012; Hulsheger et al., 2013; Lee, 2012). More research also points to the fact that through its functions of attention and focus, mindfulness helps safeguard against distractions and performance errors (Herndon, 2008) and that workplace mindfulness leads to enhanced job performance (Dane, 2013). All these explanations and research lead us to conclude and point to the positive effects of team mindfulness on project team performance.

The second hypothesis suggests that there is a positive relationship between team mindfulness and team cohesion (IV and mediator). The results also depict this correctly and team cohesion is increased with an increase in team mindfulness. This result is consistent with previous research studies where teams of student groups inducted in mindfulness trainings have shown an increase in team cohesion (Cleirigh & Greaney, 2014). Mindfulness is also linked with mild communication among conflicting partners which leads to better conflict management and enhanced team cohesion (Barnes et al., 2007). Mindfulness training may help improve developing a certain view point (Krasner et al., 2009), which is discovered to be very beneficial in negotiations (Galinsky, Maddux, Gilin, & White, 2008) thereby helping to reduce task conflict. Hence individuals with amplified dispositional mindfulness show a positive demeanor and reduced aggression in their behavior during a conflict situation (Saavedra et al., 2010). We already know that these traits of avoiding conflicts and increasing harmony leads to a cohesive team with effective teamwork and all these benefits are achieved through a steady and precise attention which becomes the basis a unified mental model and making the coordination more effective within the team (Metiu & Rothbard, 2012). This gives us enough theoretical background to support the hypothesis that increased team mindfulness leads to improved team cohesion.

The third hypothesis concurs that, there is a positive relationship between team cohesion and project team performance. The results support this notion, and an increase in team cohesion results in better project team performance. Earlier research and studies also provides evidence of the same behavior, for example the affect research perspective is that, team performance is influenced by the emotional and social bonds between team mates (Barsade & Gibson, 1998; Kelly & Barsade, 2001; Knight & Eisenkraft, 2015). According to the Social Interdependence Theory (SIT; Deutsch, 1949; D. W. Johnson & Johnson, 2005), it is promotive interactions (people working in group to complete tasks) which helps achieve the outcomes of effective team task performance in scenarios where people share goals; this also builds a perception that members are bonded together in a group that is a coherent whole. This is also referred to as social cohesion by researchers (Marks, Mathieu,

& Zaccaro, 2001), other scholars have also linked engagement of work to different types of work results like job performance (Christian et al., 2011). All these perspectives lead us to conclude that teammates who consider their and believe in the team as a unit achieve the shared goals through more motivation which is because of effeteness in group outcomes driven by cohesion.

In the fourth hypothesis we posit that team cohesion plays a mediating role between team mindfulness and project team performance. This is also proved correct with the results to the extent that there is a full mediation, i-e team cohesion plays a mediating role between team mindfulness and project team performance, such that in the presence of the mediator (team cohesion) the beta coefficient score is less than zero. This is a significant and rare finding which indicates that it is only through team cohesion that team mindfulness results in better team performance and it leaves no room for any further effect. according to (Vaske & Kobrin, 2001) full mediation takes place when the relationship and direct path between independent and dependent variable in insignificant in the presence of mediator. This is further proved by researchers through a comparison of the different models and using their chi-square numbers that full mediation models are a better fit when compared to both direct effect model and partial mediation model (Baron & Kenny, 1986; Hayduk, 1987). Hence as explained in the earlier part of the discussion, the results prove that the direct relationship of team mindfulness (IV) and project team performance (DV) in the absence of team cohesion (mediator) is positive and significant but insignificant in the presence of the mediator. This also highlighted by Baron and Kenny (1986), is the mediation demonstration in the strongest way (Baron &Kenny, 1986, p. 1176).

The effects of mindfulness on improving physical and mental health, behavior control and relationship quality among people has robust empirical support (Brown, Ryan, & Creswell, 2007). Scholars further explain how the functions of team mindfulness helps protect against team task conflicts and social undermining thereby improving team cohesion (Yu and Bruhn, 2018). Team cohesion then leads to the improved ability of teams to use their resources effectively by being aware of their potential (Mullen & Copper, 1994) and this likewise results in better execution

of team tasks (Mathieu, Kukenberger, Innocenzo & Reilly, 2015), leading to enhanced project team performance (Quick & Nelson, 2009). Hence the historical research supports the hypothesis.

Finally moving towards the fifth (5th) and sixth (6th) hypothesis and the role of the moderator, Effective Team Leadership. The results further show that effective team leadership moderates on both occasions between a) team mindfulness and team cohesion and b) team cohesion and project team performance. These relationships become stronger when effective team leadership is high and vice versa.

There is ample support in literature for both of the final hypothesis though Reb et al (2014), who states that dispositional mindfulness when exhibited by leaders affects the attitudes of the subordinates in a positive way, hence improving their relationships. Leadership process ensures synergy and results in greater effort towards common goals (Hogg, 2006; Northouse, 2007). Team members are also aware of the different relationships that exists between their teammates and their leaders (Van Breukelen, Schyns, & Le Blanc, 2006) and good relationship with the leader usually results in better quality among teammates (Sherony and Green, 2002). In addition to this the manner in which the team is led attributes to the teamwork quality exhibited by the team (Hogl and Gemunden, 2001) and team performance is positively related to leadership according to several schools of leadership (Turner, Muller 2005, 2006; Muller et al., 2012). Yank et al., (1992) also point that weak leaders are the reason for low team cohesion, conversely more employee trust with perceived safety will result in greater learning and lesser errors (Edmondson, 1999), with reduced critical approach in leadership (Mayer, Davis, & Schoorman, 1995). Through the conduct of self-regulation, authentic leaders help shape team attitudes which lead to adaptability and enhanced team performance (Lyubovnikova et al., 2017). Hence it is pertinent to note that effective team leadership can influence the relationships in several ways and positively affect team cohesion through team mindfulness and similarly improves project team performance through team cohesion.

5.3 Theoretical Implication

The study contributes to a growing knowledge of project management literature in many ways. There has not been a lot of research done on the concept of team mindfulness recently, hence this research has tried to fill the research gap that was identified in the study of recent team mindfulness articles in terms of considering new mediators and moderators and their relationships. This study is unique in a way that it comes up with a new model and tests the relationships of team mindfulness and project team performance. Team cohesion was selected as mediator and effective team leadership as moderator, and both provide valuable information on the behavior of teams, their relationship with each other, conflict handling and how they might achieve their goals and objectives.

The study also validates the application of social learning theory in the context of Pakistani organizations, which is an area that lags in research compared to other developed countries and cultures. The results show that team mindfulness imparts better team cohesion in teams and that translates to better project team performance and all of this coincides with the social learning theory of how individuals learn from each other and try to incorporated that in their work settings, which actually becomes a team phenomenon when practiced in the team and the whole team then behaves in a certain way.

The study further contributes to both theory and practice by focusing on the team performance aspects whereas most project management research focuses on the project success and failure as a whole. Hence this will be more valuable in terms of projecting the project team performance as a cause for the success or failure of the projects.

It further provides us theoretical knowledge for the variables, specifically team mindfulness and generally team cohesion, project team performance and effective team leadership in the context of Pakistani organizations. This would add unique findings to global research from our part of the world given the differences in cultures and geographical locations and the fact that many non-government organizations have offshore links and are operated from other countries.

5.4 Practical Implication

The research data was mostly collected from the private sector employees of local Services industry PBOs including IT and Telecom organizations in Pakistan, hence there are significant practical implications of this study in the current settings of Pakistani IT Services industry.

This study further informs us on the importance of the concept of team mindfulness in Pakistani project based organizations. These organizations and specially their top management should pay attention to and incorporate this concept in their employee trainings as this provides them valuable support for project team performance which eventually translates into project success. Furthermore the fact that many of our non-governmental organizations are mostly shared, owned and operated by foreign parent organization with part of the top management interacting from offshore locations, this study can provide valuable insight into the physiological and psychological needs, individual and team behaviors, individual and team performance and local leadership trends in projects teams and their outcomes. This might help them pay more attention to certain aspects and functioning of the organizations which might previously be ignored.

In the light of this study these Pakistani organizations can see and assess their project teams and the existing cohesion between them and whether they can bring further improvements in their performance by incorporating these techniques. Most of the organizations where the data was collected from, incorporate many functional and behavioral trainings for their employees to improve workplace environment and foster team harmony among employees and team mates, however to the best of our knowledge, we have not observed any mindfulness related trainings incorporated in such settings. This study will provide valuable input and motivation for employees and their managers/leaders to consider these trainings and their positive effects for the teams and their performance improvement.

Furthermore there is evidence for project managers and leaders in Pakistani organizations to see how effective their team leadership can be in managing and leading the project teams successfully and effectively and where should they focus more

when it comes to leadership effectiveness. As we see that effective team leadership plays a vital role in both improving team cohesion through team mindfulness and project team performance through team cohesion. Hence it is pertinent for managers and leaders to be aware of the effects of their leadership type and style and how frequent and noteworthy their intervention in project teams can be. This could further help top management and HR in the assignment of project managers and leaders in the organization to recruit such leaders who would have a positive effect on the project teams as this might be vital to the project and team performance and eventual project success. Furthermore most research in organizations focus their attention on the causes of project success or failure in PBOs, and this research focuses on the achievement of team performance in projects which might be an attributing factor to project success or failure; this adding to both theory and practice.

Finally this study not only has implications for project based organizations in Pakistan but can be applied to any non-project based functional organizations where work is achieved through teams and those teams are managed by individual leaders. Some researchers suggest that mindfulness is a root construct (e-g Good et al., 2016), and has far-fetched affects in a variety of public domains. These attributes are vital in declaring that the concept of mindfulness in particular and this research in general is applicable to all organization and group settings.

5.5 Strengths, Limitations, and Future Research

Among the strengths of the current study is its strong adopted methodological approach. Data was collected from different government, semi-government and private project based organizations and has a good representation of all these sectors including the demographics of the respondents. Data was collected in a time lagged format by first administering the questionnaire for IV and Moderator together, then questionnaire for Mediator was distributed at the second time and for the third and last time the DV questionnaire was distributed and collected. A

gap of at least two weeks was given in between each distribution to leave no room for recency bias.

One of the limitations of the study is that all the data is collected from employed respondents which can give substance to common method bias. However many tests were performed on the reliability and validity of the data, like the Herman's pairing test, Process macro by Hayes, reliability analysis in SPSS and validity through confirmatory factor analysis in aMOS were performed to leave no room for such bias.

This study could only test one mediator and one moderator due to time constraints, however future studies can fill the gap by testing more combinations of mediators and moderators. Future researchers can try and test different models by checking the antecedents of team mindfulness by setting it as their dependent variable. It will be interesting to see the factors or the conditions that incorporate team mindfulness in teams. Because if the novelty of the concept, team mindfulness is an attractive proposition for future research in many directions.

This study focused mainly on the Services industry PBOs including IT and Telecom organizations in Pakistan and mainly in the twin cities of Rawalpindi and Islamabad. In the preceding section we also deliberated that mindfulness can be applied to all organization groups and contexts because of the characteristics of mindfulness as a root construct, it is therefore suggested that this study be expanded to other organizations and sectors. Future studies can explore other areas like, the booming and in-demand construction sector, the struggling manufacturing and textile industries in Faisalabad and Sialkot for example, the ever present real estate sector, the sought-after brands and grocery store sectors and finally the online services industry where these concepts can be applied and their effects measured.

Another limitation could be that the data was collected over a period of about two months, but projects usually run more than that i-e at least 1 to 5 years. It would perhaps be useful if more longitudinal studies are made to measure these concepts over the period of a project lifecycle. This would provide very valuable

insights on the effect of these concepts at the end of the project where usually the realization effects of these can be seen and measured.

The study also discusses and the results suggests the occurrence of full mediation in the case of team cohesion as a mediator, and it is implied that the presence of a strong mediator does not leave more room for more effects this is also correct in accordance with research (e-g Baron & Kenny, 1986). However research by Rucker et al. (2011) suggests that we must not conclude on this full mediation but rather look for and explore additional and multiple indirect affects regardless the direct total effect being more significant.

5.6   Conclusion

The research study successfully established a unique model on how project team performance can be enhanced with the introduction of team mindfulness. It was established with hypothesis, theory and several tests that team mindfulness does impact and enhances project team performance. The highlight of this study was the effect of team cohesion which mediates the relationship between team mindfulness and project team performance, such that there is full mediation in this relationship. This is something that happens very rarely and we see that the relationship between team mindfulness and project team performance is insignificant in the presence of team cohesion whereas the direct affect is stronger and significant. Furthermore effective team leadership was found to moderate both the relationships between IV to mediator and mediator to DV, giving strength to the practical implications for leaders and managers and how to manage teams effectively to achieve team performance. This study also establishes the relationship with social learning theory and suggest that this whole process is a learning experience and it goes from one individual to another. The study further establishes that since individuals form teams to execute team work and certain individual attributes are translated into team attributes which results in team performances.

The strengths and limitations of the current study are discussed and future research avenues are suggested and encouraged in addition to the implications of the current study for theory and practice.

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Appendix-A

Research-Questionnaire (Time 1)

Dear respondent,

I am a student of MS (Project Management) at Capital University of Science and Technology Islamabad. I am conducting a research on **Project Team Performance**. You can help me by completing the attached questionnaire. You will find it quite interesting. I appreciate your participation in my study and I assure that your responses **will be held confidential** and will only be used for education purposes.

Regards

Ikram Khan

QID(please leave blank):   _____

Date (Time-1):   _____

1. NIC/Employee No./Any Primary Key (you will remember for your second time response): _____
2. Gender: Male   Female
3. Age _____
4. Type of Organization
    a) Government.   b) Semi-Government.   c) Private.
5. Your designation / grade
    a) Officer.   b) Executive.   c) Specialist/Expert.   d) Manager.   e) _____
6. Educational qualification
    a) Undergraduate.   b) Bachelors.   c) Masters and Above.
7. How long have you been working with your present company?   _____
8. What is your Total working experience?   _____
9. How long have you been working with your current supervisor?   _____
10. What is the expected duration of the current project you are working on?
    a.   Less than one (1) year. b) One (1) to Two (2) years.   c) More than two (2) years.

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

Please encircle/tick the below options according to your best assessment using the above scale.

1. How often have you found yourself and your team/teammates in the following situations?

1	It is difficult for the team to stay focused on what is happening in the present. (R)	1	2	3	4	5
2	The team rushes through activities without really being attentive to them. (R)	1	2	3	4	5
3	Within the team, we listen to each other with one ear while doing something else at the same time. (R)	1	2	3	4	5
4	The team is preoccupied with the future or the past. (R)	1	2	3	4	5
5	The team does things without paying attention. (R)	1	2	3	4	5
6	The team criticizes members for having irrational or inappropriate thoughts or emotions. (R)	1	2	3	4	5
7	Some of the team's thoughts or emotions are inappropriate. (R)	1	2	3	4	5
8	The team is aware of thoughts and feelings without over-identifying with them.	1	2	3	4	5
9	This team is friendly to members when things go wrong.	1	2	3	4	5
10	The team experiences moments of peace and ease, even when things get hectic and stressful.	1	2	3	4	5

2. To what extent do you agree with the following statements?

1	Our management team possesses good leadership.	1	2	3	4	5
2	The leader of my management team helps to facilitate the team's interactions.	1	2	3	4	5
3	Our leader helps to create a safe environment in the management team where we can openly discuss what we see as important.	1	2	3	4	5
4	Our leader does what it takes to ensure effective functioning of the management team.	1	2	3	4	5
5	The leader of the management team ends and concludes discussions constructively.	1	2	3	4	5

Thank you for your time and cooperation

Research-Questionnaire (Time 2)

Dear respondent,

I am a student of MS (Project Management) at Capital University of Science and Technology Islamabad. I am conducting a research on **Project Team Performance**. You can help me by completing the attached questionnaire. You will find it quite interesting. I appreciate your participation in my study and I assure that **your responses will be held confidential** and will only be used for education purposes.

Regards

Ikram Khan

QID(please leave blank): _____

Date(Time-2): _____

11. Please provide your CNIC/Employee No. or any Primary Key that you will remember for your third time response): _____
12. Gender: Male   Female
13. Age _____
14. Type of Organization
    a) Government.   b) Semi-Government.   c) Private.
15. Your designation / grade
    b) Officer.   b) Executive.   c) Specialist/Expert.   d) Manager.   e) _____
16. Educational qualification
    b) Undergraduate.   b) Bachelors.   c) Masters and Above.
17. How long have you been working with your present company?   _____
18. What is your Total working experience?   _____
19. How long have you been working with your current supervisor?   _____
20. What is the expected duration of the current project you are working on?
    a. Less than one (1) year. b. One (1) to Two (2) years.   c. More than two (2) years.

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

Please encircle/tick the below options according to your best assessment using the above scale.

1. The following statements are designed to assess your feelings about your personal involvement with your team?

1	I do not enjoy being a part of the social activities of this team.	1	2	3	4	5
2	I am not happy with the amount of participation time I get in the team.	1	2	3	4	5
3	I am not going to miss the members of this team when the project ends.	1	2	3	4	5
4	I am unhappy with my team's level of desire to win.	1	2	3	4	5
5	Some of my best friends are on this team.	1	2	3	4	5
6	Team does not give me enough opportunities to improve my performance.	1	2	3	4	5
7	I enjoy other parties more than team parties.	1	2	3	4	5
8	I do not like the style of execution of work on this team.	1	2	3	4	5
9	For me, this team is one of the most important social groups to which I belong.	1	2	3	4	5

2. The following statements are designed to assess your perception about your team as a whole?

10	Our team is united in trying to reach its goals for performance.	1	2	3	4	5
11	Members of our team would rather go out on their own than get together as a team.	1	2	3	4	5
12	We all take responsibility for any loss or poor performance by our team.	1	2	3	4	5
13	Our team members rarely party together.	1	2	3	4	5
14	Our team members have conflicting aims for the team's performance.	1	2	3	4	5
15	Our team would like to spend time together in between the projects. (Time between the end of one project and the start of the next one)	1	2	3	4	5
16	If members of our team have problems in execution of work, everyone wants to help them so we can get back on track.	1	2	3	4	5
17	Members of our team do not stick together outside of work.	1	2	3	4	5
18	Members of our team do not communicate freely about each team member's responsibilities during project work execution.	1	2	3	4	5

Thank you for your time and cooperation

Research-Questionnaire (Time 3)

Dear respondent,

I am a student of MS (Project Management) at Capital University of Science and Technology Islamabad. I am conducting a research on **Project Team Performance**. You can help me by completing the attached questionnaire. You will find it quite interesting. I appreciate your participation in my study and I assure that your responses **will be held confidential** and will only be used for education purposes.

Regards

Ikram Khan

QID(please leave blank): _____

Date(Time-3): _____

21. Please provide your CNIC/Employee No. or any Primary Key that you entered for your previous two responses: _____
22. Gender: Male   Female
23. Age _____
24. Type of Organization
    a) Government.   b) Semi-Government.   c) Private.
25. Your designation / grade
    c) Officer.   b) Executive.   c) Specialist/Expert.   d) Manager.   e) _____
26. Educational qualification
    c) Undergraduate.   b) Bachelors.   c) Masters and Above.
27. How long have you been working with your present company?   _____
28. What is your Total working experience?   _____
29. How long have you been working with your current supervisor?   _____
30. What is the expected duration of the current project you are working on?
    a. Less than one (1) year. b. One (1) to Two (2) years.   c. More than two (2) years.

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

Please encircle/tick the below options according to your best assessment using the above scale.

1. To what extent do you agree with the following statements about your team?

1	All team members made an effort to participate in the discussions.	1	2	3	4	5
2	When team members had different opinions, each member explained his/her point of view.	1	2	3	4	5
3	Team members encouraged one another to express their opinions and thoughts.	1	2	3	4	5
4	Team members shared and received criticism without making it personal.	1	2	3	4	5
5	Different points of view were respected by team members.	1	2	3	4	5
6	Often members helped a fellow team member to be understood by paraphrasing what he/she was saying.	1	2	3	4	5
7	My team used several techniques for problem solving (such as brainstorming) with each team member presenting his/her best ideas.	1	2	3	4	5
8	Team members worked to come up with solutions that satisfied all members.	1	2	3	4	5

9	All team members consistently paid attention during group discussions.	1	2	3	4	5
10	My team actively elicited multiple points of view before deciding on a final answer.	1	2	3	4	5
11	Team members listened to each other when someone expressed a concern about individual or team performance.	1	2	3	4	5
12	Team members willingly participated in all relevant aspects of the team.	1	2	3	4	5
13	Team members resolved differences of opinion by openly speaking their mind.	1	2	3	4	5
14	Team members used feedback about individual or team performance to help the team be more effective.	1	2	3	4	5
15	Team members seemed attentive to what other team members were saying when they spoke.	1	2	3	4	5
16	My team resolved many conflicts by making compromises between team members, with each one giving in a little.	1	2	3	4	5
17	Members who had different opinions explained their point of view to the team.	1	2	3	4	5
18	Team members were recognized when something they said helped the teams reach a good decision.	1	2	3	4	5

Thank you for your time and cooperation